

TŁJCHQ ALL-SEASON ROAD PROJECT, NORTHWEST TERRITORIES

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THE CANADIAN COUNCIL FOR PUBLIC-PRIVATE PARTNERSHIPS  
2019 NATIONAL AWARD CASE STUDY

The Canadian Council for  
Public-Private Partnerships



Le Conseil Canadien pour  
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The Canadian Council for Public-Private Partnerships  
2019 National Award Case Studies

Gold Award for Project Development:  
Tłjchq All-Season Road Project

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## Introduction

For nearly 30 years, The Canadian Council for Public-Private Partnerships and its members from the public and private sectors have played a strong role in refining the P3 model and promoting new approaches to infrastructure development and service delivery.

Governments across Canada are using the public-private partnership (P3) model to build, maintain and operate much-needed infrastructure, from schools and hospitals to bridges and highways. In 2020, there are 288 active P3 projects in operation or under construction valued at \$139.4 billion.<sup>1</sup>

Along the way, the ‘made-in-Canada’ P3 model has become globally renowned but, as the winners of the 2019 National Awards for Innovation and Excellence in Public-Private Partnerships demonstrate, it has never stopped evolving.

This year, CCPPP is publishing three case studies on these exemplary projects, joining the almost 80 that have been published to date. Designed to inspire others to consider innovative and efficient models for procuring infrastructure, the studies highlight many of the lessons learned about P3s. Each case provides a close look at how a successful P3 has worked, including how the partnership was established, its structure and operation and its resulting benefits.

It is important to learn from these complex projects as we move forward. After all, investment in infrastructure is critical for the future of our communities and country because it creates jobs, drives growth, stimulates productivity, and builds a legacy for us to thrive.

Canadians want — and expect — critical infrastructure to be built quickly and with the best value for taxpayers. Using public-private partnerships is an advantage given their fixed price, on-time private sector delivery commitment, risk allocation and improved life cycle maintenance and operations.

In 1998, CCPPP established the National Awards for Innovation and Excellence in Public-Private Partnerships to honour governments and/or public institutions and their private sector partners who have demonstrated excellence and innovation in P3s. Gold, silver and bronze Awards of Merit are given in the areas of project development, financing,

infrastructure, service delivery or other notable attributes to projects from across the country and at all levels of government.

Winning projects are chosen on the basis of the following criteria:

- Innovative features;
- Relevance or significance as a national and/or international model;
- Economic benefit (job creation, enhanced economic value, export potential, etc.);
- Measurable enhancement of quality and excellence of service or project;
- Appropriate allocation of risks, responsibilities and returns between partners; and
- Effective use of financing and/or use of non-traditional sources of revenue.

## 2019 Award Winners

### **Gordie Howe International Bridge Project — Gold Award for Project Financing**

This international crossing — which will be the longest cable-stayed bridge in North America and the first new major trade link between the United States and Canada in four decades — represents one of the largest recent private financings of a P3 in Canada with a total project cost of CAD\$5.7 billion. The step-up step-down security package provided to lenders is unique and the project is the first Canadian P3 to use a non-traditional foreign exchange risk framework to balance fluctuating currency prices, setting a precedent for future cross-border transactions.

### **Tłjchq All-Season Road — Gold Award for Project Development**

This 97-kilometre all-season gravel highway, which will link the remote northern community of Whati with its neighbours in the Northwest Territories, is among the first P3s in North America with an Indigenous government that has a cash-funded equity stake in the project. The project is also notable for its unique approach to handling long-term risks related to climate change, which is happening at an unprecedented rate in the North. Its “bespoke climate change risk-sharing regime” uses cutting-edge modelling, enabling the partners to more efficiently price their

<sup>1</sup> P3 Spectrum, [www.p3spectrum.ca](http://www.p3spectrum.ca), accessed April 20, 2020.

potential exposure to this risk for long-term operations and maintenance of a road constructed above permafrost.

### **Library and Archives Canada’s Gatineau 2 Project — Silver Award for Project Development**

This new flagship building in Gatineau, Que., will be the first “net-zero carbon” facility dedicated to archival preservation in the Americas and the first federal building constructed to the requirements of Canada’s Greening Government Strategy. This will also be the world’s largest preservation facility equipped with a high-tech automated archive storage and retrieval system. Overall, the project will not only ensure Canada’s precious national collections are kept under optimal preservation conditions, but also set a global standard.

### **The New Toronto Courthouse — Silver Award for Project Development**

Construction is underway on Ontario’s first high-rise courthouse in Toronto’s downtown core, which will amalgamate six Ontario Court of Justice criminal courthouse locations in one new, accessible location. The project will improve access to justice and enhance operational efficiencies, as well as commemorate the rich cultural and heritage value of the site. Along with its 63 courtrooms and 10 conference rooms, the 17-storey facility will include improved security features and house the first Indigenous Learning Centre in an Ontario courthouse.

### **Stoney CNG Bus Storage and Transit Facility — Silver Award for Infrastructure**

This gigantic facility near the Calgary International Airport can hold 424 standard 12-metre (40-foot) buses with overflow space for 50 more buses. It is the largest indoor compressed natural gas bus fuelling complex in North America and one of the largest in the world. But not only are the buses using greenhouse gas reducing technology, the facility itself marries cutting-edge technology and environmental design features such as a top-down ventilation design that safely and efficiently removes air contaminants.

## **Acknowledgements**

CCPPP has a team of dedicated Award selection committee volunteers who review the applications, select the winners and provide feedback on the case studies. Using their extensive P3 knowledge and experience, they select the winners from a pool of very qualified applications and then ensure the case studies provide a learning tool for seasoned practitioners, as well as those new to the P3 model. The following panelists comprised the 2019 selection committee:

- Cliff Inskip, Chair of the Awards Selection Committee and President, Polar Star Advisory Services Inc.
  - Shariq Alvi, Managing Director, Infrastructure and Project Finance, CIBC
  - Rupesh Amin, Managing Partner, Infrastructure & Development, Forum Equity Partners
  - Peter Hepburn, Managing Director and Head, Infrastructure and Project Finance, National Bank Financial Markets
  - Alain Massicotte, Partner, Blake Cassels and Graydon LLP
  - Johanne Mullen, Partner and Leader, Canadian Infrastructure and Project Finance Group, PricewaterhouseCoopers LLP
  - Dr. Alan Russell, Professor & Chair, Computer Integrated Design & Construction, Department of Civil Engineering, University of British Columbia
  - Godyne Sibay, Partner, Real Property and Planning Group, McCarthy Tétrault LLP
  - Lindsay Wright, Manager, Global Infrastructure, KPMG LLP
- Deborah Reid and Jennifer Robinson authored the 2019

Award Case Studies, which were developed with significant input and review from the project partners and procurement agencies as well as the diligent work of the researchers. CCPPP would like to thank them for their contributions as well as Infrastructure Canada for its research support for the case studies.



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## About CCPPP

Established in 1993, CCPPP is a national not-for-profit non-partisan, member-based organization with broad representation from across the public and private sectors. Our mission is to collaborate with all levels of government, Indigenous communities and the private sector to enable smart, innovative and sustainable approaches to developing and maintaining infrastructure that achieve the best outcomes for Canadians.

Our reports, case studies, guidance and surveys are available on CCPPP's online bookstore at

[www.pppcouncil.ca/web/bookstore](http://www.pppcouncil.ca/web/bookstore).

Additional resources include: P3 Spectrum ([www.p3spectrum.ca](http://www.p3spectrum.ca)), Canada's premier source for up-to-date P3 project info.



# Quick Facts – Tłı̨chǫ All-Season Road<sup>2</sup>

## Project type

Design-Build-Finance-Operate-Maintain (DBFOM)

## Asset/Service

28-year performance-based agreement to design, build, finance, operate and maintain a 97-kilometre (km) all-season gravel highway replacing a winter-only ice road and connecting the First Nation Tłı̨chǫ community of Whatı̨ to all-season Highway 3, in the Northwest Territories (NWT), approximately 170 km northwest of Yellowknife.

Construction period:

- Approximately 3 years

Operating & Maintenance period:

- 25 years

## Status

Construction began fall 2019

Target substantial completion November 30, 2021

## Partners

*Public Sector*

- Government of the Northwest Territories (GNWT)

*Owners of Project Co*

- North Star Infrastructure General Partnership (NSI) comprised of:
  - Kiewit Canada Development Corp. (80%)
  - Tłı̨chǫ Government (20%)

<sup>2</sup> Background and facts in this case study rely on the information contained in the award application submitted jointly by the project partners in September 2019 to The Canadian Council for Public-Private Partnerships. Information from the submission has been supplemented and updated with information from the procurement documents, the project agreement, the value-for-money report, other sources as noted and personal interviews with project partner representatives.

## Other participants

*Public Sector*

- Ernst & Young LLP – Financial Advisor
- Associated Engineering – Technical Advisor
- Torys LLP – Legal Advisor
- RFP Solutions Inc. – Fairness Advisor

*Private Sector*

- Peter Kiewit Sons ULC – Design-Build Lead
- Hatch Canada – Design Subcontractor
- North Star Infrastructure – OMR Lead
- Tłı̨chǫ Investment Corporation – Design-Build Subcontracts
- Thurber Engineering Ltd. – Geotechnical Subcontractor
- McCarthy Tétrault – Lenders’ Legal Advisor
- National Bank Financial – Financial Advisor
- BTY Group – Lenders’ Technical Advisor
- PricewaterhouseCoopers – Tax Advisor
- Cook Advisory – Lenders’ Insurance Advisor
- Mazars Canada – Model Auditor
- Osler, Hoskin & Harcourt LLP – Legal Advisor

## Project cost, financing and value for money

*Total project cost*

- \$411.8 million

*Government contributions (nominal dollars)*

- \$94.6 million - Government of Northwest Territories
- \$46.4 million – Infrastructure Canada (P3 Canada Fund)

*Capital cost*

- \$213.8 million
  - Pre-development and construction – \$184.1 million
  - GNWT costs – \$29.7 million

*Project financing*

- The project was financed by a combination of equity provided by Kiewit Canada Development Corp., Tłı̨chǫ Government and a senior construction facility.

