Kivalliq Hydro-Fibre Link

Project Update and Fieldwork Summary Report

ᑭᕐᓕᖅᒪᖓ ᐅᖃᓕᓚᓂᖅᓯᐅᑦ - ᖃᓚᑕᐅᔪᓕᓚᓂᖅᓯᐅᑦᓗ ᐊᖏᑐᐊᔪᕐᓚᑎᓂᖅᖃᖅ

ᐱᓕᓚᐊᖅᑕᖅ ᓄᑦᓴᓂᖅ ᐊᓱᒪ ᓄᓇᒥᑕᖅ ᖃᐅᔨᓴᖅᓂᓂᖅᖃᖅ ᓇᐃᓇᖅᓯᒪᔪᑦ ᐅᓂᒃᑳᑦ

March 2023 | Lᐊᓂᒃ 2023

NUKIK CORPORATION
ᓄᑭᖅ ᐊᐅᓪᓗᒍᑦ

Northern Manitoba, July 2022

Prepared with support from: InterGroup Consultants Ltd. and Chadwick Consulting Ltd.
ᐊᑲᑭᓯᖅᑕᐅᔪᖅ ᐃᑲᔪᒪᐅᔨᓗᓐᓂ: InterGroup Consultants Ltd. ᐊᒻᒪ Chadwick Consulting Ltd.

Many photos in this report were provided by Build Films, many thanks to Trevor Gill

CONTENTS / ᐃᓗᓕᖅᑎᑦ

1.0 MESSAGE FROM THE PRESIDENT

The Kivalliq Hydro-Fibre Link (KHFL) is an Inuit-led, national infrastructure project that will be Nunavut's first link to southern Canada. The project will provide enough renewable power and fibre-optic internet capacity for the Kivalliq region for generations to come.

Over the past year a significant amount of work has been completed as the KHFL advances through project development. The project is working closely with communities and continues to share project information collected through baseline studies.

In 2021 Nukik Corporation (Nukik) was formed by the Kivalliq Inuit Association (KIA) and Sakku Investments Corporation (Sakku) to lead the KHFL. Nukik's executive team was brought on in March 2022 to work closely with

1.0 ᑐᓴᐃᓴᖅ ᐊᒃᑲᓪᓕᖅᑎᑦ

(KHFL) ᑭᒃᓯᒥ ᐅᖅᑲᓚᐅᑦᓯ – ᖃᓚᑕᐅᔾᔪᓚᐅᑦᓯᓪ ᐊᖅᑐᐊᒃᓴᑎᐅᖅ ᐃᓄᖅᓄᑦ ᐊᐅᓪᓚᑕᐅᔨᓪᓂᖅ, ᑲᓇᑕᒥ ᒪᑭᒪᓴᑕᐅᔨᖅ ᐊᑕᐅᓯᖏᓐᓂᑦᓯᐊᖅᓯᓪᓂᖅ ᓄᓇᕗᒻᒥᐅᖅᑐᑦ ᖃᓄᐅᔪᓐᓇᑦ ᓄᓇᖏᖅᓄᑦ. ᓯᖃᕐᓂᒃ ᐊᓄᓚᒍᓪ ᐊᓴᕐᖏᓇᐃᖅᑎᑦᓯᓯᐊᖅᓯᒪᑦ ᑭᒃᓯᒥᒃᑎᐅᖅᑐᑦ ᐊᒪ ᓇᑭᖅᑐᖅᑐᑦ ᖃᓄᖅᑕᐅᔪᓂᑦ ᐊᓴᖏᑎᓐᓂᓯᓯᐊᖅᓯᓪᓂᖅ ᓯᕗᓂᖅᒥ ᑭᒃᓯᒥᒃᑎᐅᖅᑐᑦ.

ᐅᑭᐅᐸ ᐃᓗᐊᖅᑐ ᐱᓕᕆᐊᖏᓚᒍᐸ ᐊᖅᑎᓴᖅᓪᓚᑦ ᑭᒃᓯᒥᒃᑎᐅᖅᑐᑦ ᐅᖅᑲᓚᐅᑦᓯᓯᐊᖅᓯᒪᑦ – ᖃᓚᑕᐅᔪᓚᐅᑦᓯᓯᐊᖅᓯᓪᓂᖅ ᐊᖅᑐᐊᒃᓴᑎᐅᖅᑐᑦ ᓯᕗᓂᖅᒥ ᐃᓚᖅᑎᑦᓯᓚᑦ. ᐱᓕᕆᖃᑎᖅᑲᖅᑎᑐᖅ ᓄᓇᕗᒻᒥᐅᖅ ᑲᔪᓯᓗᑎᑐᖅ ᐊᒥᖅᑲᕗᖅᑲᖅᑎᑐᖅ ᑐᓴᐅᒪᔪᓂᖅ ᖃᓄᐅᔪᓐᓇᖅᑲᖅᑎᑐᖅ ᖃᓄᐅᑲᖅᑎᑐᖅ ᑐᐊᕐᖃᓕᓴᐅᓂᖅ ᖃᓄᖅᑕᐅᔪᓂᑦᓯᓯᐊᖅᓯᓪᓂᖅ.

ᐃᓗᐊᖅᑐ 2021 ᓄᓇᖅ ᐱᓕᕆᔨᒻᒪ ᐱᑎᐊᖅᑎᑕᐅᓕᐅᖅᓴᒪᑦ ᑭᒃᓯᒥᒃᑎ ᐃᓄᐃᑦ ᑲᑐᔨᖅᑎᑕᖅᓴᓂᑦ ᐊᒪᒪ ᓴᓵᑯᑦᓄᓂᑦ ᐱᓕᕆᐊᖅᑲᖅᓯᐊᖅᓯᓪᓂᖅ ᑭᒃᓯᒥᒃᑎᐅᖅᑐᑦ ᐅᖅᑲᓚᐅᑦᓯᓯᐊᖅᓯᒪᑦ – ᖃᓚᑕᐅᔪᓚᐅᑦᓯᓯᐊᖅᓯᓪᓂᖅ ᐊᖅᑐᐊᒃᓴᑎᐅᖅᑐᑦ (KHFL). ᓄᓇᕗᒻ ᐃᓱᒪᑕᐅᑎᖅᑎᑦ ᐱᑎᐊᓕᐅᖅᓴᒪᑦ ᒪᐃᔪᑦᑎᑦ 2022 ᐱᓕᕆᖃᑎᖅᑲᖅᑎᑐᖅ ᓄᓇᕗᒻᒥᐅᖅᑐᑦ ᑲᑎᒪᔨᖅᑎᑕᖅᓴᓂᑦ. ᓄᓇᖅ ᐱᓕᕆᖃᑎᖅᑲᓴᒪᑦ

Day on the Hill, Ottawa, October 2022
Left to right: back row, Sashan Guneratna, Darcy Quinn, Steve Sousa, Kono Tattuinee, Dino Bruce, Adam Borowiecki, front row: Pete Bothwell, Dan Thackeray, David Kakuktinniq, Brett, Smit, Anne-Raphaëlle Audouin

Nukik's Board of Directors. Nukik is also working with industry leading development partners who will support the design, development, financing, and operation of the KHFL.

Nukik looks forward to working in partnership with the Government of Canada to support a clean energy future for the Kivalliq region. The project represents an important opportunity for the Federal Government to help close the region's infrastructure gap and advance reconciliation and Inuit self-determination.

Our Board is also preparing for the significant business opportunities the KHFL could create for communities in Nunavut and northern Manitoba through construction and operation of the line. The project could also create new opportunities in telehealth, education, and unlock opportunities in renewable energy generation in the region.

As the project advances, the KHFL will continue to work closely with communities in both northern Manitoba and the Kivalliq region to ensure Inuit Qaujimajatuqangit and Indigenous Knowledge are fully integrated in the project. To fully understand the significance and importance of this project we welcome you to visit and meet with our team.

David Kakuktinniq
President, Nukik Corporation

ᓱᕗᓕᖅᑎᐅᔪᓐᓂᒃ ᖃᐅᔨᒪᔪᓐᓂᒃ ᐋᕿᒃᓱᐃᓯᒪᔪᓂᒃ ᓴᓇᑉᓗᑎᒃᓗ ᐊᒻᒪ ᑮᓇᐅᔭᖃᖅᑎᑦᓯᑉᓗᑎᒃ ᐊᐅᓚᑕᐅᓂᖓᓂᒃ ᑭᕙᓪᓕᕐᒥ ᐅᒃᑳᓕᓇᓂᒃᑯᑦ – ᖃᓇᑕᐅᔭᓕᓇᓂᒃᑯᓪᓗ ᐊᒃᑐᐊᔾᔪᑎᓂᖅ.

ᓄᑭᒃ ᓱᕗᓂᕐᒥ ᐱᓕᕆᖃᑎᖃᕈᒪᕗᖅ ᑲᓇᑕᐅᑉ ᒐᕙᒪᖏᓐᓂᒃ ᓴᓗᒪᔪᓪᒥᒃ ᖃᐅᒻᒪᖁᓪᒥᒃ ᑭᕙᓕᕐᒥ ᐊᑐᓕᖅᑎᑦᓯᔪᒪᑉᓗᓐᓂ. ᑕᒻᓇ ᐊᑐᕐᓂᖃᕋᔭᕐᒪᑦ ᑲᓇᑕᐅᑉ ᒐᕙᒪᖏᑦ ᒪᑭᒪᔪᑎᓐᓂᒃ ᐱᐅᔪᓐᓂᒃ ᐊᑐᖅᑕᓕᕐᓗᑎᒃ ᑭᕙᓪᓕᕐᒥᐅᑦ ᐊᒻᒪ ᐃᓄᐃᑦ ᓇᖕᒥᓂᖅ ᐊᐅᓚᑦᓯᓕᕐᓗᑎᒃ.

ᑲᑎᒪᔨᕗᑦ ᒫᓐᓇ ᐋᕿᒃᓱᐃᖕᒪᑕ ᓇᖕᒥᓂᖃᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᖑᔪᒫᖅᑐᑦ ᐱᑕᖃᕈᒫᕐᓂᖏᓐᓂᒃ ᓄᓇᕘᒥᐅᓄᑦ ᒫᓂᑑᕙᒥᐅᓄᓪᓗ ᑭᕙᓪᓕᕐᒥ ᐅᒃᑳᓕᓇᓂᒃᑯᑦ – ᖃᓇᑕᐅᔭᓕᓇᓂᒃᑯᓪᓗ ᐊᒃᑐᐊᔾᔪᑎᓂᖅ ᐊᑐᒐᐅᓕᖅᐸᓐ ᓄᓇᓕᖕᓂ ᐊᒻᒪ ᒫᓂᑑᕙᒻᒥ. ᓴᕿᑎᑦᓯᔫᓪᓗᐊᕐᓂᐊᕐᒪᑦ ᐊᓐᓂᐊᕐᕕᖕᓄᑦ ᐊᑐᒐᐅᔫᓪᓗᐊᕐᓗᓐᓂ, ᐃᓕᓐᓂᐊᕕᖕᓄᑦ ᐊᒻᒪ ᐊᓯᖏᓂᒃ ᐱᒋᐊᖅᑎᓯᓗᓐᓂ ᐊᓄᕆ ᓯᕿᓂᕐᓗ ᐊᑐᕐᓗᒋᒃ ᑭᕙᓪᓕᕐᒥ.

ᓱᕗᒧᐊᒃᑎᓪᓗᒍ ᐱᓕᕆᐊᖑᔪᖅ ᑭᕙᓪᓕᕐᒥ ᐅᒃᑳᓕᓇᓂᒃᑯᑦ – ᖃᓇᑕᐅᔭᓕᓇᓂᒃᑯᓪᓗ ᐊᒃᑐᐊᔾᔪᑎᓂᖅ ᓄᓇᓕᖕᓂᒃ ᐱᓕᕆᖃᑎᖃᕐᓂᐊᕐᒪᑦ ᒪᓐᓂᑐᕙᒻᒥ ᐊᒻᒪ ᑭᕙᓪᓕᕐᒥ ᐃᓄᐃᑦ ᖃᐅᔨᒪᔭᑐᖃᖏᑦ ᐊᒻᒪ ᓄᓇᖃᖅᖃᖅᑐᑦ ᖃᐅᔨᒪᓂᖏᑦ ᐊᑐᖅᑕᐅᓂᐊᕐᒪᑕ ᐱᓕᕆᐊᒥ. ᑐᑭᓯᑲᓂᕈᑕᐅᓗᓐᓂ ᐅᔨᕐᓴᕐᓂᖓᓐᓂᒃ ᐊᒻᒪ ᐊᑐᕐᓂᖓᓐᓂᒃ ᑐᖓᓱᒃᑎᑦᓯᔪᒍᑦ ᐃᓕᖕᓂᒃ ᐱᓕᕆᔨᑉᑎᖕᓄᑦ.

ᑏᕕᑦ ᑲᑯᒃᑎᓐᓂᖅ
ᐊᖓᔪᖄᖅ, ᓄᑭᒃ ᐱᓕᕆᔨᓪᒪᕆᖏᓐᓂ

2.0 MESSAGE FROM THE CEO

On behalf of the Nukik Corporation Executive team we are proud to support this critical Inuit-led infrastructure project that will bring renewable electricity and high-speed internet to the Kivalliq region.

This past year has been extremely busy. Three of our key priorities since we started have been 1) community and stakeholder engagement – including territorial and federal governments, 2) project development and engineering design, and 3) developing a detailed business case and financial model for the project.

Our focus for community and stakeholder engagement has been to make sure communities are involved in early project planning. This was especially important as we could not visit communities during the COVID 19 pandemic.

Nukik travelled across Nunavut and northern Manitoba sharing project information and meeting with communities. The project team had the opportunity to present detailed information at several forums including the Nunavut Trade Show, the Kivalliq Trade Show, and other events.

2.0 ᐊᐅᓪᓗᕆᑦ ᑐᓴᖏᓴᓪᓗᑦ

ᐅᑯᓇᖏᑦ ᓄᑭᐅᑦ ᐱᓕᕆᔨᒪᓇᖏᑐᓂᑦ ᖃᐞᐱᐊᓱᒃᑐᒍᑦ ᐃᒃᓯᒪᐅᑎᓂᕐᒥᖅᑐᑦ ᐃᓄᖅᓄᑦ ᐊᐅᓪᓚᑕᐅᓵᓄᖅ ᒪᑭᒪᓭᑕᐅᓭᖅ ᓄᑕᖅᑐᑦ ᖃᐅᔨᒪᖃᓱᑦ ᐱᑎᓪᓗᒡᒎᖅ ᐊᑐᓴᖏᓴᓪᓗᖅᑐᑦ ᖃᐅᔨᓴᖅᑎᑦ ᐊᑐᓚᑦ ᓇᑭᖅᑐᒥᒃᑐᑦ ᖃᐅᔨᒪᓂᖅᑐᑦ ᑭᓴᕐᕕᒃᓴᐅᓕᑦ.

ᐅᑭᐅᒥᒃ ᐊᒥᓱᓂᑦ ᐱᓕᕆᓚᐅᖅᓱᒍᑦ. ᐱᖓᓱᓱᓕᐊᖅᑭᓪᓚᑦ ᐱᓕᕆᐊᖅᔪᓚᐅᖅᓱᒍᑦ ᐅᓚᐊᖅᔪᓚᐅᖅᓱᒍᑦ ᐊᐅᓪᓚᑕᐅᓵᓄᖅ – ᓄᓇᕗᒻᒥ ᑲᓇᑕᒥᓗ ᑲᑎᒪᐅᓕᖅᓂᖅ, 2) ᐱᓕᕆᐊᑦ ᐱᖓᓕᕆᐊᓂᖅᖃ ᐃᓕᓴᐅᖅᖃᓂᖅᓗ ᐃᓱᒪᓕᐅᑎᓂᖅᖃ, ᐊᒥᓱ 3) ᓇᖅᑭᓂᓵᓂᐊᓕᒍᓗ ᐃᓱᒪᓕᐅᑕᐅᓂᖅᖃ ᐊᑐᓵᐊᓕᖅᓂᖅᑐᑦ ᐋᓐᓂᖅᓱᐃᐊᓕᐅᓗᓂᖅ.

ᑐᑭᖅᑕᕐᓂᑦ ᓄᓇᕗᑦ ᐊᒥ ᐱᓕᕆᖃᑕᐅᓂᐊᖅᑎᑐᓂᖅ ᐃᓕᐅᑎᑕᐅᓂᓗᓕᑎᑐᓂᖅᑐᑦ ᐱᐊᓕᓕᐊᓂᖅᓵᓂᖅ. ᑕᒪᓐ ᐊᑐᓂᖅᖃᓕᒫᑦ ᓄᓇᕗᖅᓂᖅ ᑲᑎᒪᖃᖅᖃᓂᖅᓵᓂᖅ ᑎᑭᐅᓂᖅᑐᖅ ᐊᐸᓂᖅᓯᒪᓕᒫᒪᑦ ᓄᕐᓚᐸᐊᓂᖅ19 ᐱᑎᓂᓗᒍ.

ᓄᑭᑦ ᓄᓇᕗᖅᓂᑦ ᓄᓇᑕᒥ ᐊᒥ ᒪᓂᑐᑐᓭᒥ ᑎᑭᐅᑕᕐᒪᑦ ᑐᓴᖏᑎᓂᐸᓂᓵᓂᖅ ᐊᒥ ᓄᓇᕗᖅᑐᖅ ᑲᑎᒪᖃᖅᖃᓂᖅᓵᓂᖅ. ᓄᖅᑲ ᐃᖅᑕᕋᐅᕐᒪᑦ ᓄᓇᕗᒻᒥ ᒪᓂᑐᑐᓭᒥ ᑲᓇᖅᓇᖅᑎᓂᖅ ᓄᓇᕗᖅᑐᑦ ᑲᑎᒪᑎᖃᖅᖃᓂᖅᓵᓂᖅ ᑐᑭᓯᓂᕐᓂᓗ ᐅᖃᐅᓯᖅᖃᓂᖅᓵᓂᖅ. ᑎᑎᕋᖅᓯᒪᓕᖅᑐᖅ ᑕᓯᑎᓂᓯᒪᓕᐅᕐᒪᑦ ᓄᓇᕗᒻᒥ ᓇᖅᑭᓂᖃᖅᑐᑦ ᐅᖃᐅᓯᖅᖃᓂᖅᓵᓂᖅ, ᑭᑦᑕᓂᕐᒥ ᓇᖅᑭᓂᓵᓂ ᑲᑎᒪᑎᑕᐅᑎᓂᓗᒍᑦ ᐊᓯᓂᖅᑐᖅ ᑲᑎᒪᓐᓇᖅᑐᑦ.

Nukik CEO, Anne Raphaëlle Audouin speaking at the Kivalliq Trade Show, September 2022

Day on the Hill, Ottawa, October 2022
Left to right: Aluki Koterik, Hon. P.J. Akeeagok, Dino Bruce, David Kakuktinniq, James Etoolok, Natan Obed, Kono Tattuinee

On the project development front, our emphasis was on strengthening our relationships with key stakeholders such as the Federal Government, Government of Nunavut, and Government of Manitoba. We have established a working group with key Government of Nunavut representatives to coordinate our project planning and discuss how to integrate our efforts with government priorities. We are working closely with our future anchor customers, discussing terms of reference that will guide our activities moving forward. Further, we are also collecting baseline information along the development corridor across several disciplines that will help us advance the preliminary design.

Our third priority was to complete our preliminary business case and financial model. Our goal is to secure federal partnership to advance the next stages of the project's development. We presented our business case to the Federal Government over the summer and fall of 2022. In October 2022, Nukik hosted a Day on the Hill event in Ottawa that saw Inuit leadership, elected officials and key partners voice their support for our project. This was an important opportunity for Nunavut to showcase project alignment and to share our vision to connect Nunavut to the rest of Canada for the first time.

2023 is shaping up to be another exciting year. We are planning to advance development activities, prepare for detailed engineering, advance route selection, and preparation of a Project Description and Environmental Impact Statement (EIS). We will also be growing our team in 2023 with new members from the Kivalliq region and beyond. Learn more about our work by visiting www.nukik.ca.

Anne-Raphaëlle Audouin
CEO, Nukik Corporation

ᓯᕗᓪᓕᐅᔪᓂᓕ ᓴᖏᓕᖅᑎᑕᐅᓂᖓ ᐱᓕᕆᖃᑕᐅᔪᑦ ᑲᓇᑕᑉ ᒐᕙᒪᖏᓐ, ᓄᓇᕗᒻᒥ ᒐᕙᒪᒃᑯᓐ. ᑲᑎᒪᔨᐊᑖᓐᓂᒃ ᐱᒋᐊᖅᑎᑦᓯᓚᐅᕋᑦᑕ ᑕᑉᑯᐊ ᓄᓇᕗᒻᒥ ᒐᕙᒪᒃᑯᓐᓂᑦ ᓯᕗᓕᐅᓂᐊᖅᑐᓐᓂᒃ ᐃᓱᒪᓕᐅᖅᑎᐅᓂᐊᕐᓗᑎᒃ. ᐊᒻᒪ ᐱᓕᕆᖃᑎᖃᕐᓗᑕ ᐊᑐᕐᓂᐊᖅᑐᓐᓂᒃ ᐱᓕᕆᐊᕐᒥᑦ ᓯᕗᒧᐊᑎᐊᕈᒪᑉᓗᑕ. ᑭᖑᓪᓕᖅ, ᖃᐅᔨᓴᕐᓗᑕᓗ ᐊᑉᑎᒋᔭᐅᓂᐊᖅᑐᒻᒥᑦ ᐃᓱᒪᓕᐅᕈᑕᐅᑲᓂᕐᓂᐊᕐᒪᑕ ᓄᓇᒻᒥ ᓈᒻᒪᑎᐊᖁᑉᓗᒍ ᐃᓂᒋᓂᐊᖅᑕᖏᑦ.

ᐱᖓᔪᐊᒃ ᐃᓱᒪᒋᔭᒃᓴᖅ ᓇᖕᒥᓂᖅ ᐊᐅᓚᑕᐅᓂᖓᑕ ᑎᑎᕋᖅᓯᒪᓂᖏᓐᓂᒃ ᐊᒻᒪ ᑮᓇᐅᔭᖓᑦ ᖃᓄᐃᓂᐊᕐᒪᖔᑦ ᐃᓱᒪᓕᐅᑕᐅᓗᓐᓂ. ᐱᓕᕆᖃᑎᖃᕈᒪᑉᓗᑕ ᑲᓇᑕᐅᑉ ᒐᕙᒪᖏᓐᓂᒃ ᐃᓱᒪᕗᒍᑦ. ᓇᖕᒥᓂᖃᕐᓂᕐᒧᓪᓗ ᑎᑎᖃᑦ ᑐᓂᔭᐅᓚᐅᕐᒪᑕ ᑲᓇᑕᐅᑉ ᒐᕙᒪᖏᓐᓄᑦ ᐊᐅᔭᖓᓐᓂ ᐅᑭᐊᖓᓂᓗ 2022. ᐊᒃᑐᐱᕆ 2022, ᓄᑭᒃ ᑲᓇᑕᐅᑉ ᑲᑎᒪᑉᕕᖓᓐᓂ ᓴᕿᔮᖅᑎᑦᓯᓚᐅᕐᒪᑦ ᐃᓄᐃᑦ ᓯᕗᓕᖅᑎᑦ ᐃᓚᐅᑉᓗᑎᒃ, ᓂᕈᐊᒐᐅᓯᒪᔪᓪᓗ ᐱᓕᕆᕋᑕᐅᔪᓪᓗ ᑕᑉᓱᒪᓐᓂ. ᑕᒻᓇ ᐊᑐᕐᓂᖃᓚᐅᕐᒪᑦ ᓄᓇᕗᒻᒥᐅᓐᓄᑦ ᐱᓕᕆᐊᕐᒥᒃ ᑕᑯᑎᑦᓯᓯᒪᓂᖓ ᓄᓇᕗᒻᒥ ᑲᓇᑕᒥᐅᓐᓄᑦ ᓯᕗᓪᓕᕐᒥᒃ.

2023 ᐱᓕᕆᐊᖑᓂᐊᖅᑐᑦ ᐃᓱᒪᒋᑉᓗᒋᑦ ᖁᕕᐊᓇᕐᓂᐊᕐᓗᑎᒃ ᐊᒻᒪ ᐊᓯᐊᖑᓂᐊᕐᓗᑎᒃ. ᓯᕗᒻᒧᐊᖕᓂᖕᒥᒃ ᐃᓱᒪᓕᐅᖅᓯᒪᕗᒍᑦ ᐊᒻᒪ ᐃᓕᖁᓯᖓᓐᓂᒃ ᐃᓱᒪᓕᐅᖅᑐᑕ, ᐊᑉᖁᑎᒋᓂᐊᖅᑕᖓᓂᒃᓗ ᓄᓇᒻᒥ ᐃᓱᒪᓕᐅᑲᓂᕐᓗᑕ, ᖃᓄᐃᓂᖓᓂᒃᓗ ᑎᑎᖃᑎᒍᑦ ᐃᓱᒪᓕᐅᑕᐅᓗᓐᓂ ᐊᕙᑎᑉᑕᓗ ᐊᒃᑐᐃᓂᖏᓐᓂᒃ ᖃᐅᔨᓴᕐᓗᑕ ᑎᑎᕋᖅᓯᒪᓗᒍ (EIS). ᐱᓕᕆᔨᕗᓪᓗ ᓄᑖᓐᓂᒃ ᐃᓚᔪᒪᑉᓗᒋᑦ 2023 ᐃᓗᐊᓐᓂ ᑭᕙᓪᓕᕐᒥ ᐊᓯᖏᓐᓂᓗ. ᑐᑭᓯᑲᓂᕈᖕᓇᖅᐳᑎᑦ ᖃᕆᑕᐅᔭᒃᑯᑦ ᐅᕗᖓᕐᓗᑎᑦ www.nukik.ca.

ᐋᓐ ᕋᐋᕕᐅᓪ ᐊᐅᑑᓐ (Anne-Raphaëlle Audouin)
ᐊᐅᓚᑦᓯᔨ, ᓄᑭᐅᑉ ᐱᓕᕆᔨᖏᓐᓂ

3.0 ACKNOWLEDGEMENT

Nukik acknowledges the contributions of the following people and organizations, without which these activities could not have been completed: Stanley Spence, Logan Kitchekeesik (Churchill bear guards), Barney Tootoo, Leo Subgut (Rankin bear guards), Florence Hamilton (Sayisi Dene First Nation bear guard), Richard Connelly and all his support staff at Sarliaq Holdings (Rankin Inlet), staff at Aurora Inn (Churchill), staff at the Seaport Hotel (Churchill), John Hicks and Page Burt at Nanuq Lodge (Rankin Inlet), Joan Brauner and crew at Hudson Bay Helicopters (Churchill), Derek Longley and crew at Prairie Helicopters, and many others.