### Payments

- Substantial completion payment of \$110.4 million to be paid by the Government of the Northwest Territories.
- Service payments of \$301.4 million over 25-year O&M period.

### Value for money (net present cost)

- \$54.8 million NPC or 16.3 per cent.

### Project highlights and innovative features

- The project has a high level of Indigenous involvement and is among the first P3 projects in North America to have an equity investment by an Indigenous government.
- A key focus of the project is on sustainability and environmental excellence including the implementation of an innovative climate change risk-sharing mechanism.
- The new road will bring significant value to lands owned and controlled by the Tłchq Government (Tłchq Lands) and to the local community of Whatì by reducing travel costs and allowing for faster and more reliable access to the region.
- The all-season road will provide the community of Whatì with year-round access and extend the winter road season between Gamètì and Wekweètì by an estimated 30 to 60 days from an average of only 78 days per year.
- Other benefits include improved health, social and educational outcomes, reduced cost of living, increased employment opportunities and increased economic development opportunities for the Northwest Territories.

### Project website

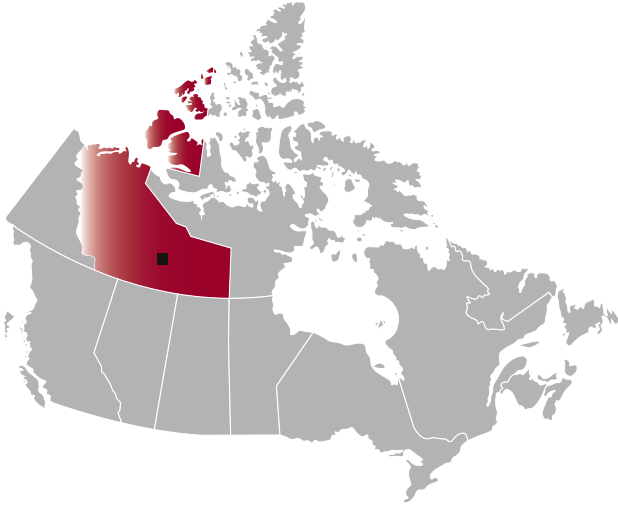
<https://www.inf.gov.nt.ca/en/TASR>

### Pronunciation Guide<sup>3</sup>

<b>Tłchq</b>	Tlee-chon
<b>Mqwhì Gogha Dè Njtlèè</b>	Mon-fwee go-ga de-neat-lay
<b>Wek'èezhì</b>	Way-keh-zi
<b>Behchokò</b>	Bay-cho-ko
<b>Whatì</b>	What-tea
<b>Gamètì</b>	Gam-ma-tea
<b>Wekweètì</b>	Wek-way-tea

<sup>3</sup> Pronunciations from Land Claims and Self-Government Agreement among the Tłchq and the Government of the Northwest Territories and the Government of Canada, August 25, 2003.





## Overview

The Tłchq All-Season Road (TASR) project is an important milestone for the P3 industry and for Canada as it is one of the first P3 projects in North America to have an equity investment by an Indigenous government.

The new all-season road will replace a winter ice road across Marian Lake, just north of Great Slave Lake in the Northwest Territories. Variable climatic conditions attributable to climate change have led to increasing difficulties in constructing and maintaining the winter road and increasing costs by over 500 per cent over the past decade.

The TASR project consists of the design, build, finance, operation and maintenance of a 97-kilometre all-season gravel highway from Highway 3 southwest of Behchokq̄ to the Tłchq community of Whatì. When completed and operational, the highway will significantly improve the quality of life for residents of the Tłchq Lands. The improved infrastructure is expected to facilitate travel that is more economical, accessible and reliable than existing infrastructure. Access to the more northerly Tłchq communities of Gamètì and Wekweètì will also be improved.

Key drivers of the project include providing economic benefit and improving quality of life for residents of the region. The procurement process was thus structured to involve the continuous input of the Tłchq Government and included market leading and precedent setting key features.

In particular, the Tłchq Government was provided with an option, embedded into the RFP, to participate directly as a member of the successful consortium with a 20 per cent equity

### The Tłchq Nation

In 2005 the Tłchq Nation ratified the Tłchq Agreement, a modern Treaty with the Government of Canada. Negotiated by the Dogrib Treaty 11 Council, the Government of the Northwest Territories (GNWT), and the Government of Canada, the Tłchq Agreement is the first combined comprehensive land claim and self-government agreement in the Northwest Territories.

It provides and defines certain rights relating to lands, resources and self-government. Some of the highlights of the agreement include:

- Creation of the Tłchq Government
- Ownership of 39,000 km<sup>2</sup> of land located between Great Slave Lake and Great Bear Lake, including surface and subsurface rights.
- The ability to define its membership known as Tłchq citizens.
- Jurisdiction over lands and resources in the Tłchq traditional territory.
- The establishment of the Wek'èezhìi Land and Water Board and the Wek'èezhìi Renewable Resources Board.
- A share of mineral royalties from the Mackenzie Valley.

Ref: Tłchq Government website: [www.tlichq.ca/government/our-story](http://www.tlichq.ca/government/our-story)

ownership and a linked requirement for Tłchq representation on its board of directors.

The Northwest Territories government also required a threshold involvement for Tłchq and other territorial citizens and businesses in the construction and operations of the project. This approach expanded on the successes of other P3 projects across Canada in prescribing required levels of involvement of Indigenous and local residents and businesses.

In 2019, the project won the gold award for project development in CCPPP's National Awards for Innovation and Excellence in P3s.

This case study will explore the development of the project, its innovative aspects and lessons learned to share with the international P3 community.

## Background and rationale

The Tł̄chq Lands, located in the Northwest Territories, are home to approximately 3,000 residents comprising the communities of Behchok̄, Gamètì, Wekweètì and Whatì. Behchok̄ is the largest community of the region and lies approximately an hour northwest of the capital city of Yellowknife, along Highway 3, and is the only community in the Tł̄chq Lands with year-round access to the territorial capital. The remaining Tł̄chq communities have no permanent roads to Yellowknife and are reliant on air service and a winter ice road to travel south to the capital.

The winter road is a critical re-supply link to Tł̄chq communities and resource development activities in the region. However, it is vulnerable to the effects of climate change and fluctuations in temperature and precipitation as much of its alignment is constructed on frozen lakes. From an environmental and safety perspective, the first segment to the community of

Whatì is the most vulnerable because of its southern location, long lake crossings and terrain.

Improved access to NWT communities has been a long standing priority of the federal government, the GNWT and Indigenous governments such as the Tł̄chq Government. For more than 25 years, GNWT Department of Transportation strategies have consistently identified the all-season road to Whatì as one of three strategic priorities for highway development to enable a prosperous future and improved quality of life for the Territory's residents.

Since 2006, GNWT and Tł̄chq officials worked together to study the development of an all-season road to Whatì. An analysis of the benefits and costs of realigning the winter road to an all-season overland route showed that improved road access would have significant direct benefits to Tł̄chq residents. The preliminary studies showed that constructing an all-season road to Whatì would enable the GNWT to lengthen the operating season for the segment of the winter road that continues north



Winter excavation and road embankment.

Photo taken at Road cut KM63 in January 2020



from Whatì across many frozen lakes, rivers, ponds, muskeg and swamps to the Tłchq communities Gamètì and Wekweètì.

Further studies were then undertaken to consider environmental impacts, preferred alignment and cost estimates. It was determined that an all-season road would provide many direct benefits to Tłchq citizens including a reduced cost of living, less dependence on air transportation, greater community mobility and access to services, and direct economic and employment benefits associated with road construction and potential mining opportunities.

The key project objectives fall into three categories: social, economic and environmental.

### Social objectives

- Improve access to goods and services for residents of Tłchq Lands: This includes the delivery of NWT government programs and services to the Tłchq Lands and Indigenous residents. Delivery of these programs is currently hindered by a short winter road period. The project will improve the equitability and quality of territorial and federal services provided as compared to the rest of Canada, for example justice, education, healthcare, municipal and tourism services as well as services and programs relating to sovereignty, security and environmental management.
- Reduce the cost of living in the region: The lack of basic transportation infrastructure contributes to a high cost of living across the North. The remoteness and isolation of the Tłchq Lands have a significant effect on the cost of food and shelter for residents. Food security is an issue for the region due to the dependence on the winter road system to deliver bulk food supplies. An all-season road to the community would allow greater freedom and reduce costs for individuals, families, and businesses, and would also allow the chance to purchase and own equipment for their personal and/or traditional use that may have been cost prohibitive otherwise. Access to heating and alternative fuels would also be more accessible to residents, and would allow residents to access what they need, when they need it, rather than stockpiling a year's supply at inflated rates.

### Economic objectives

- Improve employment opportunities: The winter road system limits access to well-paying and fulfilling employment and to educational opportunities. While the NWT has one of the highest employment rates in Canada at 70.2 per cent (2016),<sup>4</sup> the Tłchq Lands have one of the highest unemployment rates in the NWT at 20.4 per cent (2016).<sup>5</sup>
- Facilitate sustainable natural resource exploration: The North is home to a vast wealth of natural resources, much of which remains inaccessible or unexplored. The road transportation network is sparse and deters private sector development. The accessibility of transportation infrastructure is an important aspect in all phases of a mining project, for example, from initial grassroots exploration through to operations.

### Environmental objectives

- To mitigate the impact of climate change: Currently, the winter road does not service the residents of the Tłchq Lands adequately and its construction and operation is expected to be more difficult and expensive in future. This is due to the impact of climate change which is unpredictable and has the potential to further disrupt the long-term sustainability of the winter ice road. The all-season road is necessary to mitigate the impact of the natural environment, and more specifically of climate change, on the quality of life for residents in the Tłchq Lands.