Nukik acknowledges that the KHFL is working on the lands of the Kivalliq region in Nunavut, including accessing Inuit Owned Lands under the Nunavut Final Agreement.

Nukik, as an Inuit corporation, acknowledges, respects, and has the honour of working on the lands of Treaty 5 Territory, home to Cree, Oji-Cree, and Dene nations, and the

3.0 ᐅᑯᐊ ᐃᑲᔪᓕᐅᖅᑐᑦ ᓇᓗᓇᐃᒪᐅᓂᖅ

ᓄᐻᐅᑦ ᐅᑯᐊ ᐃᑲᔪᓕᐅᖅᑐᑦ ᓇᓗᓇᐃᑭᒪᓲᖅᑐᑦ ᐃᑲᔪᓕᐅᖅᑎᑦᑕ ᑕᑌᓇ ᐱᓕᕆᐊᖅ ᑲᔪᓯᖅᑕᓕᐅᕐᖓᒪᑦ: ᓯᑕᓐᓕ ᓴᐱᓐᓴ, ᔭᑎᓐ (ᓇᓐᓄᓕᕆᓚᐅᑦ ᑯᓴᐊᐊᖏᑦ), ᐸᐊᓐᓂ ᑐᑐ, ᓕᐅ ᓴᓐᔪᑦ (ᓇᓐᓄᓕᕆᓚᐅᑦ ᑲᖅᑕᓂᖏᑦ) ᐅᓪᐊᕆᓇᓴᐃ ᐄᐊᓐᒪᑕᓐ (ᓴᓵᓯ ᐊᓕᒪᑦ ᓄᓇᖑᓐᓂ ᓄᓇᕆᓚᐅᑦ) ᐊᓐᒪ ᓇᑐᑦ ᑲᐊᓐᓇᖅᑕᓕᒪᓕᒃ ᓴᓕᕆᐊᖏᑦ (ᑲᖅᑕᓂᖏᑦ) ᔨᓂᑕᕐᓴᖅᑕᓗ ᐊᑉᕿᖏᑦ (ᑯᓴᐊᐊᖏᑦ) ᐊᓐᒪ ᔨᐳᐊᑦ ᔨᓂᑕᕐᓴᐊᓐᓂᖅ (ᑯᓴᐊᐊᖏᑦ) ᕗᐊᓐ ᐄᐃᐅᑦ ᐊᓐᒪ ᐸᐊᓐᓄ ᐸᐃᓐ ᓇᓄᖓ ᑐᐊᖏᕐᓴᐊᓐᓂᑦ (ᑲᖅᑕᓂᖏᑦ), ᐋᐅᓐ ᐳᕆᐊᓐᓇ ᐱᓕᕆᓚᐅᖅᑕᓗ ᐄᐊᓕᑲᑦᑕᓕᕆᓚᐅᖅᑎᖅ Hudson Bay Helicopters (ᑯᓴᐊᐊᖏᑦ), ᑎᐊᓚᑦ ᒪᐊᓐᓂᖅᑕᓗ ᐱᓕᕆᓚᐅᖅᑎᑦᑕ ᐄᐊᓕᑲᑦᑕᓕᕆᓚᐅᖅᑎᖅ Prairie Helicopters, ᐊᔨᖅᑕᓗ ᐊᒥᔨᑦ.

ᓄᐻᑕᐅᖅ ᑐᓴᐅᒪᖕᓂᐅᖅ ᑭᖑᓪᓕᒥ ᐅᑲᐲᓕᕐᓂᐅᖅᑎᑦᑕ – ᖃᓚᑕᐅᐳᓕᓚᓂᑯᓗᓪ ᐊᑲᑐᐊᔪᓚᑎᓂᖅ ᐱᓕᕆᓚᐅᖅᑲᒪᒃᑕ ᓄᓇᒥ ᑭᖑᓪᓕᒥ ᐊᒥᓕ ᐃᓄᐃᑦ ᓄᓇᖏᓚᑎᓂᖅ ᐊᖏᑭᑎᑐᑦ ᐃᓗᐊᓂᑦ ᑎᑎᕋᖅᓯᒪᔪᓂᖅ.

ᓄᐻᑦ ᐃᓄᖅᓄᑦ ᑎᒥᖏᖅᑎᑐᐅᔪᖅᑐᖅ ᓇᓗᓇᐃᖅᓯᓗᖅ ᐅᐱᒍᓚᓄᓗ ᐱᓕᕆᑎᑕᐅᓂᖅᑭᓂᖅ ᐅᓇᓚᑦ ᓄᓇᖏᓚᑎᓂᖅ Treaty 5

Whale's tail monument built in 1967, Whale Cove

Quilliq lighting ceremony, Day on the Hill, Ottawa, October 2022

Homeland of the Red River Métis. We respect the Treaties made on these territories, we acknowledge the harms and mistakes of the past and we dedicate ourselves to move forward in partnership with Indigenous communities in a spirit of reconciliation, partnership, and collaboration.

Nukik would also like to acknowledge the financial support from the Canadian Northern Economic Development Agency (CanNor), Northern Affairs' Northern REACHE program (REACHE), Canada Infrastructure Bank (CIB), Nunavut Tunngavik Incorporated, Kivalliq Inuit Association and Sakku Investments. Their support has been instrumental in allowing the project to conduct preliminary feasibility work and baseline studies which have informed our potential route and project configuration. Their continued support is contributing to the project moving through to development.

Nukik also acknowledges Town of Churchill Mayor Mike Spence, the late Arviat Mayor Bob Leonard and many others who championed the vision for the project over the last number of decades.

ᓄᑖᖅᑎᓪᓗᒍ, ᐅᓇᓕᓄ ᓄᓇᒋᔭᐅᔪᓂ, Oji-Cree, ᐊᓚᒪ ᑎᓵᑎᑯᓄ ᐊᓕᓚᓄ ᓄᓇᒋᔭᐅᓕᔪᓐᓇᖅᑐᓗ ᓇᓂ ᓇᓪᓕ ᒪᐃᐅᓴᐅᓂᖅ (Red River Métis). ᐅᓇᓕᓂ ᐊᖏᑭᑎᖏᑦᑐᖅ ᐅᐱᒍᓱᐅᔪᒍ ᓄᓇᑎᑎᖏᑦᑐᖅ, ᖃᐅᔨᒪᓕᓐᓂᑕᓗ ᐊᖏᓂᖅᓱᒪᓂᖏᑦᑐᖅ ᑕᓪᒪᓕᑎᑎᖏᑦᑐᖅᓴᓗ ᐊᖏᓕᖅᓱᒪᔪᑎᓕ ᓱᔪᒧᐊᒋᐊᕐᓂᖅ ᓄᓇᖃᖅᑲᖅᑐᓂ ᓄᓇᓕᖏᑦᑐᖅ ᐊᖏᓕᖅᑲᑎᒋᖏᓂᖏᑦᑐᖅ ᐃᓕᐅᐱᒻᒥᓂ, ᐱᓕᓇᐊᖏᑦᑐᖅᓴᓗ ᐊᖏᓕᖅᑲᑎᒋᖏᓂᖏᑦᑐᖅ ᐃᓕᐅᐱᒻᒥᓂ.

ᓄᑖᖅᑎᓂ ᓇᓗᓇᐃᖅᓱᓕᖅᓚᒪᑕ ᑭᓇᐅᔭᑎᑐᑎᑦ ᐃᑲᔪᖅᑕᐅᓂᖏᑦᑐᖅ ᑲᓇᑕᒥ ᐅᑭᐅᖅᑕᖅᑐᑦ ᐱᓪᓚᕐᓗᑎᑦ ᐱᑭᖅᑕᓕᐊᓂᔪᓐᓇᖅᑐᖅᓴᓗ (CanNor), ᐃᓄᓕᓴᐅᖅᑲᖅᓯᒪᔪᓂ REACHE ᐱᓕᓇᐊᖏᓴᓂ, ᑲᓇᑕᒥ ᒪᑭᒪᔪᑎᑯᓂ ᑭᓇᐅᔭᖅᑎᖅᑎᓂᔪᓐᓇᖅᑐᖅᓴᓗ (CIB), ᓄᓇᕗᒥ ᑐᖏᓚᐃᓂᒍ, ᑭᓪᓕᒻᒥ ᐃᓄᐃᓂ ᓴᓇᓂᒍ ᑲᓚᒥ ᓴᓂᒍ ᑭᓇᐅᔭᓕᐅᕗᑦᓂᔪᓐᓇᖅ. ᐃᑲᔪᖅᑕᐅᓂᖏᑦ ᐊᔪᖏᑎᓂᔪᐊᓘᑦᓂᖏᓴᓂᑦ ᖃᐅᔨᓴᖅᓯᒪᓕᖅ ᑐᑭᓯᐊᓂᖅᓯᒪᔪᓂ ᐊᑦᑐᒍᑎᓂᔪᐊᓘᑦᑕᖏᓴᓂᑦ ᐊᓚᒪ ᖃᓄᐃᓇᕐᓂᔪᐊᓘᑦᑕᖏᓴᓂᑦ ᐱᓕᓇᐊᖏᓴᓂ ᑐᖏᓚᐃᓂᒍ. ᐃᑲᔪᖅᑕᕐᓇᐃᓕᓂᖏᓂ ᐊᔪᖏᑎᓂᔪᐊᓘᑦᑕᖏᓴᓂᑦ ᑐᓴᕐᓗᑎᑦ.**

ᓄᑖᖅᑎᓂ ᓇᓗᓇᐃᖅᓱᑎᓕᒻ ᒪᐃᔪᖏᓴᓂᑦ ᑲᓚᑦᓂᖅᓯᒪᔪᑦ ᒪᐃᓐ ᓱᐱᓴᑦ ᐊᓚᒪ ᒪᐃᔪᒃᓴᓕᐅᖅᑐᑦ ᐊᖏᓪᓚᕐᓗᒍ ᐃᑲᔪᖅᑕᕐᓇᐃᓕᓂᖏᓂ ᐅᑭᐅᖅᑕᖅᑐᓂ.

4.0 PROJECT UPDATE

In 2015, KIA with the support of the Government of Manitoba and the Government of Nunavut restarted work on the KHFL. The KIA engaged an engineering firm to conduct a scoping study to examine the possible benefits and elements of project feasibility. In 2018, KIA secured additional funds from CanNor to scope out the elements of a feasibility study for the project. In 2019, KIA worked with a private sector transmission development partner backed by institutional investors and secured further support from CanNor for a feasibility effort.

During this time, the project initiated early engagement with local communities and organizations and conducted preliminary baseline research in northern Manitoba and Nunavut. This work informs our understanding of the socio-economic, geomorphic, aquatic, heritage, and wildlife environments of the proposed development corridor and surrounding area. The project also started preliminary engineering conceptual design work and held meetings with Government and stakeholders.

The technical, environmental, and socio-economic factors were used to produce a 2020 feasibility assessment that determined that the KHFL was technically and economically feasible. Based on the findings from the feasibility work along with community support during the preliminary

Ghotelnene K'odtjneh Dene and Kivalliq Inuit Association meeting in Rankin Inlet, May 2022
Left to right: Geoff Bussidor, Tom Sha'oullie, Joe Denechezhe, President Kono Tattuinee, Chief Evan Yassie, Benji Denechezhe

4.0 ᐱᓕᕆᐊᖏᑦ ᑐᓴᖅᓴᓂᑦ

ᐃᓗᐊᓐᓂ 2015, ᑭᓚᓕᖏ ᐃᓄᐃᑦ ᑲᑐᔾᕼᑎᑦ ᐃᑲᓴᒪᑕᒧᖓᓕ ᐊᓂᑐᑦᓯᒪᓂᖅᑕᑦ ᓴᓚᒪᓂᖅᑕᑦ ᐱᑎᐊᑲᓂᔾᔨᐊᖏᓕ ᑭᓚᓕᖏ ᐅᖅᑲᓕᓂᔾᔨᓯᑦ – ᕼᓕᑕᐅᔾᓕᓕᓂᔾᔨᑯᓗ ᐊᖅᑐᐊᐅᔪᓂᖅ KHFL. ᑲᑐᔾᕼᑎᑦ ᐃᓱᒪᓕᐅᕼᑕᐅᓕᖏᓕ ᕼᓄᐃᓂᖅᓴᓂᖅ ᕼᑲᐅᔾᓴᔭᓗᑎ ᐱᓪᓚᓕᑕᐅᑎᓂᖅᓴᖅ ᐊᒻᒪᓕ ᐃᓕᓴᐅᓱᖅᓴᓂᖅ ᑲᓇᓱᓪᓗᐊᓴᐊᖏᓪᓕᒡᓕ. ᐊᒻᒪᓕ ᐃᓗᐊᓐᓂ 2018, ᑲᑐᔾᕼᑎᑦᓴᐅᑦ ᑭᓇᐅᔾᔨᓂᖅ ᑐᓂᔾᐅᒪᐅᓕᖏᓕ ᑲᐋᓐᓄᐃᓂᖅᓂᑦ ᕼᐅᔾᔨᐱᑕᐅᓂᐊᓴᓂᖅ ᑐᑦᕼᑲᓂᐊᖏᑕᖅᓯᑦ ᐱᓕᕆᓂ. ᐊᒻᒪᓕ 2019, ᓇᖅᑎᓂᕼᖅᑐᒻᒪᑦ ᕼᐅᔾᓵᓕᐅᖅᓂᑦ ᐱᓕᕆᐊᓕᖅᓂᖅ ᐃᑲᐋᓕᐅᔾᔪᓂᑦ ᑭᓇᐅᔾᔨᖅᓂᖅ ᐱᑭᖅᑕᓕᐅᔪᓂᐊᖏᓂᖅᓯᒪᔪᑦ ᑲᐋᓐᓄᐃᓂᖅᓂᓪᓗᑎᓂ ᐃᑲᓴᒪᑕᐅᔪᒪᓂᖏᓕ ᑲᐋᓐᓄᐃᓂᖅᓂᓕ ᕼᐅᔾᔨᐱᑕᐅᓂᐊᖏᖅᑐᓂᖅ.

ᒪᓴᐅᔨᖅ, ᓯᐅᓂᖅᓴᓂ ᐱᓕᕆᐊᖅᔪᓂᐊᖏᖅᑐᑦ ᓄᓇᕕᖅᓂᑦ ᑎᒥᐅᔨᓂᖅᓗ ᑐᓴᐅᒪᑎᓯᓂᐊᖏᓕᒡᓕ ᕼᐅᔾᔨᓴᖅᓂᐊᖏᓕᒡᓕ ᒪᓂᑐᑦᓴᒥ ᐊᒻᒪᓕ ᓄᓇᐅᑦᓕ. ᑐᑭᓯᓂᔭᖅᓂᐊᖏᓕᒡᓕ ᐃᓅᓯᑦ, ᓄᓇᐅᑦ ᕼᐅᔪᐃᓂᖅᓯᖅᓂᖅ, ᑕᕆᐅᒥᑦ ᑕᓯᓴᖅᓂ, ᐃᓄᐃᑦ ᐱᖃᑎᖃᖅᓯᖅᑎᖅᓂᖅ ᐊᓂᔨᓂᖅᓂᖅ ᐊᒻᒪᓕ ᓂᖅᐸᑎᑦ ᓄᓇᕕᖅᓯᖅᓂᖅ ᕼᐅᔾᔨᐱᑕᐅᓂᐊᖏᖅᑐᑦ. ᑕᑦᓯᐊᐊ ᐊᑦᑐᓯᑎᑎᑦᓴᐅᔨᓂᐊᖏᖅᑐᑦ ᕼᐅᔾᔨᐱᑕᐅᓂᐊᖏᖅᑐᑦ ᓄᓇᖅᓯᓕᓗ ᕼᐅᓂᓴᖅᓂᖅ. ᕼᐅᔪᐃᓂᕼᖅᑕᖅᓯᑦ ᕼᐅᔾᔨᐱᓱᓕᓕᖏᓕ ᐊᑐᓱᐅᓂᐊᖏᖅᑐᑦ ᑲᑎᓱᕼᓂᖅᓴᓕᖏᓕ ᐊᑐᓱᐅᓂᐊᖏᖅᑐᑦ ᐱᓕᕆᐊᖅᔪᓂᐊᖏᖅᑐᑦ.

ᐃᓕᓴᐅᓱᓂᐊᖏᖅᑕᖅᓯᓂᔪᓂ, ᐊᑭᑎᖅᓯᓄᓪᓗᓗ ᐊᒻᒪᓕ ᐃᓅᓯᓴᒥ ᐱᑭᓚᓕᐊᓂᔾᔪᓗᓗ ᐅᐱᓗᔨᖅᓱᐅᓕ ᐊᑐᓱᐅᓕᐅᖏᓕ 2020 ᕼᐅᐱᖅᓱᓕᓕ ᑲᓇᓱᓪᓗᐊᓴᐊᖏᓪᓕᒡᓕ ᑕᕐᓱᒪᒻᒪᓕ ᑭᐅᔾᔨᓴᖅᓂᖅᓴᖅ ᑕᕐᓱᒪᒻᒪᓕ ᑭᓚᓕᖏ ᐅᖅᑲᓕᓂᔾᔨᓯᑦ – ᕼᓕᑕᐅᔾᓕᓕᓂᔾᔨᑯᓗ ᐊᖅᑐᐊᐅᔪᓂᖅ (KHFL) ᐃᓕᓴᐅᓱᖅᓴᓂ ᐃᓅᓂᑦ ᓄᓇᖅᓴᓂᓄᓪᓗ ᓇᓱᒪᓱᒪᓂᑦ. ᕼᐅᔾᔨᓴᖅᓂᐅᔨᓂᑦ ᓄᓇᕕᖅᓯᓕᓗ ᓇᓱᒪᑎᖅᑎᓂᖅᓯᒪᔪᓂᑦ, ᑭᓚᓕᖏ ᐃᓅᓂᑦ ᑲᑐᔾᕼᑎᑦ

Vegetation survey frame, September 2022

Kivalliq region fly over

engagement process, KIA and their regional economic development business arm, Sakku determined that the project should continue to move forward.

In 2020, the project also entered a Memorandum of Understanding (MOU) with the CIB for advisory services and entered into a cooperation agreement with Agnico Eagle Mines to support the next stage of project planning.

In 2021, the project secured additional funding from CanNor to advance permitting activities and further community engagement work. Later that year, Nukik was formed to be an Inuit-owned Inuit-led project proponent to lead the KHFL. Nukik is a joint venture between KIA and Sakku. In Inuktitut Nukik can be translated to mean "power" or "muscle."

Nukik, selected a financial advisor KPMG Canada and with support from the CIB issued a Request for Expression of Interest for development partners who could help advance the next stages of development including the design and construction strategies for the project. Nukik signed an MOU with three companies who are supporting Nukik in the development of the project:

ᐱᓪᓕᓇᐊᔪᓕᓇᖅᓴᓪᓗ ᓴᓗᒥᒃ ᐃᓱᒪᓕᐅᑦᒪᑕ ᑕᑯᓗ ᑲᔪᓱᔾᔨᐊᑦᖄᒪᑦᑕ ᓱᓕᔾᔪᑎᒃ.

ᐃᓗᐊᓐᓂ 2020, ᑐᑭᓯᐊᓂᖓᓄᑦ ᐊᓐᓴᑕᑎᓐᓂᑦ ᐊᑎᓕᐅᓕᐅᑦᒪᑕ ᐅᒻᐊᑦᓗ ᑲᓇᑕᒥ ᒪᑭᒪᔪᑎᓐᓄᑦ ᑭᓇᐅᔾᔨᖃᑦᑎᕐᓂᐊᓐᓴᖅ ᐅᑦᖃᐅᔾᔨᐅᓂᐊᑦᖄᓐᓂᑦ ᐊᓐᓴᑕᒥᑎ ᐋᑦᓱᒍ ᐃᔨᓂᒃᓗ ᐃᑲᔪᒃᓗ ᐃᑲᔪᖅᓯᐊᑦᒪᑕ ᐱᓕᓇᐊᓐᔨᓂᐊᑦᖄᑦ ᑐᓪᓕᐊᓐᓂᑦ.

ᐃᓗᐊᓐᓂ 2021, ᑭᓇᐅᔾᔨᓂᑦ ᑐᓂᔾᔨᐅᓕᐅᑦᒪᑕ ᑲᐊᓐᓄᑲᓂᒃᓂᓪᓗ ᓕᐃᔪᓄᑦ ᐊᑐᑦᓂᐊᑦᖄᑐᓂᑦ ᐊᓪᓚ ᓄᓇᓕᓐᓂᑦ ᑲᑎᒪᑦᑲᑦᖄᑦᑕᑦᓂᑦᓗᒃ. ᐅᑭᐅᓪᓗ ᓱᓕ, ᓄᑦ ᑎᒥᓐᔪᑎᑦᑲᐅᓕᐅᑦᒪᑕ ᐃᓄᓐᓂ ᑲᑎᒪᔨᖃᑦᑕᓂᐊᓕᒪᓂᑦ ᐅᓇᓱᓐᓂᒃᑯᑦ ᑭᓯᓚᓐᓂᑦ ᐅᑭᐅᓕᐅᑦᒪᑕ ᐃᓄᓐᓂ ᐊᑐᑦᓂᐊᑦᖄᑦ ᐊᓪᓚ ᓄᓇᓕᓐᓂᑦ. ᓄᑦ ᐱᓕᓇᐊᖏᑦ ᐅᓄᓇᓐᓄᑦ ᓇᐃᓐᖃᖅᓯᐊᑦᒪᑕ ᑭᓯᓚᓐᓂᑦ ᐃᓄᓐᓂ ᑲᑎᒪᔨᖃᑦᑕᓂᐊᓕᒪᓂᑦ ᐅᓇᓱᓐᓂᒃᑯᑦ ᑭᓯᓚᓐᓂᑦ ᐃᓄᓐᓂ ᐊᑐᑦᓂᐊᑦᖄᑦ ᐊᓪᓚ ᓄᓇᓕᓐᓂᑦ. ᓄᑦ ᐃᓄᓐᓂᑦ ᑐᑭᖃᖅᖃᑦᖃᖅ "ᐱᓕᖅᓴᓂᓕᓐᓄᑦ" ᐅᑭᐅᓂᑦ "ᓄᑦᖢᓕᓐᓄᑦ".

ᓄᑦ ᓂᑭᐊᓕᐅᑦᒪᑕ ᑭᓇᐅᔾᔨᓄᑦ ᒥᐊᓂᖅᓯᓂᐊᑦᖄᑦᑐᓄᑦ KPMG Canada–ᓯᑦᓄᑦ ᐃᑲᔪᖅᑭᑐᓂᓗ ᐅᓯᖏᓐᓄᑦ ᑲᓇᑕᒥ ᒪᑭᒪᔪᑎᓐᓄᑦ ᑭᓇᐅᔾᔨᖃᑦᑎᕐᓂᐊᓕᖅᑐᓄᑦ ᐃᑲᔪᑭᑭᓚᐅᓪᓚᑦ ᓇᓇᕐᑐᓂᐊᓕᕆᔨᓂᖅ ᐱᓕᓇᐊᖏᑦᑐᑦᓂᐊᑦᖄᓐᓂᑦ ᓴᓇᔨᓂᓕᕆᔨᑦᑎᓐᓄᑦ. ᓄᑦᓗᒍ ᐊᑎᓕᐅᓕᐅᑦᓴᓐᓂ ᑐᑭᓯᓚᓐᓂᑦ ᐱᓪᓚᑦᑐᖅᑎᑦ ᐱᖓᓱᓐᓄᑦ ᓇᖏᑕᐅᔾᔨᖃᑦᖄᓐᓄᑦ ᐅᓯᐊ ᐃᑲᔪᖅᓯᐊᑦᖄᑦ ᐱᓕᓇᐊᖏᑦ:

- Valard Construction LP (“Valard”)
- ATCO
- NextEra Energy Resources (“NextEra”)

In early 2022, Nukik secured funding from the Department of Northern Affairs’ Northern REACHE program to advance project development work. Later that same year, Nukik completed an initial business case and started working with federal government officials to seek a partnership to support the project. Nukik has continued its data collection efforts along the project development corridor which is the subject of this report.

There is still a lot of work and studies underway, but Nukik is targeting to have the project complete by 2030.

- Valard Construction LP (“Valard”) ᕿᓭᑦ ᓴᓇᔨᖏᑦ
- ATCO ᐊᑦᑯ
- NextEra Energy Resources (“NextEra”) ᓂᖅᐃᐊᐊᑎ ᖃᐅᔨᓪᓗᐊᓂᓕᔨᑦ

ᐊᑐᓕᐊᖅᓂᖏᓐᓂᒃ 2022, ᓄᑭᒃ ᑭᓇᐅᔭᓂᒃ ᑐᓂᔨᐅᓕᐅᖅᓪᓚᑦ ᑲᓇᑕᐅᑦ ᑲᓛᓇᖏᓐᓂᑦ ᐅᑭᐅᖅᑕᖅᑐᑦᑐᓗᑦ ᐱᑕᓕᐊᖅᓄᑦ ᐊᑐᑎᓴᓂᒃ REACHE ᓯᔭᓗᓴᑎᑕᐅᓂᖏᓐᓂᒃ ᐱᑕᓕᐊᖏᔪᓐᓇᑦ. ᓄᑭᒃ ᓯᑕ ᐱᐊᓂᓕᐅᖅᓪᓚᑦ ᓇᖏᒥᓂᖅᑲᓂᖅᓗᑦ ᐃᓂᒋᔪᒪᓂᒃ ᐊᓗᒪ ᑲᓇᑕᐅᑦ ᑲᓛᓇᖏᓐᓂᒃ ᐱᑕᓕᐊᖅᓄᖅᑲᓂᖅᓗᒃ ᐃᑲᔾᑐᐅᓂᒃᑯᑦ. ᑲᑎᖅᓯᐊᓂᔪᓂ ᓯᑕ ᖃᐅᔨᓴᖅᓯᒪᔾᔪᑎᒃ ᐊᓯᖅᑯᑕᐅᓂᐊᖅᑐᓕᒻᒥᐅ ᑕᒪᓐᓇ ᑎᑎᕋᖅᓯᒪᔾᔪᑎᒃ ᐅᖅᖃᐅᔨᓴᖅᓯᒪᓕᖅᑎᑦ ᐱᑕᓕᐊᖏᔪᓂᓕᕆᓂᖅᓴᖅᑐᓂᒃ.