## Project Development

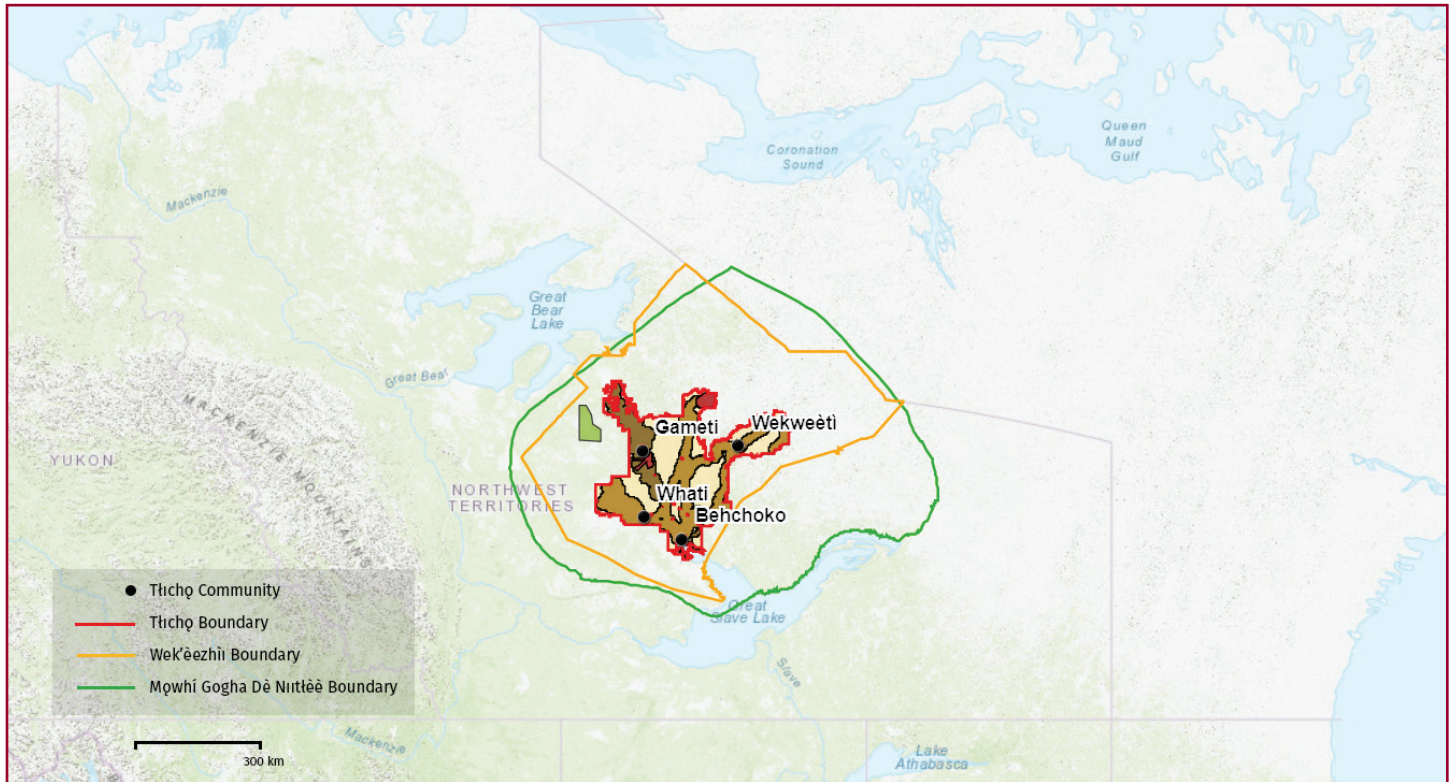
### Governance and approvals

The Tłchq are a self-governing First Nation with rights, jurisdiction, self-government authorities and decision making roles and interests entrenched in a constitutionally protected modern land claim and self-government agreement called the

<sup>4</sup> Newstats, NWT Bureau of Statistics, Labour Force Activity, Released: July 5, 2019 [https://www.statsnwt.ca/labour-income/labour-force-activity/Monthly/June2019\\_NewStats%20LFS.pdf](https://www.statsnwt.ca/labour-income/labour-force-activity/Monthly/June2019_NewStats%20LFS.pdf), accessed February 27, 2020.

<sup>5</sup> Statistics Canada, Aboriginal Population Profile, 2016 Census, *Tłicho Agreement (2005) [Modern treaty or self-government agreement area (March 2017)]*, Northwest Territories: <https://bit.ly/2B2NQTl>.

Figure 1: Mqwhi Gogha Dè Njittèè boundary



Tłıchǫ Agreement.<sup>6</sup> The TASR project is located in the traditional territory of the Tłıchǫ people, an area known as Mqwhi Gogha Dè Njittèè.

The Tłıchǫ hold and exercise rights throughout Mqwhi Gogha Dè Njittèè that include harvesting rights and rights to economic participation in the wealth generated from this territory.

The project is wholly located within Wek'èezhii, an area within Mqwhi Gogha Dè Njittèè. Wek'èezhii is the “management area” established by the Tłıchǫ Agreement. Wek'èezhii is an area of great importance to the Tłıchǫ. In addition to the Tłıchǫ rights held and exercised across the broader Mqwhi Gogha Dè Njittèè, the Tłıchǫ possess additional constitutionally protected rights in relation to this area. Figure 1 shows the Mqwhi Gogha Dè Njittèè boundary.<sup>7</sup>

<sup>6</sup> *Land Claims and Self-Government Agreement among the Tłıchǫ and the Government of the Northwest Territories and the Government of Canada*, August 25, 2003.

<sup>7</sup> Map of Mqwhi Gogha Dè Njittèè boundary reference: <https://www.tlicho.ca/tlicho-mapping>, accessed January 28, 2020.

Lands, waters and resources in Wek'èezhii are co-managed by the Tłıchǫ Government and the governments of Canada and the Northwest Territories under the Tłıchǫ Agreement and the Mackenzie Valley Resource Management Act, particularly through co-management regulatory bodies such as the Wek'èezhii Land and Water Board and the Wek'èezhii Renewable Resources Board.

The Northwest Territories is one of only two jurisdictions in Canada with a consensus system of government instead of one based on party politics. Eighteen members of the legislative assembly (MLAs) are elected as independents. Shortly after the election, all members meet as a caucus to set priorities for that assembly and to elect six ministers and a premier to form the executive council or cabinet. The caucus remains active throughout the term and acts as the forum where all elected members meet as equals.<sup>8</sup>

The Government of the Northwest Territories is the owner of the highway project and is the entity that entered into the project agreement with North Star Infrastructure.

<sup>8</sup> Legislative Assembly of the Northwest Territories website: [www.assembly.gov.nt.ca/visitors/what-consensus](http://www.assembly.gov.nt.ca/visitors/what-consensus), accessed January 28, 2020.

Currently, the territory's Department of Infrastructure operates and maintains the winter road system servicing the communities of Whatì, Gamèti and Wekweèti. This system, approximately 480 km in length, is open 78 days per year on average between Highway 3 and Whatì. This small operating window represents the only time residents can travel south, other than by air. Efforts to improve the winter road system have been a long-standing issue, with the Tłchq Government pursuing the development of an all-season road to Whatì since 1999.<sup>9</sup>

Many community consultation meetings were held over the years to discuss road options, hear about social and environmental impacts and discuss commitments to programs and services. Traditional knowledge and social impact reports were developed by the Tłchq Government.

In 2011, the territorial and local government established a steering committee – the Tłchq Roads Steering Committee – to assess the feasibility, desirability and implications of realigning the winter road system. In May 2013, the steering committee resolved to pursue development of an all-season road that would predominantly follow the Old Airport Road and end at the boundary of the community of Whatì.<sup>10</sup>

Land use permit and water license applications were submitted to the Wek'èezhii Land and Water Board on March 31, 2016. However, before these could be approved, the project was referred for an environmental assessment by the Mackenzie Valley Review Board. The process involved the review of environmental and cultural issues and included public hearings in the fall of 2017. Issues reviewed included:

- community wellbeing;
- boreal caribou habitat;
- barren-ground caribou habitat;
- fish habitat;
- water quality;
- cultural well-being;
- other species at risk and wildlife;
- permafrost;
- climate change; and
- sustainability.

<sup>9</sup> Government of Northwest Territories website: [www.inf.gov.nt.ca/en/TASR](http://www.inf.gov.nt.ca/en/TASR), accessed January 28, 2020.

<sup>10</sup> Tłchq Government website: <https://tlichq.ca/government/departement-executive/all-season-road>, accessed December 16, 2019.

The Review Board's decision was issued March 29, 2018.<sup>11</sup> Approval was given to move forward with the project subject to 23 measures to prevent significant adverse impacts on the physical and cultural environment.

The measures require the territorial government with others involved in the project to:

- Track and manage project-related changes to the well-being of Whatì residents, including harmful behaviours associated with increased access to drugs and alcohol, traffic accidents, safety of young women, and changes in harvest success.
- Require policies that increase the safety of young women in work camps and communities.
- For boreal caribou (tqdzì) in the project area, make a range plan with actions to reduce or avoid impacts and protect boreal caribou, offset habitat, and create a temporary no-hunting corridor where non-Aboriginal hunting of boreal caribou (tqdzì) will be prohibited.
- Use Traditional Knowledge in barren-ground caribou (ʔekwq) habitat monitoring.
- Complete the Bathurst Caribou Range Plan as soon as possible.
- Create an Integrated Fisheries Management Plan that prevents significant impacts from additional fishing pressure resulting from increased access.
- Monitor harvest and manage wildlife to help maintain successful Aboriginal harvesting.
- Conduct, and take actions based on, a bird survey before construction.
- Include important details in the Wildlife Management and Monitoring Plan.
- Establish and fund the Tłchq All-Season Road Corridor Working Group.<sup>12</sup>

<sup>11</sup> Mackenzie Valley Review Board, *Project Report of Environmental Assessment and Reasons for Decision GNWT Tłchq All-season Road Project EA1617-01*, March 29, 2018.