ᐊᒥᓱᓂᒃ ᓯᑕ ᐱᓕᕆᔨᑕᖃᖅᓴᓂᖅ ᖃᐅᔨᓴᕆᓚᐊᑕᖏᓂᔪᓂ, ᑭᓱᐊᖅᓂ ᓄᑭᒃ ᐃᓱᒪᖅᖢᑦ ᑕᒪᓐᓇ ᐱᑕᓕᐊᖅᓄᑦ ᐱᐊᓂᔪᒡᓗᓂᔪᓂᒃ 2030.

Nukik Corporation: Inuit-led Project Proponent (co-ownership of Kivalliq Inuit Association and Sakku Investments Corporation)

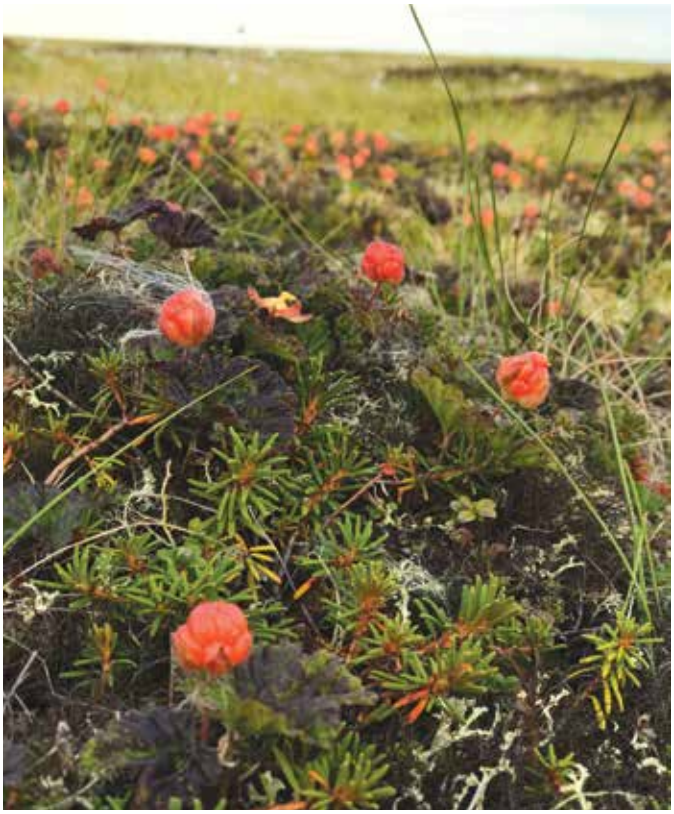
Valard: Canada’s largest transmission line, substation and telecom construction company

ATCO: Owns and operates Canadian regulated utilities and energy assets

NextEra: One of the largest transmission developers and utilities in North America

Canada Infrastructure Bank: Strategic advisor and funding partner

KPMG: Financial advisor for the project



Cloudberry (Aqpik), crowberry, and lingonberry

Drying Char (Pipsi)

Pakallak Tyme, Rankin Inlet, Spring 2022

5.0 PROJECT OVERVIEW

All communities in Nunavut currently rely on burning diesel fuel for power and heating their homes. Diesel fuel must be transported to Nunavut by ship, crossing the sensitive marine environment of the Arctic, piped by long hoses to shore, and then transported across land to communities and industry. Accidental spills are a risk during transportation of fuel through arctic waters, during offloading, and across the land. The burning of diesel fuel releases greenhouse gases (GHGs) and air pollutants into the atmosphere, affecting the health of people, wildlife, and the environment. For people in the Kivalliq region, a changing climate results in more rain and thunderstorms, ice forming later in the fall and melting earlier in the spring. The Arctic is warming faster than anywhere else on earth and action is needed.

The KHFL is proposed as a 1,200km high-voltage electricity transmission line, which will connect to over 370km of medium voltage 'feeder' lines to link five communities in Nunavut (Map 1). The project will connect the communities of Arviat, Whale Cove, Rankin Inlet, Chesterfield Inlet, and Baker Lake to the Manitoba electricity and fibre-optic grids. The project will be rated at 150 megawatts (MW) of capacity and have a fibre-optic bandwidth capacity of at least 1,200 gigabits per second (Gbps). This will be Nunavut's first infrastructure link to southern Canada. The KHFL will provide enough power and fibre-optic internet capacity for the Kivalliq region for generations to come. The

5.0 ᐱᓕᕆᐊᑉ ᐃᓗᐊᓐᓂ ᑕᑯᒥᐊᕐᓗᓐᓂ

ᓄᓇᓖᑦ ᓄᓇᕘᒻᒥ ᒫᓐᓇ ᐊᑐᕐᒪᑕ ᐅᖅᓱᐊᓗᒥᒃ ᐅᑳᒻᒧᑦ ᐊᒪ ᐅᕐᑯᕈᑕᐅᑉᓗᓐᓂ. ᐅᖅᓱᐊᓗᒃ ᐅᒥᐊᕐᔪᐊᑯᑦ ᑎᑭᑎᑕᐅᓯᕐᒪᑦ ᑕᕆᐅᑉ ᓂᕐᔪᑎᖏᓐ ᐊᐳᒐᐅᑕᕐᓗᑎᒃ, ᐊᒻᒪ ᓯᑉᓗᓕᒃᑯᑦ ᑭᓯᐊᓐᓂ ᐅᖅᓲᓯᕕᖕᓄᑦ ᑯᕕᔭᐅᑉᓗᓐᓂ ᐊᒻᒪ ᐃᓛᓐᓂᑯᑦ ᓄᓇᒃᑯᑦ ᐅᓯᔭᐅᑉᓗᓐᓂ ᓄᓇᓕᖕᓄᑦ ᐱᓕᕆᑉᕕᖕᓄᓪᓗ. ᑯᕕᔪᖃᕐᓂᖅᐸᑦ ᐅᓗᕆᐊᓴᖅᑐᖅ ᐃᓄᐃᑦ ᓄᓇᖓᓐᓂ ᑕᕆᐅᒻᒥ, ᑯᕕᔭᐅᑎᓪᓗᒍ ᐊᒻᒪ ᓄᓇᒻᒥ ᐅᓯᔭᐅᑎᓪᓗᒍ. ᐅᖅᓱᐊᓘᑉ ᐊᑐᒐᐅᓂᖓ ᓯᓚᒻᒥᒃ ᐆᓇᖅᓯᒍᐊᖅᑎᑦᓯᓯᒪᑦ ᐊᒻᒪ ᐳᔪᕐᒥᒃ ᓯᓚᒧᑦ ᐊᓄᓇᒻᒧᓪᓗ ᐃᓕᓯᑉᓗᓐᓂ, ᐃᓄᐃᑦ ᐊᓐᓂᐊᕐᓂᖏᓐᓄᑦ ᐊᒻᒪ ᓂᕐᔪᑎᓐᓄᑦ ᓄᓇᒧᓪᓗ. ᑭᕙᓪᓕᕐᒥᐅᑦ ᓯᓚᖓᑦ ᐊᓯᐊᖑᖅᐸᓕᐊᓕᕐᒪᑦ ᓂᐸᓗᒐᔪᖕᓂᖅᓴᐅᓕᕐᓗᓐᓂ ᑲᓪᓗᒐᔪᖕᓂᖅᓴᐅᓕᕐᓗᓂᓗ, ᐊᒻᒪ ᓯᑯᓂᖕᓇᓵᕐᓂᖅᓴᐅᓕᕐᓗᓐᓂ ᐅᑭᐊᒻᒥ ᐊᐳᓪᓗ ᐊᐅᖓᓚᓂᖅᓴᐅᓕᕐᓗᓐᓂ. ᐃᓄᐃᑦ ᓄᓇᖓᑦ ᐆᓇᖅᓯᕙᓕᐊᓂᖅᓴᐅᖕᒪᑦ ᓯᓚᕐᔪᐊᓗᒃᑖᒻᒥᑦ ᐊᒻᒪ ᖃᓄᐃᓕᐅᕈᑕᐅᔭᕆᐊᖃᓕᖅᐳᖅ.

ᑭᕙᓪᓕᕐᒥ ᐅᒃᑳᓕᕆᓂᒃᑯᑦ – ᖃᕆᑕᐅᔭᓕᕆᓂᒃᑯᓪᓗ ᐊᒃᑐᐊᔾᔪᑎᓂᖅ ᐃᓱᒪᒋᔭᐅᓯᒪᔪᖅ 1,200 ᑭᓚᒦᑐ ᓴᖏᔫᑉᓗᓐᓂ ᖃᐅᒻᒪᕐᑯᑕᐅᓂᐊᖅᑐᖅ ᐊᑕᓂᐊᕐᓗᓐᓂ ᐅᖓᑖᓐᓂ 370 ᑭᓚᒦᑐ ᓇᐸᔪᓐᓂᒃ ᐃᓕᓯᔪᖃᕐᓗᓐᓂ ᑕᑉᑯᐊ ᑲᑎᑕᐅᓗᑎᒃ ᑕᓪᓕᒪᑦ ᓄᓇᓖᑦ ᓄᓇᕘᒻᒥ (ᓄᓇᖑᐊᖅ 1). ᐅᑯᐊ ᓄᓇᓖᑦ ᑲᑎᑕᐅᓂᐊᕐᒪᑕ ᐊᕐᕕᐊᑦ, ᑎᑭᕋᕐᔪᐊᖅ, ᑲᖏᖠᓂᖅ, ᐃᒡᓗᓕᒑᕐᔪᒃ ᐊᒻᒪ ᖃᒪᓂ’ᑐᐊᖅ ᒫᓐᓂᑑᐸᒻᒥ ᐅᑳᖃᐅᒻᒥᑦ ᐊᒻᒪ ᖃᕆᑕᐅᔭᑯᑦ ᓇᑭᖅᑐᒻᒥᑦ. ᐃᑯᒪᖓ ᓴᖏᓂᖃᕐᓂᐊᖅᑐᖅ 150 ᒥᒐᕙᐋᑦ (MW) ᐃᓂᖃᕈᖕᓇᕐᓗᓐᓂ ᐊᒪ ᖃᕆᑕᐅᔭᑯᑦ ᓱᑲᓂᖃᕐᓗᐊᕐᓗᓐᓂ 1,200 ᑭᒐᐸᐃᑦ ᐊᑕᐅᓯᕐᒥᒃ ᓯᑲᓐᒥᒃ ᓇᑭᕐᓂᖃᕐᓗᓐᓂ. ᓄᓇᕘᒻᒥ ᓯᕗᓪᓕᐅᓂᐊᖅᑐᖅ ᐊᖏᔪᖅ ᒪᑭᒪᔪᑦ ᐊᑕᓗᓐᓂ ᖃᑉᓗᓈᑦ ᓄᓇᖓᓐᓄᒃ. ᑭᕙᓪᓕᕐᒥ ᐅᒃᑳᓕᕆᓂᒃᑯᑦ – ᖃᕆᑕᐅᔭᓕᕆᓂᒃᑯᓪᓗ ᐊᒃᑐᐊᔾᔪᑎᓂᖅ

project will also provide renewable energy and fibre-optic internet to the mining industry in Nunavut allowing for more sustainable operations. The project aims to provide this renewable energy and internet to Nunavut customers, the largest of which include Qulliq Energy Corporation and Agnico Eagle Mines facilities.

Transmission lines are a proven technology that have been deployed in Northern climates such as Greenland, Newfoundland and Labrador, and Alaska. These systems can be sized to support growth in the community and provide steady reliable energy without the pollution of burning diesel.

The transmission line will be designed to allow for two-way electricity trade in the future which can unlock opportunities for renewable generation in the region. Currently renewable projects like solar or wind are limited in providing power to individual communities. The KHFL could offer opportunities for electricity to be shared between communities and for Inuit owned businesses to grow in the future.

ᖃᐅᒻᒪᖁᑎᖕᒐ ᓇᒻᒪᖕᓂᐊᕐᓗᓐᓂ ᐊᒪ ᓴᖕᒋᔪᒻᒥᒃ ᓇᑭᖅᑐᒥᒡᓗ ᖃᓄᑕᐅᔭᑯᑦ ᐊᔪᖕᒋᓂᐊᕐᓗᓐᓂ ᑭᕙᓪᓕᕐᒥᐅᓄᑦ. ᐱᓕᕆᐊᖅ ᐊᓄᕆᒻᒥᒃ ᐊᒻᒪ ᓯᕿᓂᕐᒥᒃ ᐊ(ᕈᖕᓇᕐᓂᐊᕐᓗᓂ ᖃᓄᑕᐅᔭᓂᒃᓗ ᓇᑭᖅᑐᓐᓂᒃ ᐊᔪᖕᒋᑎᑦᓯᓂᐊᕐᓗᓂ ᐅᔭᕋᒃᑕᓇᐊᓐᓄᑦ ᓄᓇᕗᒻᒥ ᐊᑐᑲᓂᕈᖕᓇᕐᓂᐊᕐᒪᑕ ᓯᕿᓂᕐᒥᒃ ᐊᓄᕆᒥᒃᓗ. ᐱᓕᕆᐊᖅ ᐃᓱᒪᓯᒪᕗᖅ ᓄᓇᕗᒥᐅᓄᑦ ᐊᑐᒐᐅᓗᑎᒃ ᑕᑉᑯᐊ ᐊᖕᒋᔪᓪᓗ ᖁᓪᓕᖅ ᖃᐅᒻᒪᖁᑎᓕᕆᔨᖕᒋ ᐊ, ᐋᒡᓃᑯ ᐅᔭᕋᒃᑕᓇᐊᖕᒋ.