<sup>12</sup> Ibid, p. ii.

These measures and other findings from the environmental assessment process were integrated into the project agreement in Schedule 19;<sup>13</sup> with the Northwest Territories government only retaining responsibility related to environmental and permitting requirements best managed by the public sector.

Table 1 lists some of the community consultation meetings held prior to the project procurement process.

## Indigenous involvement

With the all-season highway traversing approximately 17 kilometres of the Tłchq Lands, the territorial government and the Tłchq Government entered into an agreement to grant access to Tłchq lands for the construction of the road. The agreement exchanges the Tłchq lands with the GNWT, for the purpose of constructing, operating and maintaining the road. .

The Tłchq community currently faces a quality of life different from its southern neighbours, including limited access to health care and other services and a relatively high cost of living. The isolation of the region limits employment opportunities and hinders economic development. The impact of climate change is further challenging the region with the risk of compromising the long-term viability of the winter road system.

Since the key driver of the project is to provide economic benefit and improve quality of life of the First Nations in the region, the procurement process was structured to involve continuous input of the Tłchq Government, and included two key features that were market leading and precedent setting.

First, the Tłchq Government was provided with an option, embedded in the RFP, to participate directly as a member of the successful consortium at a 20 per cent equity ownership interest, with a linked requirement for Tłchq representation on the Project Co board of directors. The Tłchq Government exercised the option and became a co-investor with the successful proponent, Kiewit Canada Development Corp. (Kiewit Development), in North Star Infrastructure General Partnership. This made the Tłchq Government among the first Indigenous governments in North America to take a cash-funded equity stake in a P3 project.

<sup>13</sup> *Schedule 19 Environmental Obligations, Project Agreement for the Tłchq All-Season Road Project*, the Government of the Northwest Territories and North Star Infrastructure GP, February 13, 2019, redacted execution version.

**Table 1: Pre-procurement community consultations<sup>14</sup>**

Date	Consultation
2009-2013	Tłchq Executive Council Meetings
August 2013	Whati Community Government Meeting (Whati)
Sept 2013	Whati Road Community Consultation Meeting (Whati)
Jun 2015	Whati Special Interagency Committee
Jan 2016	Community Consultation Meetings in Wekweèti, Gamèti, Whati, Behchokq
May 2016	Whati Special Interagency Committee
October 2017-January 2018	Environmental Assessment Public Hearings

Second, the GNWT required threshold involvement of Tłchq and other northern citizens and businesses for the construction and operations of the project. This approach expanded on successes and lessons learned from previous P3 projects that prescribed required levels of involvement of Indigenous and local residents and businesses. Schedule 20 of the project agreement includes local content requirements to:

- train and employ Tłchq citizens at predefined levels (including senior levels) through the construction and operations periods;
- use Indigenous labour through the construction and operations periods, increasing over the course of the contract to 75 per cent of the total funds spent annually on labour by the end of the concession; and
- form training and monitoring committees, including representation from the preferred proponent and the

<sup>14</sup> Tłchq All-Season Road Newsletter, April 2016, Volume 1, No. 2, Tłchq Government website: <https://tlichq.ca/government/departement-executive/all-season-road>, accessed December 16, 2019.



Tłchq Government, to proactively identify and address any potential labour capacity issues.<sup>15</sup>

There are predefined financial penalties in the project agreement if the consortium fails to meet these requirements and there are financial incentives if the requirements are exceeded.

In clearly setting out ambitious, yet measurable and achievable expectations, the GNWT ensured proponents understood what was required of them, and provided a well-defined basis on which they could engage with the Tłchq Government to develop their submissions. This clarity also ensured outcomes were consistent with expectations.

The Tłchq Government was involved throughout the entire procurement process. During the development of the procurement documentation, the Tłchq Government (through their investment company, the Tłchq Investment Corp.) worked with the GNWT and its advisors to develop labour and business requirements. They also interacted equally with all proponents, providing them with an opportunity to understand the capacity, capability and desired growth areas of Tłchq citizens and businesses. The GNWT ensured the Tłchq Government was represented and provided with sufficient advice to enable them to make an informed business decision on whether to invest alongside the successful proponent.

## Description of the Project

The project includes the following components:

- a two-lane, 97-km gravel road with a design speed of up to 80 km/h for year-round use by commercial and private vehicles; and
- 15 water crossings (four bridges and 11 culverts).

The design parameters of the road are based on the *Geometric Design Guide for Canadian Roads*<sup>16</sup> for RLU80 roads published by the Transportation Association of Canada. Under these guidelines, RLU 80 roads are undivided highways in a

<sup>15</sup> *Schedule 20 Local Content Requirements, Project Agreement for the Tłchq All-Season Road Project*, the Government of the Northwest Territories and North Star Infrastructure GP, February 13, 2019, redacted execution version.

<sup>16</sup> *Geometric Design Guide for Canadian Roads*, <https://www.tac-atc.ca/en/publications-and-resources/geometric-design-guide-canadian-roads>, accessed March 2, 2020.

rural setting with a design speed of up to 80 km/h. The road will have a posted speed limit of 70 km/h for year-round use by commercial and private vehicles. All construction must be new and will largely follow the footprint of an existing alignment.

The proposed route is approximately 42 kilometres west of the existing winter road and is based on the path of a military winter road used in the 1950s and subsequently as a public winter road until the 1980s. This route, referred to as the Old Airport Road by Tłchq residents, continues to be used unofficially during the summer and winter months, with vehicular access available from Yellowknife Highway 3 up to kilometre 30 year round.

The TASR alignment will be entirely within the Wek'èezhì management area, with approximately 18 per cent, or 17 kilometres, crossing Tłchq Lands. The alignment for the TASR is illustrated in Figure 2.

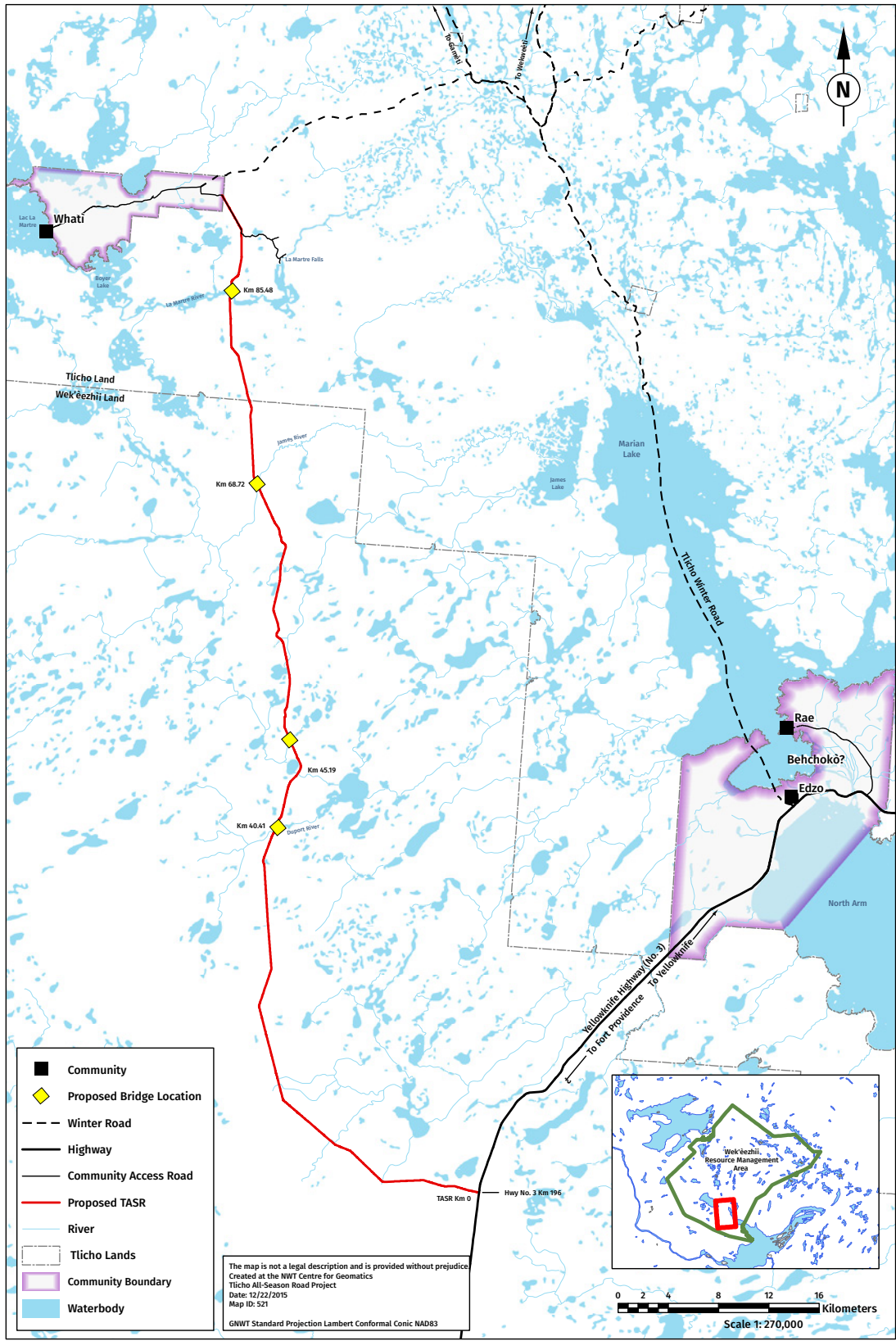
The operating period services include maintenance of the all-season road to the performance standards set out in the project agreement including:

- routine preventative maintenance with regularly scheduled inspections and upkeep of the gravel road including basic grading, levelling and repair work needed to keep the road functioning according to the safety and usage specifications;
- snow clearing and de-icing;
- performance monitoring; and
- life cycle rehabilitation.