ᓇᐸᔪᑦ ᐊᔪᖕᒋᓂᖕᒋᓐᓂᒃ ᑐᑭᓯᓚᐅᕐᒪᑕ ᓯᓚ ᓂᒡᓕᓇᕋᓗᐊᖅᑎᑦᓗᒍ ᐅᑭᐅᖅᑕᖅᑐᒻᒥ ᐊᑐᕈᖕᓇᕐᓗᑎᒃ ᐊᑯᑭᑦᑐᒥ, ᓂᐅᐳᐅᓐᓚᓐᒥ ᐊᒻᒪ ᓚᐸᕋᑐᐊᒻᒥ ᐊᓛᔅᑲᒥᓗ. ᑕᑉᑯᐊ ᐊᑐᒐᐅᓂᐊᖅᑐᑦ ᓄᓇᓕᖕᒧᑦ ᐋᕐᑭᐅᒪᓂᐊᕐᒪᑕ ᐊᒪ ᐊᓇᔭᓇᖕᒋᓗᑎᒃ ᓱᕈᐃᕙᓕᐊᖕᒋᓗᑎᒡᓗ ᓄᓇᒻᒥ ᑭᓯᐊᓐᓂ ᓯᕿᓂᕐᒧᑦ ᐊᓄᕆᒧᒡᓗ ᐊᑐᕈᖕᓇᕐᓗᑎᒃ.

ᓇᐸᔪᑦ ᐊᑐᓚᐅᓂᐊᖅᑐᑦ ᒪᕈᐃᓐᓄᑦ ᓴᓇᔭᐅᓯᒪᓂᐊᕐᒪᑕ ᖃᐅᒻᒪᖁᑎᓐᓄᑦ ᓯᕗᓂᕐᒥ ᓯᕿᓂᖅ ᐊᒪ ᐊᓄᕆ ᐊᑐᕐᓗᒋᑦ ᖃᐅᒻᒪᔪᖕᓇᕐᑯᑉᓗᒋᑦ. ᒪᓐᓇ ᑭᓯᐊᓐᓂ ᐊᔪᕐᓇᕈᑎᖃᕐᒪᑕ ᓯᕿᓂᖅ ᐊᒪ ᐊᓄᕆ ᐊᑐᕐᓗᒋᒃ ᓄᓇᓕᖕᓂ. ᑭᕙᓪᓕᕐᒥ ᐅᒃᑳᓕᕆᓂᒃᑯᑦ – ᖃᓄᑕᐅᔭᓕᕆᓂᒃᑯᓪᓗ ᐊᒃᑐᐊᔾᔪᑎᓂᖅ ᐊᔪᖕᒋᑎᑦᓯᓂᐊᕐᒪᑦ ᖃᐅᒻᒪᖁᑎᖃᕐᓗᓂ ᓄᓇᓕᖕᓂᒃ ᐊᑕᐅᓯᕐᒥᒃ ᐊᑐᓕᕐᓗᑎᒃ ᐊᒻᒪ ᐃᓄᐃᑦ ᓇᖕᒥᓂᖃᓕᕐᓗᑎᒃ ᓯᕗᓂᕐᒥ ᐱᕈᖅᐸᓕᐊᔪᖕᓇᕐᓗᑎᒃ.

Community meeting, Whale Cove, August 2022

Hudson Bay, July 2022

6.0 ABOUT THIS REPORT

Fieldwork activities outlined in this report form part of early development stage activities undertaken by Nukik and its partners along with support for this work funded in partnership with CanNor, Northern REACHE, and the CIB. This report summarizes western scientific data collection and fieldwork programs supported by valuable local knowledge shared by field support/bear guards, land users, and local leaders. Work summarized in this report was completed between June 2022 and March 2023.

This report presents the activities undertaken as part of these fieldwork programs, summary of findings, and suggested next steps to further refine and study the proposed project corridor. The fieldwork activities were undertaken with consideration of project technical and licensing requirements and executed while engaging directly with communities whose traditional territories overlap with the project corridor. Ongoing engagement with communities and land users continues to provide valuable insight to the project development process. Data collection and fieldwork programs focused on the following:

- Socio-economics;
- Inuit Qaujimajatuqangit/Indigenous Knowledge;
- Lands with a focus on geomorphology and permafrost;
- Wildlife;

6.0 ᐱᓕᓚᐊᒥᐅ ᐅᖃᐅᓯᓪᓚᖅ

ᓄᓇᒥ ᐱᓕᓚᐊᖅᔪᓪᓕᐅᓂ ᐅᓂᖅᑲᒥ ᐃᓕᑎᔾᐅᖅᓱᒪᓕᑦ ᓯᔾᔨᓂᖅᓴᓂ ᐱᓕᓚᐊᖅᔪᓪᓗᓂ ᓄᑭᓄᖅᓄᑦᓂ ᐊᒃᓱᐅᓕᖅᓄᑦᓂ ᐃᑲᔪᖅᑐᑦᔨᓂᐅᑉ ᑭᓇᐅᔾᔨᖃᖅᖃᑎᒌᓕᕆᔨᓂᖅ ᑲᒪᒋᔭᖅᓯᓂᖅᓄᑦᓂ. ᑕᒪᓐ ᐅᓂᖅᑲᖅ ᓇᐃᓇᖅᓯᒪᔪᖅ ᖃᐅᔨᓴᓂᓯᓂᐅᓕᕆᓂ ᓄᓇᒥᐅ ᐃᑲᔪᖅᑐᑦᔨᓂᐅᑉ ᓄᓇᓕᖅᓂ ᖃᐅᔨᓴᓕᒪᓂᓕ ᓄᓇᒥᐅ ᐊᑐᓕᖅᑎᑦᓂᖅ ᐊᒃᓱᐅᓕᖅᓄᑦᓂ ᐊᒥᓱ ᓯᔾᓕᖅᑎᓂᖅ. ᓇᐃᓇᖅᓯᒪᔪᑦ ᐱᓕᓚᐊᓂ ᐱᓕᓚᐊᒥᐅ ᐃᓕᓴᕐᓂᐊᕐᓂᖅ ᓄᓇᓕᖅᓂ 2022 ᐊᒥᓱ ᓴᓄᐊᓗ 2023.

ᐅᓂᖅᑲᖅ ᐱᓕᓚᐊᖅᔪᓪᓕᐅᓂᖅ ᐅᖃᐅᓯᔾᔨᖃᖅᑐᑦ ᓄᓇᒥ, ᑐᑭᓯᓂᖅᑯᓪ ᖃᐅᓄᐊᓕᐅᑭᐅᑎᐅᓂᐊᖅᑐᑦ ᐊᐅᓚᒥᐅ ᐊᑐᐅᓂᐊᖅᑐᑦᑐᒥ. ᐃᓯᒪᒋᔭᐅᓯᒪᔪᓪᓗᓂ ᐱᓕᓚᐊᒥᐅ ᐊᑐᐅᓂᐊᖅᑐᑦᑐᓂᖅᓄᑦ ᓯᓚᑦᑲᓚᐊᖅᑲᖃᖅᓯᒪᓂᖅᓄᑦᓂ ᓄᓇᓕᖅᓂ ᐱᓕᓚᐊᖅᑎᖅᑲᓂᖅᓄᑦ ᐊᐅᓚᑦᓯᓚᐅᑎᓂᐊᖅᑐᑦᑐᓂᖅᓄᑦ ᓄᓇᓕᖅᓂ ᓴᓇᔨᓂᖅ ᐃᓯᒪᒋᔭᐅᓯᒪᔪᓪᓗᓂ ᐱᓕᓚᐊᒥᐅ ᐊᐅᓚᑦᓯᓚᐅᑎᓂᐊᖅᑐᑦᑐᓂᖅᓄᑦᓂ. ᐃᓯᒪᒋᔭᐅᓯᒪᔪᓪᓗᓂ ᐱᓕᓚᐊᒥᐅ ᐱᓕᓚᐊᒥᐅ ᐃᓕᓴᕐᓂᐊᕐᓂᖅ ᓄᓇᓕᖅᓂ 2022 ᐊᒥᓱ ᓴᓄᐊᓗ 2023.

ᐅᓂᖅᑲᖅ ᐱᓕᓚᐊᖅᔪᓪᓕᐅᓂᖅ ᐅᖃᐅᓯᔾᔨᖃᖅᑐᑦ ᓄᓇᒥ, ᑐᑭᓯᓂᖅᑯᓪ ᖃᐅᓄᐊᓕᐅᑭᐅᑎᐅᓂᐊᖅᑐᑦᑐᒥ. ᐃᓯᒪᒋᔭᐅᓯᒪᔪᓪᓗᓂ ᐱᓕᓚᐊᒥᐅ ᐊᐅᓚᑦᓯᓚᐅᑎᓂᐊᖅᑐᑦᑐᓂᖅᓄᑦ ᓯᓚᑦᑲᓚᐊᖅᑲᖃᖅᓯᒪᓂᖅᓄᑦᓂ ᓄᓇᓕᖅᓂ ᐱᓕᓚᐊᖅᑎᖅᑲᓂᖅᓄᑦ ᐊᐅᓚᑦᓯᓚᐅᑎᓂᐊᖅᑐᑦᑐᓂᖅᓄᑦ ᓄᓇᓕᖅᓂ ᓴᓇᔨᓂᖅ ᐃᓯᒪᒋᔭᐅᓯᒪᔪᓪᓗᓂ ᐱᓕᓚᐊᒥᐅ ᐊᐅᓚᑦᓯᓚᐅᑎᓂᐊᖅᑐᑦᑐᓂᖅᓄᑦᓂ. ᐃᓯᒪᒋᔭᐅᓯᒪᔪᓪᓗᓂ ᐱᓕᓚᐊᒥᐅ ᐱᓕᓚᐊᒥᐅ ᐃᓕᓴᕐᓂᐊᕐᓂᖅ ᓄᓇᓕᖅᓂ 2022 ᐊᒥᓱ ᓴᓄᐊᓗ 2023.

ᐅᓂᖅᑲᖅ ᐱᓕᓚᐊᖅᔪᓪᓕᐅᓂᖅ ᐅᖃᐅᓯᔾᔨᖃᖅᑐᑦ ᓄᓇᒥ, ᑐᑭᓯᓂᖅᑯᓪ ᖃᐅᓄᐊᓕᐅᑭᐅᑎᐅᓂᐊᖅᑐᑦᑐᒥ. ᐃᓯᒪᒋᔭᐅᓯᒪᔪᓪᓗᓂ ᐱᓕᓚᐊᒥᐅ ᐊᐅᓚᑦᓯᓚᐅᑎᓂᐊᖅᑐᑦᑐᓂᖅᓄᑦ ᓯᓚᑦᑲᓚᐊᖅᑲᖃᖅᓯᒪᓂᖅᓄᑦᓂ ᓄᓇᓕᖅᓂ ᐱᓕᓚᐊᖅᑎᖅᑲᓂᖅᓄᑦ ᐊᐅᓚᑦᓯᓚᐅᑎᓂᐊᖅᑐᑦᑐᓂᖅᓄᑦ ᓄᓇᓕᖅᓂ ᓴᓇᔨᓂᖅ ᐃᓯᒪᒋᔭᐅᓯᒪᔪᓪᓗᓂ ᐱᓕᓚᐊᒥᐅ ᐊᐅᓚᑦᓯᓚᐅᑎᓂᐊᖅᑐᑦᑐᓂᖅᓄᑦᓂ. ᐃᓯᒪᒋᔭᐅᓯᒪᔪᓪᓗᓂ ᐱᓕᓚᐊᒥᐅ ᐱᓕᓚᐊᒥᐅ ᐃᓕᓴᕐᓂᐊᕐᓂᖅ ᓄᓇᓕᖅᓂ 2022 ᐊᒥᓱ ᓴᓄᐊᓗ 2023.

ᐅᓂᖅᑲᖅ ᐱᓕᓚᐊᖅᔪᓪᓕᐅᓂᖅ ᐅᖃᐅᓯᔾᔨᖃᖅᑐᑦ ᓄᓇᒥ, ᑐᑭᓯᓂᖅᑯᓪ ᖃᐅᓄᐊᓕᐅᑭᐅᑎᐅᓂᐊᖅᑐᑦᑐᒥ. ᐃᓯᒪᒋᔭᐅᓯᒪᔪᓪᓗᓂ ᐱᓕᓚᐊᒥᐅ ᐊᐅᓚᑦᓯᓚᐅᑎᓂᐊᖅᑐᑦᑐᓂᖅᓄᑦ ᓯᓚᑦᑲᓚᐊᖅᑲᖃᖅᓯᒪᓂᖅᓄᑦᓂ ᓄᓇᓕᖅᓂ ᐱᓕᓚᐊᖅᑎᖅᑲᓂᖅᓄᑦ ᐊᐅᓚᑦᓯᓚᐅᑎᓂᐊᖅᑐᑦᑐᓂᖅᓄᑦ ᓄᓇᓕᖅᓂ ᓴᓇᔨᓂᖅ ᐃᓯᒪᒋᔭᐅᓯᒪᔪᓪᓗᓂ ᐱᓕᓚᐊᒥᐅ ᐊᐅᓚᑦᓯᓚᐅᑎᓂᐊᖅᑐᑦᑐᓂᖅᓄᑦᓂ. ᐃᓯᒪᒋᔭᐅᓯᒪᔪᓪᓗᓂ ᐱᓕᓚᐊᒥᐅ ᐱᓕᓚᐊᒥᐅ ᐃᓕᓴᕐᓂᐊᕐᓂᖅ ᓄᓇᓕᖅᓂ 2022 ᐊᒥᓱ ᓴᓄᐊᓗ 2023.