The handback requirements of the project agreement require NSI to undertake all the tasks needed to ensure the road and associated infrastructure, including bridges and culverts, are returned to the GNWT in good working condition at the end of the 25-year operating term. The handback specifications are outlined in detail in Schedule 4C of the project agreement. The objective is that at the expiry date of the project agreement, "...the condition of the infrastructure must meet a minimum standard being defined as the average condition (half way through the asset lifecycle) across the asset base. Furthermore, there needs to be a balanced distribution of structural condition states to create a manageable and fundable future annual rehabilitation program."<sup>17</sup>

<sup>17</sup> *Schedule 4C Handback Specifications, Project Agreement for the Tłchq All-Season Road Project*, the Government of the Northwest Territories and North Star Infrastructure GP, February 13, 2019, redacted execution version.

Figure 2: Tłı̨chǫ all-season road



## Innovative Features

### Climate change risk sharing mechanism<sup>18</sup>

Climate change was identified by all proponents as a key risk in the delivery of the project with research indicating northern latitudes will likely experience relatively greater warming in coming decades as well as greater changes in degree and nature of precipitation. Furthermore, the road is being constructed along an alignment which contains varying degrees of ice-rich permafrost, which is susceptible to thawing. This will have material implications for the construction and operation of the road.

To assist proponents in understanding and effectively pricing these risks, the GNWT used climate modelling tools to define a range of expected climate outcomes. These climate outcomes will be monitored over the operating period, specifically looking at temperature, precipitation and the percentage of precipitation that falls as rain. These three metrics were determined to have the most impact on the performance of the road and can be objectively measured and recorded.

Impacts to the road caused by conditions within the set range of climate outcomes will be borne by NSI. In the case climate change impacts exceed the ranges set by the GNWT, any financial implications will be shared between the GNWT and NSI to a predetermined cap.

This innovative and collaborative mechanism was developed through the RFP period, and ultimately allowed proponents to fully understand and effectively price the climate change risk ensuring value for money was achieved for the GNWT. This is the first project in Canada to adopt this kind of mechanism.

Schedule 22 of the project agreement establishes the terms, conditions and the calculation of climate data for the climate change risk-sharing mechanism.<sup>19</sup>

<sup>18</sup> Government of Northwest Territories, *Tłı̨chǫ All-Season Road Project Summary Report*, June 2019.

<sup>19</sup> *Schedule 22, Climate Change Risk-Sharing Regime, Project Agreement for the Tłı̨chǫ All-Season Road Project*, the Government of the Northwest Territories and North Star Infrastructure GP, February 13, 2019, redacted execution version.

## Tłı̨chǫ community, citizens and businesses

As noted earlier, Schedule 20 of the project agreement outlines the local content requirements for the project to meet the GNWT objectives of providing social and economic benefits for the Tłı̨chǫ and other NWT communities, developing occupational skills for Tłı̨chǫ citizens and improving capacity for Tłı̨chǫ and other NWT businesses.

To meet these requirements, NSI was required to create a team position of Community Coordination Lead (CCL) to help develop the “local content engagement plan”. The project agreement specifies that the plan have five main components and strategies:

### Components 1 and 2

- Tłı̨chǫ labour plan for the construction period and Tłı̨chǫ labour plan for the operating period, each identifying strategies for:
  - work that will be carried out by Tłı̨chǫ citizens;
  - annual forecasts;
  - successful recruitment of Tłı̨chǫ citizens;
  - successful retention and promotion of Tłı̨chǫ citizens;
  - an approach to how escalating levels of Tłı̨chǫ labour will be achieved during the operating period;
  - career progression planning (and in the case of the operating period, succession planning);
  - effective management of all staff;
  - cultural awareness training for non-Tłı̨chǫ workers;
  - monitoring, monthly reporting, annual presentations and auditing protocols; and
  - successful implementation of the Tłı̨chǫ construction labour plan.

### Components 3 and 4

- Local business construction plan and local business operating plan, each identifying strategies for:
  - work intended to be carried out by Tłı̨chǫ and northern businesses;
  - identifying and integrating qualified Tłı̨chǫ and northern businesses into the project;
  - preferential policies regarding contracting with Tłı̨chǫ and northern businesses;

- managing relationships with Tłıchq and northern businesses;
- monitoring, annual reporting and presentation, and auditing protocols; and
- working with the Community Coordination Lead to monitor and achieve successful implementation of the local business construction and operations plan.

## Component 5

- Tłıchq training plan, which identifies strategies for:
  - training programs;
  - maximizing participation;
  - filling positions;
  - recruitment;
  - supervision, monitoring, support and coordination of trainees;
  - human resource monitoring;
  - partnerships with educational institutions and other training organizations;
  - coordination of training programs;
  - advancement of trainees; and
  - monitoring, quarterly reporting and annual presentations.

NSI's Community Coordination Lead is an Indigenous citizen and is responsible for day-to-day communication with local communities, local contractors and local suppliers, and for preparing plans and reports on training and employment programs. The position is a required key individual for the construction period.

# Procurement Process

## Selecting the P3 model

The GNWT followed its own P3 Management Framework to determine the best approach for procuring the project. A procurement options analysis was undertaken to assess key procurement objectives against a wide range of procurement options, including both traditional and partnership methods. Through this process, the design-build-finance-operate-maintain (DBFOM) model was found to align best with the goals and objectives of the project.

A quantitative assessment was then undertaken to review whether a DBFOM model would provide value for money (VFM) when compared to the design-bid-build (DBB) procurement method, which had traditionally been used by the GNWT to procure projects of this type. The VFM assessment showed a DBFOM P3 procurement model would deliver the highest value, both qualitatively and quantitatively, for the GNWT.

## Selecting a partner

### Competitive process

The competitive selection process was a two-stage process starting with a Request for Qualifications (RFQ) followed by a Request for Proposals (RFP).

### Request for Qualifications

The RFQ was released March 17, 2017 inviting teams to indicate their interest in the project. The project was marketed within the territory, nationally and internationally. Seven respondents were evaluated on their financial capacity to undertake the project and their technical experience in delivering projects of a similar scope and size.

The evaluation committee included representatives from the GNWT departments of infrastructure and finance who were assisted by external expert advisors. Three teams were invited in September 2017 to participate in the RFP process. The three teams shortlisted are shown in Table 2.

Proponents were required to submit a technical submission and financial submission. The overall objective of the evaluation was to select the proposal that best met the requirements of the RFP and achieved value-for-money for the GNWT.

Technical submissions were due on September 17, 2018. Once it was determined the technical submissions were compliant and met the mandatory requirements of the RFP and the project agreement, they were evaluated and scored on the following categories:

- proposed design and technical solution;
- construction period (construction, quality, environmental and safety management, and schedule and phasing);
- operation period (operations, quality, environmental and records management, and hand back approach); and
- local content.<sup>20</sup>

<sup>20</sup> Government of Northwest Territories, *Tłıchq All-Season Road Project Summary Report*, June 2019.

**Table 2: Shortlisted teams<sup>21</sup>**

Name	Design	Construction	Equity Financing	Service Provider
<b>Aurora Access Partners</b>	<ul style="list-style-type: none"> <li>Tetra Tech Canada Inc.</li> <li>COWI North America, Ltd.</li> </ul>	<ul style="list-style-type: none"> <li>Graham Infrastructure LP</li> <li>Colas Project S.A.S.</li> <li>E Grubens Construction Ltd.</li> <li>NWT Construction Ltd.</li> <li>Nuna Logistics Ltd.</li> <li>EGT Northwind Ltd.</li> </ul>	<ul style="list-style-type: none"> <li>Graham Capital Partners LP</li> <li>Colas Canada Inc.</li> <li>Colas Projects Canada Inc.</li> <li>Tłı̨chǫ Government (optional)</li> </ul>	<ul style="list-style-type: none"> <li>Graham Infrastructure LP</li> <li>Colas Canada Inc</li> <li>Colas Projects S.A.S.</li> <li>NWT Construction Ltd.</li> <li>Alberta Highway Services Ltd.</li> </ul>
<b>NAE Transportation Partners</b>	<ul style="list-style-type: none"> <li>Stantec Consulting Ltd.</li> </ul>	<ul style="list-style-type: none"> <li>Eiffage Génie Civil</li> <li>North American Enterprises Ltd.</li> <li>Innovative Civil Constructors Inc.</li> </ul>	<ul style="list-style-type: none"> <li>Eiffage S.A.</li> <li>North American Construction Group Inc.</li> <li>LaPrairie Works Inc.</li> <li>Tłı̨chǫ Government (optional)</li> </ul>	<ul style="list-style-type: none"> <li>LaPrairie Works Inc.</li> </ul>
<b>North Star Infrastructure</b>	<ul style="list-style-type: none"> <li>Hatch Corp.</li> <li>Thurber Engineering Ltd.</li> </ul>	<ul style="list-style-type: none"> <li>Peter Kiewit and Sons ULC</li> </ul>	<ul style="list-style-type: none"> <li>Kiewit Canada Development Corp.</li> <li>Tłı̨chǫ Government (optional)</li> </ul>	<ul style="list-style-type: none"> <li>Kiewit Canada Development Corp.</li> <li>Peter Kiewit and Sons ULC</li> </ul>

Financial submissions were due October 10, 2018 and were to accommodate for an option for the Tłı̨chǫ Government to participate as an equity provider in the amount of 20 per cent of the total equity on a *pari passu* basis with other equity providers.