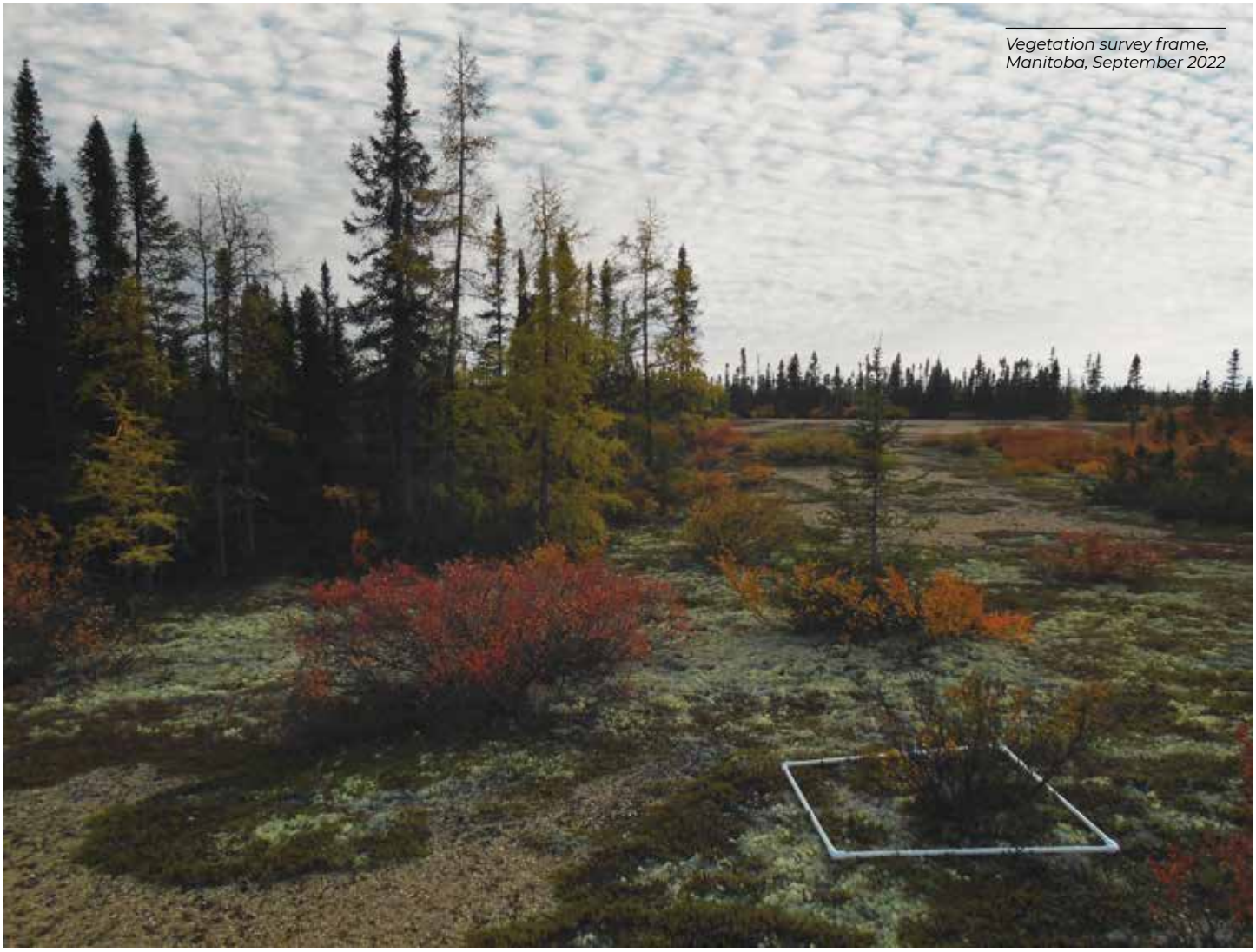
- Aquatics; and
- Heritage resources and archaeology.

These programs have been informed by earlier desktop research, analysis, and fieldwork completed in 2020 and 2021. These activities continue to inform overall project planning and support important engagement with land users and communities.

Future project planning activities include further refinement of the project development corridor, engineering design, as well as consideration of potential project environmental impacts. Integration of Inuit Qaujimajatuqangit (IQ) and Indigenous Knowledge (IK) remains a priority of the project planning and development.

ᑕᕐᕼᐊ ᐱᓕᕆᐊᖃᕐᓂ ᑐᓴᐅᒪᑎᑕᐅᔭᕐᓂ ᓯᔭᓂᖏᓐ ᐃᑭᐊᖅᓯᐱᖅᓯᑦ ᖁᐅᔨᓴᖅᓂᑦ ᐊᒻᒪ ᓄᓇᒥ 2020 ᐊᒻᒪ 2021. ᐱᓕᕆᐊᖃᐅᔨᖅᑐᑦ ᑐᓴᐅᒪᑎᓯᕐᕆᑕᐅᓕᖅᑐᒃᑕ ᐱᓕᕆᐊᖅᑎᑦ ᐃᓱᒪᓕᐅᑕᑕᐅᔨᓪᓗᑎᒃ ᐃᑲᕐᑕᐅᔨᓪᓗᓐᓄᑦ ᐊᑐᖅᑎᑕᐅᔪᓂᒃ ᐃᓕᐅᑎᓯᓂᖅᑎᒃ ᐊᑐᖅᑎᑕᐅᔪᓂᒃ ᐊᒻᒪ ᓄᓇᕐᓂᒃ.

ᓯᔭᓂᖅ ᐃᓱᒪᓕᐅᑕᑎᑦ ᐱᓕᕆᐊᖅᓄᑦ ᐊᖏᕈᑎᐊᑲᓂᕆᐊᖅᑲᖅᓯᑦ, ᖃᓄᐃᓂᕐᒥᓂᒃ ᐊᑐᖅᓂᐊᖅᑐᑦ ᐊᒻᒪ ᓄᓇᐅᑦ ᐊᑲᑐᓂᕐᒥᓂᒃ. ᐊᑐᑎᐅᓂᐊᖅᑕ ᐃᓄᐃᑦ ᖃᐅᔨᓴᓕᖅᑐᖃᖅᑎᑦᓯᓂᒃ ᐊᒻᒪ ᓄᓇᖃᖅᖃᖅᑐᑦ ᓯᕗᓕᒪᓂᒃ ᐃᓱᒪᓕᐅᖅᑎᓯᓂᖅ ᐊᒻᒪ ᐱᐅᓯᖅᑐᓂᒃ.



Vegetation survey frame, Manitoba, September 2022

Community engagement event with Fox Lake Cree Nation, Gillam, November 2022

7.0 COMMUNITY ENGAGEMENT

As the project looks to advance to the environmental assessment and regulatory approvals process, early community engagement activities have been structured to share information with communities and stakeholders and provide opportunities for the project to receive, consider, and integrate feedback into the project development and assessment process.

The project team continues to work towards strengthening relationships and building awareness with communities and community organizations within the project development corridor in the Kivalliq region and Northern Manitoba. Early engagement activities are structured to focus on sharing project information, the status of planning work underway, outcomes from recent fieldwork activities, and gathering feedback and learning what's important to communities.

The information received through engagement activities will be used to support:

- Refinement of the project route;
- Development of fundamental elements of the physical, biological, or socio-economic environment, including the air, water, soil, terrain, vegetation, wildlife, fish, birds, and land use that may be affected by the project;
- The processes to consider fundamental elements;
- Identification of potential impacts; and
- Development of appropriate and effective mitigation and monitoring measures.

Consideration of community interests and concerns relative to the project's potential construction and operation remains a priority to the project team. To continue to advance the KHFL, the engagement team aims to:

- Ensure project updates are being shared with communities/stakeholders;
- Use formats that work best for each community and stakeholders;
- Understand what information, materials, and resources would be most helpful to support continued dialogue; and
- Work alongside the communities for potential field studies.

Framework for Engagement

Engagement activities are now led by Nukik and are supported by Sakku and KIA leadership and staff. Engagement planning and implementation are also supported by Chadwick Consulting and InterGroup Consultants, who serve as key project advisors, support facilitated discussions, and track all engagement efforts and outcomes.

These early engagement activities included sharing information about the overall project by phone, e-mail, letters, social media, videos, meetings, and community presentations. Initial information regarding specific data gathering activities proposed with current baseline research fieldwork were shared at a high level. The project prioritizes the inclusion of Indigenous Knowledge and Inuit Qaujimajatuqangit and is working with communities to determine the best approach to incorporate these values.

Currently Engaged Communities and Organizations

Table 1 provides a list of currently engaged communities and organizations within the project development corridor in Nunavut and Manitoba. This includes

Gifts from Tataskweyak Cree Nation Leadership, Split Lake, November 2022

Engagement team traveling to community event, November 2022

Indigenous communities, other communities, umbrella organizations representing multiple communities, territorial and provincial interests, non-government organizations, and other potentially interested parties (e.g., those with land tenure). These are the communities and organizations that will be targeted for Project Description engagement. A Project Description is a description of the project provided by the proponent, Nukik in this case, and submitted to regulatory agencies which kicks off the regulatory impact assessment process. The Project Description includes prescribed information set out by regulatory agencies, about the proposed project and identifies the location, local communities and Indigenous groups who may be affected.

Table 1: Currently Engaged Stakeholders

Nunavut	Federal – Transborder	Manitoba
Arviat	Athabasca Denesuline Ne Ne Land Corporation	Tataskweyak Cree Nation
Whale Cove	Beverly and Qamanirjuaq Caribou Management Board	Fox Lake Cree Nation
Rankin Inlet	Northern Projects Management Office	Ghotelnene K'odtineh Dene (Sayisi Dene First Nation/Northlands Denesuline First Nation)
Chesterfield Inlet	Impact Assessment Agency	Manitoba Métis Federation
Baker Lake	Canadian Northern Economic Development Agency	Churchill
Kivalliq Inuit Association, Lands Department	Government of Canada	Gillam
Agnico Eagle		Government of Manitoba
Government of Nunavut		Manitoba Hydro
Inuit Tapiriit Kanatami		Resource Management Boards
Qulliq Energy Corporation		Seal River Watershed Initiative
Hunters and Trappers Organizations		
Nunavut Tunngavik Inc.		
Kivalliq Wildlife Board		
Nunavut Wildlife Management Board		

Early engagement activities are focused on those most likely to experience direct project-related effects, in addition to having specific issues, interests and concerns related to the project and its activities. In Nunavut, this includes consideration of five of the Kivalliq communities in the Kivalliq that would connect to the line (i.e., Arviat, Whale Cove, Rankin Inlet, Chesterfield Inlet, and Baker Lake). In Manitoba, this includes consideration of Fox Lake Cree Nation, Tataskweyak Cree Nation, Ghotelnene K'odtineh Dene (GKD – Sayisi Dene First Nation and Northlands Denesuline First Nation), and the Manitoba Métis Federation.

Proposed Engagement Timeline

The overall engagement timeline is estimated and described below. The project will regularly review the draft timeline and the effectiveness of the engagement program, and necessary adjustments to the approach, method, and materials, will be made where required to reflect community and stakeholder interests and project schedule. Based on the project team's current understanding of the environmental assessment and regulatory approvals process, the engagement timeline will focus on the following key phases of activity:

- **Early Engagement – 2018-2021**
  - Engagement to share project vision and approach and support development of positive working relationships to support future activities.
- **Phase 1 – Project Description – 2022-2024**
  - Engaging with the broader community on the current project description, the draft project development corridor, areas of anticipated environmental interest, and the anticipated engagement process to involve interested parties.
  - Key outcome of this process will include submission of an Environmental Assessment Project Description with territorial, provincial, and federal regulatory agencies to formalize the regulatory assessment process.

- **Phase 2 – Baseline Collection and Route Refinement – Contingent on earlier phase completion**
  - — Based on the guidance received from regulatory agencies and additional project design, engagement will focus on sharing updated project information including refinement of the project route corridor. Engagement will confirm with interested parties an understanding of valued components in the assessment to inform what studies and assessment need to be completed.
  - — This information will be shared with relevant discipline experts to inform the assessment of potential project impacts and mitigation measures.
  - — Key outcome from this process will be the identification of potential impacts and mitigation measures that can inform the route refinement process and environmental assessment process.
- **Phase 3 – Preliminary Assessment – Contingent on earlier phase completion**
  - — Engage on any project description refinements that have occurred as a result of additional engineering research and design as well as engagement activities. Further route refinement is also expected to be available at this time to contribute to mitigation of potential impacts as well as conclude the assessment process. Engagement will share this information as well as draft effects and mitigation measures that are expected to be included in the Environmental Impact Statement (EIS) documentation.
  - — Key outcome from this process will include advanced drafts of project description, preferred route selection, project impacts and mitigation measures for the project. This consolidated document will reflect the feedback received from interested parties to better inform the EIS.