The option was exercisable after the selection of the preferred proponent, at which time the Tłı̨chǫ Government was to be provided with the preferred proponent’s proposal and given the opportunity to discuss the details of the investment opportunity with the preferred proponent. The Tłı̨chǫ Government had to determine whether it would exercise its option within 15 business days of the announcement of the preferred proponent.<sup>22</sup>

The evaluation of the financial submissions consisted of two steps:

1. To determine whether the proponent substantially satisfied the financial requirements, which included the capacity of the proponent team to undertake the project obligations, the provision of sufficient committed financing and a robust and deliverable financial plan.
2. If the proponent satisfied all criteria in the first step, the net present cost (NPC) was evaluated. NPC represented the sum of total payments made by the GNWT to the proponent over the construction and operation terms discounted to the present date as specified by the GNWT. Proponents were assigned a score based on their NPC.

**Affordability threshold**

In addition to the evaluation criteria for the technical and financial submissions, the RFP included an affordability threshold, or capital cost ceiling. This threshold was in place to ensure the

<sup>21</sup> Government of Northwest Territories, *Tłı̨chǫ All-Season Road Project Summary Report*, June 2019.

<sup>22</sup> Government of the Northwest Territories, *Tłı̨chǫ All-Season Road Project Request for Proposals v4.1*, December 4, 2017, p. 26.



GNWT received affordable proposals within its available budget for the project. This capital cost ceiling was set at \$200 million in nominal terms, and captured all development, construction and commissioning costs (including interest and financing fees). If the capital cost ceiling was not met by a proponent, the GNWT had the option to decide not to complete a detailed evaluation of that proponent's proposal. The proposals of all three proponents met the affordability threshold.<sup>23</sup>

### Name of private partner

North Star Infrastructure (NSI) had the highest overall score following the evaluation of the technical and financial submissions of the three proponents. The evaluation committee recommended NSI as the preferred proponent, and the Financial Management Board of the GNWT accepted the recommendation.

### Commercial and financial close

Commercial and financial close took place on February 13, 2019. Table 3 shows the overall timeline of the procurement process.

**Table 3: Procurement process timeline**



<sup>23</sup> Government of Northwest Territories, *Tłchq All-Season Road Project Summary Report*, June 2019, p. 15.

2018 November 13

Preferred proponent announced

2019 February 13

Commercial and financial close

2021 November 30

Target substantial completion

## Fairness of the process

RFP Solutions Inc. was engaged as fairness advisor by the GNWT to monitor the competitive selection process. The fairness advisor was provided with full access to all documents, meetings and information related to the evaluation processes and was kept fully informed of all activities throughout the procurement process.

In its final report, the fairness advisor stated, "It is our professional opinion that the process we observed, has been carried out in a fair, open and transparent manner."<sup>24</sup>

## Overall Structure of the Agreement

NSI is an integrated team with Kiewit Canada Development Corp. as the lead developer and equity sponsor, Peter Kiewit Sons ULC (PKS or the Construction Contractor) as the design-builder, and Kiewit Canada Group Inc. (Kiewit Canada) as the guarantor to the design-builder. Prior to financial close, the Tłchq Government exercised its option for 20 per cent equity ownership and became a co-investor with Kiewit Development.

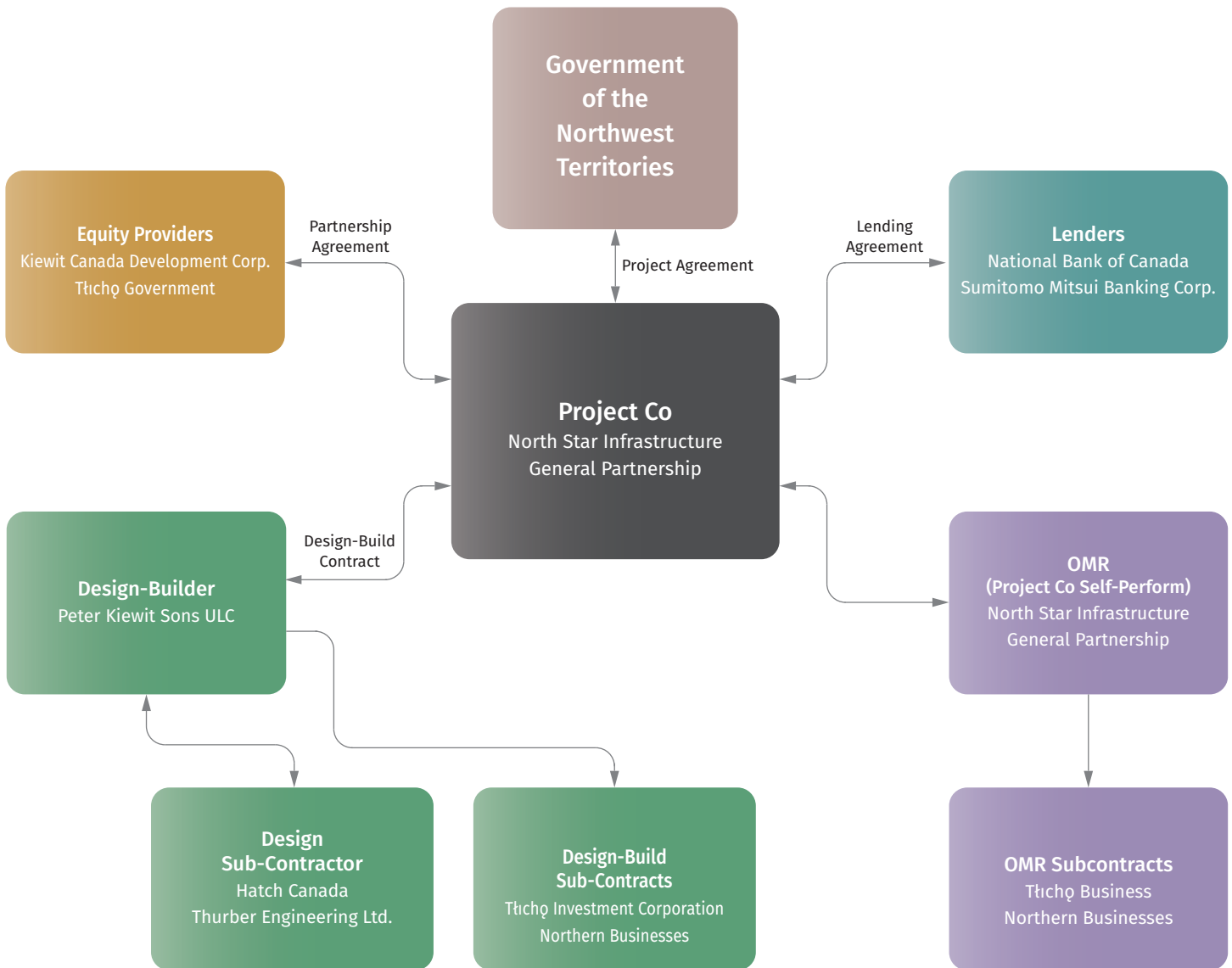
The partnership structure is illustrated in Figure 3.

Before the project agreement was executed, a partnership agreement between Kiewit Development and the Tłchq Government was executed to form North Star Infrastructure General Partnership. This agreement governs the structure, organization, decision-making process, equity investment and

<sup>24</sup> RFP Solutions Inc., *Tłchq All-Season Road Project Final Fairness Report to the Government of the Northwest Territories*, April 30, 2019, p. 21.



**Figure 3: Partnership structure**



day-to-day administration of NSI. In turn, NSI entered into the project agreement with the GNWT.

NSI has a credit agreement with the National Bank of Canada and Sumitomo Mitsui Banking Corp. (the Senior Lenders) for the provision of debt financing.

For the construction period, NSI has a fixed-price, date-certain, design-build contract with the design-builder PKS, substantially passing down all of NSI’s obligations for the design and construction activities under the project agreement. PKS

entered into a design subcontract with Hatch and entered into a number of construction subcontracts, including with Tłı̨chǫ and northern businesses, for components of the required construction work.

NSI is responsible for the OMR obligations. During the O&M phase, NSI will enter into a number of subcontracts, including with Tłı̨chǫ and northern businesses, for components of the required O&M work.

# Financial Arrangements

## Project financing

NSI's financing structure is specifically tailored to consider the distinct features of the project including: risk profile, construction duration, payment structure and commercial structure of the team. The total project cost in nominal dollars is \$411.8 million.

### Government contributions

The Government of Northwest Territories is contributing \$94.6 million during construction and the Government of Canada will contribute up to 25 per cent of eligible costs to a maximum of \$46.4 million through the P3 Canada Fund. These funds will be paid directly to the GNWT.

### Capital costs

Capital costs of approximately \$184 million are being funded by NSI General Partnership with a combination of equity and debt.

At financial close, both Kiewit Development and the Tłchq Government issued letters of credit to NSI in the full amount of their respective equity investment obligations to secure their equity investment and ensure the necessary capital was available for the project.

This approach increased the value for money to the GNWT by minimizing the cost of capital, as the most expensive form of capital (equity) is drawn upon last, while ensuring the equity commitment is fully secured up front.

### Payments

#### Construction period

The GNWT will make a substantial completion payment of \$110.4 million to NSI covering 60 per cent of the project's total capital costs. This payment can be adjusted for:

- compliance failures through the construction period;
- incentive payments and deductions applied if NSI exceeds or does not meet the local content requirements;
- a hold back amount, determined by NSI, the GNWT and the independent certifier, if deficiencies exist at substantial completion.

#### Service period

The GNWT will make monthly availability payments totaling \$301.4 million to NSI during the O&M phase. These payments include components for:

- capital (not indexed for inflation and used to repay private capital);
- OM&R (indexed for inflation);
- fuel (linked to a fuel index); and
- other adjustments (including insurance adjustment, traffic adjustment and Tłchq incentive payments if NSI achieves a certain local content target).

Service payments will be made monthly based on the availability of the road, and the quality of operating and maintenance services provided by NSI. Performance will be monitored based on key performance indicators. If the performance standards in the project agreement are not met, the GNWT can apply deductions to the service payments.

If the daily traffic volumes exceed a pre-determined annual per-day average on the new road, a supplement will be paid to NSI to compensate for the additional operating, maintenance and rehabilitation costs that would be incurred.

For the Tłchq incentive payment, the GNWT will pay NSI a fixed amount for each percentage point NSI exceeds local content requirements, up to a specified maximum amount.

## Risk Allocation

By using a P3 procurement model, there is a greater opportunity to ensure risks are allocated to the partner best equipped to manage them. This reduces the costs attributed to risks and improves value for money. The project agreement includes detailed risk allocation provisions over the construction period and the 25-year operating term. This approach transfers risks to NSI, such as construction, cost and schedule, and adds value through private-sector design and innovation.

Table 4 summarizes key risks retained by the GNWT, transferred to NSI or shared between the two parties. .

Table 4: Allocation of key risks

Risk	Retained by GNWT	Transferred to NSI	Shared
<b>Approvals &amp; Procurement</b>			
Government project approvals	■		
Procurement – schedule delay	■		
Ambiguities in legal agreements			■
Termination for convenience during construction or operations	■		
Interest base rate – pre-financial close	■		
<b>Design &amp; Construction Period</b>			
Stakeholder consultation before financial close	■		
Stakeholder consultation after financial close			■
Scope changes (owner-initiated)	■		
Compliance with codes and standards during design		■	
Construction delays (owner-initiated)	■		
Construction management efficiency/coordination and schedule adherence		■	
Construction resource availability – labour, materials, equipment		■	
Geotechnical			■
Existing contamination and archaeological finds	■		
Environmental conditions of approval		■	
Construction contractor default		■	
Quality management		■	
Weather-related construction delays		■	

Risk	Retained by GNWT	Transferred to NSI	Shared
Commissioning delays		■	
Unresolved deficiencies		■	
Latent defect – construction		■	
<b>Maintenance Period</b>			
Facility maintenance costs – preventative and routine		■	
Life cycle capital maintenance		■	
Default of NSI			■
Inflation risk above CPI		■	
Asset residual		■	
Climate change that impacts the TASR			■



## Benefits

### Cost savings/value for money<sup>25</sup>

The estimated total cost savings of the project undertaken as a P3 in partnership with NSI compared to the GNWT's public sector traditional design-bid-build (DBB) procurement method is \$54.8 million net present cost, or 16.3 per cent. Table 5 shows a comparison of the two delivery methods and Figure 4 illustrates these savings.

### Community socio-economic benefits

In addition to the economic benefits of the local content requirements, the project is expected to deliver significant socio-economic benefits to Tłchq citizens and residents of the Northwest Territories. An all-season road to Whatì will significantly reduce travel costs to both Whatì and the wider Tłchq area, allowing for faster and more reliable access to the region, which will result in improved health, social

and education outcomes, reduced cost of living, increased employment opportunities and increased economic development opportunities (including tourism to the area) for the NWT.

The primary reason for these benefits is improved year-round access to the region. Currently, the winter road operates for an average of 78 days, which equates to only 21 per cent of yearly road access. Climate change has increased the cost of constructing and maintaining the winter road by almost 500 per cent over the past decade, and is ultimately expected to result in a drastically shortened season.

Outside of this period, access to the community of Whatì is only by air. The current limited access negatively impacts:

- Access to health and social services - Health care in Whatì is mainly provided by registered nurses and local community workers, with a doctor visiting the community once a month, usually by air. Specialist and chronic care services are only provided in Yellowknife, requiring air travel out of the community.
- Access to educational opportunities - Currently, each community event or visit (to or from the Tłchq region) is

**Table 5: Project value for money**

Net Present Cost (\$m)	DBB	Final P3 Project Cost
Substantial completion payment	-	88.7
Service payments	-	151.7
Capital costs	188.3	-
Life cycle and operating costs	52.0	-
Risk adjustment	88.7	26.4
Procurement and project management	6.3	13.6
Total	335.2	280.4
<b>Cost differential</b>		<b>54.8</b>
<b>Percentage savings</b>		<b>16.3%</b>

<sup>25</sup> Government of Northwest Territories, *Tłchq All-Season Road Project Summary Report*, June 2019.





construction phase, regular site progress and project safety tours include the GNWT to identify any concerns before they become major issues, while keeping the GNWT informed of the current state of the project. The GNWT has offices on site to facilitate their engagement in day-to-day activities.

Meetings and reports are used to keep the GNWT representative, NSI's partners, the project team, stakeholders and regulatory agencies current and informed on project progress. These include:

- Executive meetings review project status, including safety, quality, schedule, and other issues that arise. The GNWT and project team participate.
- Mass safety meetings reinforce the importance of planning for safety, recognizing change, cultural safety and identifying hazards; communicate lessons learned from other projects; and celebrate safety success. Participation is by the project team and stakeholders.
- Monthly 90-Day look-ahead meetings review future activity; identify opportunity for schedule advancement, as well as critical path and constraints. Participation is by the GNWT and project team.
- Monthly quality, environment & safety tours review field work pertaining to safety, quality and environment. Participation is by the GNWT, project team, regulatory authorities and stakeholders.
- Environmental reporting includes two reports per week issued to the GNWT in addition to an environmental monthly report.
- Regular task force meetings are discipline-focused to address construction issues and interdisciplinary coordination. Participation is by the GNWT and project team.
- Weekly operation progress meetings review the status of previous action items and identify new items needing to be addressed. Participation is by the GNWT, project team, regulatory authorities and stakeholders.
- Weekly schedule meetings make adjustments based on progress. Participation is by the GNWT and project team.
- Play-of-the-day meetings constitute a daily plan for each crew's activities, including safety and quality concerns. Participation is by the project team.
- Pre-activity meetings take place prior to the start of each operation. A work plan review meeting is held to ensure

everyone understands the specifications, processes, inspection hold points and that everyone's expectations are understood. Participation is by the GNWT, project team, regulatory authorities and stakeholders.

- Long form job hazard analysis (JHA) encompasses an entire operation, identifying all safety risks. This is created for each operation by the project team and signed off on by all work crew members.
- Short form job hazard analyses are completed at the start of each operation daily with the relevant changing conditions listed, such as weather (rain, snow) and identifying whether other disciplines are working in the area etc. This is created for each operation by the project team and signed off on by all work crew members.
- Employee grievance policy and procedure enables employees to voice their complaints in a constructive way. Employees can file grievances for any of the following reasons:
  - workplace harassment;
  - health and safety;
  - supervisor behaviour; and
  - adverse changes in employment conditions.

## With the public

The GNWT and NSI share responsibility for stakeholder communication and engagement on the project. The primary communication objectives for the project include:

- increased public understanding of the project's contribution to northern economic development and the communities it serves;
- increased understanding of the project's potential impacts to community health and well-being;
- ensuring residents are aware of the project's progress, and aware of where to find information pertaining to it;
- ensuring the Tłchq Government and local residents are aware of opportunities to provide input and are able to provide meaningful input when asked;
- informing residents of the environmental protections in place to support the safe building of the road;
- providing residents and travelers with current information about when and where work is underway and understand how to stay safe during construction;

- ensuring residents have a forum to provide feedback and identify issues related to community health and well-being throughout the construction period; and
- addressing communications planning, community relations, stakeholder engagement, media relations, emergency communications and traffic information during the operating period.

NSI is employing unique approaches to address the importance of community relations and communications. For example, throughout the construction phase, traditional hunters, trappers and fishers will have limited access to the project area. To mitigate impacts, NSI is staging construction to avoid traditional sites, including cabins, trails, cultural sites and trap lines. NSI's community coordination lead and project team will support the GNWT in identifying impacted parties and determine the best approach to communicate any changes to them.

During the 25-year operating period NSI will host town hall meetings to obtain input and feedback from the community and stakeholders to improve day-to-day operations and coordinate the longer-term rehabilitation activities. These community meetings will occur at least annually in all four Tłchq communities.

Also during the operating period NSI will engage with members of the travelling public and other stakeholders using the following communication tools:

- project website, including timely information about the project, as well as contact information for certain key individuals;
- signboards and temporary signage to provide key road information as needed, including road conditions;
- key permanent signage, including information about NSI;
- customer service activities such as responding to queries either by phone or email in a timely fashion and to maintaining a 24-hour telephone call centre to receive, respond to, and log calls; and
- customer satisfaction surveys.

### Community Coordination Lead

The project's direct involvement with the Tłchq community requires a culturally appropriate approach to community engagement and communication. As noted earlier, NSI's community coordination lead (CCL) is an Indigenous citizen, and has been engaged to work with their counterparts at the Tłchq

Government, the GNWT and within the design-builder and OMR teams to ensure NSI meets the project objectives for effective Tłchq engagement and public communication. Specifically, the CCL's responsibilities are to:

- develop, implement, and update the local content engagement plan to achieve the project's Tłchq employment and subcontracting objectives;
- manage community engagement activities and events;
- develop ongoing cultural safety initiatives (the National Collaborating Centre for Aboriginal Health describes cultural safety as developing and nurturing a climate where the unique history of Indigenous peoples is recognized and respected in an impartial and safe way, without discrimination);
- provide community relations, public consultation and issues management related to community engagement;
- support the GNWT's community engagement program; and
- support community engagement initiatives.

## Dispute resolution mechanism

The project agreement includes a formal dispute resolution procedure outlined in detail in Schedule 13.<sup>26</sup> Before an issue is escalated to the formal process, NSI and the GNWT have agreed to an informal approach to resolve an issue at lower levels in the most expeditious way possible. If this does not occur, the issue will be escalated quickly to project leads. Kiewit has used this approach in other large projects as it is less time consuming and allows the project to continue expeditiously. .

The formal procedure is similar to that used in other P3 projects. The issues-resolution ladder starts with a notice period. The first step is to try and resolve the dispute through without-prejudice negotiation. If that fails, then a fast-track referee process is available. If the dispute is not completely resolved by a referee's decision, then the parties have the option of proceeding to either binding arbitration or litigation.

As of the date of the preparation of this case study, there were no disputes requiring formal resolution.<sup>27</sup>

<sup>26</sup> *Schedule 13 Dispute Resolution Procedure, Project Agreement for the Tłchq All-Season Road Project, the Government of the Northwest Territories and North Star Infrastructure GP, February 13, 2019, redacted execution version.*

<sup>27</sup> The case study was prepared between December 1, 2019 and March 30, 2020.

## Monitoring

The project agreement includes specific provisions to ensure project delivery, performance and quality standards are met. Monitoring spans every phase of the project, from financial close through to design and construction, maintenance and hand back. There are several major phases in the project monitoring schedule, with roles and responsibilities assigned at each stage.

During the construction period, monitoring mechanisms specified to ensure the timeliness of construction completion and the quality of the construction include:

- An independent certifier who is responsible for reviewing and monitoring construction progress and quality, as well as certifying payments. The independent certifier is also responsible for preparing and delivering a monthly inspection report on the design and construction completed in the previous month and progress in relation to the project schedule.
- At substantial completion and at total completion, the independent certifier is responsible for issuing a certificate of completion when NSI has met the design and construction requirements of the project agreement.
- NSI's lenders will also review performance during the construction period.

Monitoring protocols are also in place during the operations and maintenance phase through to the hand back phase. For example:

- The GNWT will perform inspections and testing to check reports and ensure the requirements continue to be met;
- NSI will provide reports to the GNWT for review on communications, environment, site safety, traffic control and quality;
- NSI will provide plans for the GNWT's review and approval, such as:
  - operation and maintenance plan;
  - customer care plan;
  - traffic management plan;
  - asset management plan;
  - rehabilitation strategy plan;
  - environmental management plan;
  - hand back works plan; and
  - project safety plan.

## Lessons Learned

All parties agreed a number of elements have contributed to the project's success to date, not only in achieving significant estimated value for taxpayers' dollars, but also in achieving support from Indigenous and northern businesses.

### Integrated approach during procurement

During the procurement process, NSI pursued the project as an integrated one-Kiewit team across equity, design-build and OMR. This integrated approach allowed for open and transparent discussions enabling the team to make timely decisions. The efficient decision-making process helped NSI better allocate its internal resources and significantly reduced bid preparation costs, ultimately contributing to a more cost-competitive proposal and better VFM for the GNWT.

### Climate change risk-sharing mechanism

The climate change risk-sharing mechanism developed for this project will become increasingly relevant for future P3 projects in all jurisdictions. The model developed for TASR is transferrable to different projects, with specific relevance to horizontal infrastructure with long-term concession periods. This mechanism will help mitigate growing concern and uncertainty regarding climate change risks by enabling proponents to price contingencies against a known maximum exposure, thereby allowing procuring authorities to achieve value on their deals.

## Concluding Comments

The Tł̨chq̨ All-Season Road is a landmark project that brings significant value to the local community, and demonstrates the value for money of the P3 delivery model. The project has a high level of Indigenous involvement and is among the first P3 projects in North America with an equity investment by an Indigenous government.

The Tł̨chq̨ Government exercised its option, embedded into the RFP, to participate directly as a member of the successful consortium with a 20 per cent equity ownership and a linked requirement for Tł̨chq̨ representation on its board of directors.



Excavation under Northern Lights. Photo taken in Pit 33A in December 2019

The Government of the Northwest Territories also required a threshold involvement for Tłchq and other territorial citizens and businesses in the construction and operations of the project. This approach expanded on the successes of other P3 projects across Canada in prescribing required levels of involvement of Indigenous and local residents and businesses.

The \$411.8 million project was procured as a 28-year DBFOM P3 contract with a three-year construction period and a 25-year OMR period. North Star Infrastructure General Partnership's winning bid will result in savings of approximately \$54.8 million (NPC) or 16.3 per cent for the taxpayers of the Northwest Territories.

Climate change was identified as a key risk in the delivery of the project. As a result an innovative climate change risk-sharing mechanism was developed for the project with financial implications shared between the GNWT and NSI. It allowed proponents to understand and effectively price the climate change risk and improved the value for money for the GNWT. This

is the first project in Canada to adapt this kind of mechanism. And it will be increasingly relevant for future P3 projects in all jurisdictions.

When the road is operational, expected in the fall of 2021, the Tłchq community of Whatì will no longer be reliant on air travel to deliver all-important health and social services and basic supplies like food and clothing to the community. Road access will be increased from an average of 78 days per year to all 365 days of the year. This will open up employment and economic development opportunities not only for the community, but for the entire Northwest Territories.

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## Appendix: CCPPP's National Award Case Studies 1998 - 2019

### Defence

Communications Security Establishment Canada Long-Term Accommodation Project (2011)

### Education

Quad at York University, Ontario (2018)  
Saskatchewan Joint Use School Projects (2015)  
Alberta School Alternative Procurement – Phase 1 (ASAP I), Alberta (2010)  
O'Connell Drive Elementary School, Nova Scotia (1998)

### Energy

Fort McMurray West 500-kV Transmission Project, Alberta (2018)  
John Hart Generating Station Replacement Project, B.C. (2014)  
Britannia Landfill Gas to Electricity Project, Ontario (2005)  
Vancouver Landfill Gas Cogeneration Project, B.C. (2003)  
Bruce Nuclear Power Facility, Ontario (2000)  
Waterloo Landfill Gas Power Project, Ontario (2000)

### Government Services

Archives of Ontario – Offsite Archival Storage (2006)  
Cook Chill Food Production Centre, Ontario (2005)  
DriveTest: Ontario Driver Examination Services (2004)  
Transforming the Delivery of Ontario's Social Assistance System (2003)  
Emergency Service Mobile Communications in Ontario (2000)  
Electronic Child Health Network, Toronto, Ontario (1999)  
Teranet, Ontario (1998)

### Health

New Oakville Trafalgar Memorial Hospital, Ontario (2016)  
Humber River Hospital, Ontario (2015)  
BC Cancer Agency Centre for the North and Fort St. John Hospital & Residential Care Project, B.C. (2012)  
Centre Hospitalier de l'Université de Montréal Project (2012)  
Glen Campus – McGill University Health Centre, Quebec (2010)  
Women's College Hospital Redevelopment Project, Ontario (2010)  
Royal Jubilee Hospital Patient Care Centre, B.C. (2009)  
VIHA Residential Care and Assisted Living Capacity Initiative, B.C. (2007)  
Abbotsford Regional Hospital and Cancer Centre, B.C. (2008, 2005)  
Facility Management for the Royal Ottawa Health Care Group, Ontario (2000)  
Devonshire Care Centre, Alberta (2000)  
Shaikh Khalifa Medical Centre, United Arab Emirates (2000)

### IT Infrastructure

Connecting Small Schools in Newfoundland (2003)

### Justice & Corrections

Forensic Services and Coroner's Complex, Ontario (2016)  
Okanagan Correctional Centre, British Columbia (2015)  
Elgin County Courthouse, Ontario (2014)  
Ontario Provincial Police Modernization Project (2013)  
Surrey Pretrial Services Centre Expansion, B.C. (2011)  
Durham Consolidated Courthouse, Ontario (2007)  
Central North Correctional Centre, Ontario (2002)  
Five Corners Project, B.C. (2002)

### Real Estate

Aurora College Family Student Housing, Northwest Territories (1999)  
Legislative Chamber, Offices and Housing, Nunavut (1999)

### Recreation & Culture

L'Adresse symphonique, Quebec (2011)  
SHOAL Centre: Seniors Recreation Centre, B.C. (2004)  
John Labatt Centre, London, Ontario (2002)  
Skyreach Place, B.C. (2000)

### Social Housing

Single Room Occupancy Renewal Initiative Project, B.C. (2013)

### Transportation

Gordie Howe International Bridge Project (2019)  
TĚjchq All-Season Road Project  
North Commuter Parkway & Traffic Bridge Replacement, Sask. (2018)  
Iqaluit International Airport, Nunavut (2017)  
Southwest Calgary Ring Road, Alberta (2016)  
Disraeli Freeway and Bridges Project, Winnipeg, Manitoba (2012)  
Canada Line, B.C. (2009)  
Confederation Bridge, PEI (2009)  
Highway 407 ETR, Ontario (2008 & 1999)  
Autoroute 30, Montreal, Quebec (2008)  
Northwest Anthony Henday Drive, Alberta (2008)  
William R. Bennett Bridge, B.C. (2008)  
Autoroute 25, Montreal, Quebec (2007)  
Kicking Horse Canyon Project –Phase 2, B.C. (2007)  
Golden Ears Bridge, B.C. (2006)  
Anthony Henday Drive Southeast Leg Ring Road, Alberta (2005)  
Sea-to-Sky Highway Improvement Project, B.C. (2005)  
Sierra Yoyo Desan Resource Road, B.C. (2004)  
Fredericton-Moncton Highway Project, New Brunswick (2003)  
Belledune Port Authority, New Brunswick (2000)  
Retendering Alberta's Highway Maintenance Contracts (2000)  
Cobequid Pass Toll Highway, Nova Scotia (1998)

### Water, Wastewater & Biosolids

Calgary Composting Facility, Alberta (2017)  
City of Saint John Safe Clean Drinking Water Project, New Brunswick (2017)  
Regina Wastewater Treatment Plant Upgrade Project, Saskatchewan (2014)  
Biosolids Management Facility, Sudbury, Ontario (2013)  
Britannia Mine Water Treatment Plant, B.C. (2006)  
Goderich Water and Sewer Services, Ontario (2000)  
Port Hardy Treatment Project, B.C. (2000)

These case studies can be obtained through CCPPP's online bookstore at: [www.pppcouncil.ca/web/bookstore](http://www.pppcouncil.ca/web/bookstore)

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