Meeting with Tataskweyak Cree Nation leadership and students, Split Lake, November 2022

- **Phase 4 – Final EIS – Contingent on earlier phase completion**
  - — Engagement will focus on communicating clearly to groups and organizations that had contributed to the assessment process the documentation and where specific areas of interest that had been previously identified were considered and, where applicable, integrated in the EIS documentation.
  - — This activity will occur at or around the time the EIS is submitted to relevant regulatory agencies for review.
- **Post Submission**
  - — Following submission of the EIS with regulatory agencies, KHFL will continue to support engagement activities throughout the regulatory review process as they are defined by legislation or process. This may include responding directly to inquiries from regulatory subject matter experts, public, interrogatories, participation and support for any public review processes including hearings if required, and ongoing communication and interactions with Indigenous organizations throughout.

Meeting with Arviat Hamlet Council, Hamlet Chambers, February 2022

8.0 FIELDWORK APPROACH

Nukik recognizes the importance of developing relationships and sharing information with communities, land users, interested organizations, and Inuit and Indigenous groups. The most recent fieldwork program was successfully completed between June 2022 and March 2023. All fieldwork activities included local participation with community members providing services and sharing local knowledge of the weather, land, water, and wildlife.

Fieldwork was undertaken in a manner consistent with provincial, territorial, and federal regulatory requirements and expectations. The following section describes permits required for fieldwork activities including, permitting agency, jurisdiction, type of permit requested, and the status of executed permits.

Permitting

Research permits were required for fieldwork activities completed in 2022/23. A permit summary table has been included below to describe the permitting agency, jurisdiction, permit sought, and execution date of permits currently in place for the KHFL and its feasibility work (Table 1).

Aerial survey of Manitoba INSET: Polar bear den emergence survey, March 2023

Table 1: Permit Summary Table

Agency	Jurisdiction	Permit	Status
Nunavut			
Nunavut Planning Commission (NPC)	Responsible for the development, implementation, and monitoring of land use plans that guide and direct resource use and development in the Nunavut Settlement Area.		Approved conformity May 7, 2021. Renewed with updated expiration April 2028
Nunavut Impact Review Board (NIRB)	Assesses the potential impacts of proposed development in the Nunavut Settlement Area prior to approval of the required project authorizations		Recommended Ministerial acceptance July 22, 2021. Exempt from renewal screening through NPC renewal
CIRNAC Land Administration	Activity on Crown Land	Land Use Permit	Deemed not required for baseline activities – July 26, 2021
Government of Nunavut (GN) – Culture and Heritage	Archaeological research	Class 2 Archaeologist permit	Executed annually, 2023/24 permit application has been submitted
Canadian Wildlife Services	Migratory Birds	Migratory Bird Scientific Permit	Executed June 7, 2022. Expires December 31, 2023
Department of Fisheries and Oceans Canada (DFO)	Fish and Aquatics	License to Fish for Scientific Purposes, and Animal Use Protocol (AUP)	Interim approval – Aug 26, 2021. Final approval – October 20, 2021. Expires March 31, 2022. Not utilized in 2022
KIA Lands	Activity/Access to Inuit Owned Lands (IOL)		Certificate of Exemption, August 23, 2021. Expires August 1, 2023
Nunavut Research Institute (NRI)	Licenses issued for physical natural sciences research and/or social science research (IQ, community consultations)	Scientific Research License	Executed August 4, 2021. Expires December 31, 2023
GN – Department of Environment (DOE)	Wildlife research permit for aerial, other surveys, and monitoring (non-lethal)	Wildlife Research Permit	Executed August 25, 2021. Expires August 1, 2023
Nunavut Water Board (NWB)	Water use and waste		Deemed not required for baseline activities – July 26, 2021
Manitoba			
Crown Land Work Permit	Access to Crown Lands	Fox Lake RMA Split Lake RMA Dene RMA	Executed July/August 2022, Expires April 30, 2023
MB Sport, Culture, and Heritage	Archaeological research	Heritage Permit	Executed August 26, 2022. New permit secured annually
Wildlife Management Area (WMA)	Activities within WMA	Churchill Wildlife Management Area	Executed August 12, 2022. Expires March 31, 2024
Fish and Wildlife Branch	Ensure sustainable use of the fisheries resource	Scientific Collection (General) Permit	Renewed annually for work period

Trail camera photo: caribou herd moving through northwest of Whale Cove

9.0 DATA COLLECTION PROGRAMS

9.1 WILDLIFE

9.1.1 Field Program

During September 2022, a wildlife and vegetation team, conducted field investigations along the entire KHFL proposed corridor. Field investigations included aerial waterfowl and incidental wildlife surveys, vegetation assessment surveys, and trail camera data collection and maintenance. Local community members provided crew support and safety during field investigations, while supporting the work with local knowledge.

Aerial bird and wildlife surveys characterized the presence and distribution of migratory waterfowl and raptor species. Incidental observations of other wildlife were recorded during aerial surveys. The waterfowl survey was conducted through the whole project area by helicopter. The helicopter flew three survey lines spaced 10km apart, which ran parallel to one another from north to south. From Rankin Inlet and Baker Lake, transects were adjusted in the field from three to two transects, as waterfowl presence was very low, and any waterfowl sighted were found to be positioned along the coastline.

Sites for vegetation assessment surveys along the corridor were accessed by helicopter and selected based on previously deployed trail cameras. A 1m x 1m quadrat frame made of plastic PVC pipe was placed near the trail camera locations and was used to collect vegetation data at each site. All plant species and percent cover were recorded within the frame area. Plant identification guides for Manitoba's Boreal Forest and Nunavut's Arctic Tundra were used to assist with the identification of any unknown species.

The team collected the data and performed maintenance on all 45 trail cameras previously deployed along the corridor, except for one trail camera that had gone missing. Each trail camera was set up to take three consecutive photos of the same event, resulting in hundreds of photos in a series captured on the same day. Coding standards were used to account for this by coding new events instead of individual photos, identifying all wildlife groups in the event, and mapping areas of heavy and light use by season for all species, but specifically for caribou during spring calving, post-calving, summer, fall migration, and winter seasons. All non-wildlife photos, including human interactions, were filtered from the data. Photos were coded for each new event and include information associated with the event, species, number of females, males, or unknown sexes, number of offspring, number of mature or immature individuals, total or estimated number of individuals in the group, action, season.

Data analysis of caribou telemetry data in the Nunavut portion of the corridor, and assessment of construction camp locations from telemetry data is ongoing. The team

will continue mapping density estimates and conduct an intersect analysis for barren-ground caribou in the Nunavut region in relation to the proposed route.

During February and early March of 2023, the team conducted a moose survey along the proposed corridor in Manitoba. Field investigations included aerial survey from a helicopter to record occupation and distribution of moose relative to the proposed KHFL route. Animals were identified to both sex and age (i.e., male or female, adult or young) where possible. The purpose of this survey was to detect the distribution of moose within proximity of the KHFL proposed route. Incidental observations of other wildlife species and tracks were also recorded during the survey. Local community members provided crew support and safety during field investigations, while supporting the work with local knowledge.

During early March the team also conducted polar bear den emergence surveys along the proposed corridor near Arviat and south into Manitoba. Field investigations included aerial survey from a helicopter to record any active polar bear dens and/or animals present near the proposed KHFL route. Local community members provided crew support and safety during field investigations, while supporting the work with local knowledge.

9.1.2 Findings

Aerial bird and waterfowl surveys identified snow geese, Ross' geese, and swans as the most common waterfowl observations, eagles were identified as the most common raptor. Migrating geese were mainly observed between Rankin Inlet and Arviat with most geese observed during flight. Only a few groups of geese were observed on the ground. A large variety of duck species were observed along the coastline, such as white-winged scoters and common eiders. Eagle observations appeared to follow flights of waterfowl as they were recorded between Rankin Inlet and Arviat.

Muskox and caribou were the most common incidental wildlife observations during the surveys. Polar bears were observed close to the NU-MB border, with one observed south of Arviat. Muskox were observed mainly around Baker Lake and towards the mine north of the community; one group was also observed between Arviat and Whale Cove.

The most common species captured on trail camera photos was caribou (3,679), followed by Canada geese (455), and arctic fox (50). Notably, a few wolves (5), muskoxen (29), and wolverine (1).

The team conducted several types of caribou telemetry analysis. Seasonal hotspot analysis was performed for the range, a 50km buffer around the alignment, and for crossings. The results were consistent across these scales with areas of high use for calving concentrated in the northeast of the range, near the proposed corridor to Baker Lake and heading north to Chesterfield Inlet. Similarly, post-calving use is also concentrated in these areas but slightly north and east for the caribou south of Chesterfield Inlet. Caribou have the broadest distribution during the summer and into the fall but distributed south from the calving and post-calving areas. Crossing hotspots and those in the 50km buffer along the main alignment are well south of the junction to Baker Lake. Winter hotspots, as expected, are found to the west and

Polar bear den in northern Manitoba with tracks from mother and cubs emerging

south of the range. Movement paths were created to better understand caribou movements specific to the proposed corridor. Movement intersecting the proposed corridor and time spent within 50km of the buffer were reviewed. These results were consistent with the hotspot analysis showing most time spent in proximity with the alignment occurring in calving and post-calving seasons. Some activity was also found to occur in the spring and summer, and very little activity occurred within 50km of the alignment in the fall and winter.

Findings from the moose survey and polar bear den emergence survey will be captured in the following summary report.

The most common vegetation recorded at each site in Nunavut were lichens, sedges, mosses, and ericaceous shrubs. The rarest species found at one site in Nunavut was Lapland diapensia or Pincushion plant (*Diapensia lapponica*, S3 Conservation Status Ranking).

9.1.3 Next Steps

Further analysis of caribou telemetry will determine important or critical areas requiring mitigation, including possible minor adjustments to routing, timing of activities, and identification of appropriate camp locations to minimize effects and is near completion.

The team is working in partnership with the Government of Nunavut, under a data sharing agreement, to review and assess telemetry data on the distribution and seasonal habitat of muskox, polar bear, and grizzly bear.

Further desktop analysis will include a review of furbearer harvest data, bat data, and presence and importance of amphibian and reptiles. Engagement with communities will determine furbearer and bird Species of Concern and extent and location of wolf hunting. Bird fieldwork activities planned for 2023 include habitat modelling and installation of Autonomous Recording Units (ARU's), and surveys.

Trail camera photos: red fox and wolverine

Surface terrain assessment for tower stability

9.2 GEOMORPHOLOGY AND PERMAFROST

9.2.1 Field Program

In mid-August 2022, an environmental and geoscience team conducted field investigations along the entire KHFL proposed corridor. Local land users were hired to accompany the team. Ground conditions were investigated at several locations along the corridor, with priority given to the southern section of the corridor in Manitoba, as fog prevented investigations in that area in 2021, and along the proposed corridor in Nunavut where the corridor would potentially connect to communities and the two existing mine sites. The surficial geology and materials were surveyed along the corridor using hand-dug test pits. Thaw depths were determined using a combination of permafrost probing and hand-dug test pits. Ground temperature data was downloaded from ground temperature sensors placed throughout the project corridor the previous year.

9.2.2 Findings

A total of 43 field sites were visited during the 2022 field program. The investigations commonly found glacial till at these sites. Glacial meltwater (glaciofluvial) deposits were also common across the entire corridor. They are well drained and consist of either sand, or sand and gravel. Where permafrost was identified, it was found at depths of 0.7m to more than 1m in coarser-grained material. Fine-grained glaciomarine deposits are found to be commonly overlain by thick peat. Organic deposits (wetlands) consist of peat, are poorly drained and are common throughout the corridor. In southern Manitoba, peaty permafrost mounds (palsas) that contain abundant segregated ice are common.

Ground temperatures sensors installed to a depth of 1m recorded mean yearly ground temperatures ranging from -3 to -7˚C in Nunavut and northern Manitoba. These areas experience temperature ranges of 14 to 32˚C at this depth. Permafrost in the southern portion of the route is considered 'warm' as its mean temperature is warmer than -2˚C. Warm permafrost is more sensitive to human disturbance and climate change than the colder permafrost present along the northern portions of the proposed corridor.

9.2.3 Next Steps

Ongoing work is planned to characterize deeper permafrost. Continued data collection, modelling and mapping work will be used to assist the geotechnical program to better understand ground conditions. The next steps include:

- Finalization of surficial geology and ground ice indicator mapping;
- Deeper drilling to characterize permafrost and install multi-bead thermistor strings to depths of up to 15m;
- Preliminary permafrost and thermal modelling, to inform conceptual infrastructure design;
- Production of thematic maps, such as inundation and icing (aufeis) potential;
- Preliminary selection of representative sites for geotechnical drilling;
- Assistance with the creation of an RFP for securing a drilling company; and
- Reporting, particularly to explain the surficial geology and permafrost conditions along the corridor and their implications for early engineering work regarding the transmission/fiber optic line.

River bank stability assessment for tower placements

Permafrost testing for tower placement

9.3 AQUATIC ENVIRONMENT

9.3.1 Field Program

The objective of this year's field investigations was to conduct a baseline assessment of the habitat and fish species at the proposed transmission line and temporary construction crossing on the Churchill River to begin to identify the environmental risks the project may pose on the aquatic environment and to also help facilitate both Provincial and Federal project permitting. The field investigation will also be used to help guide permitting requirements for other site crossings along the route.

In early September 2022, the aquatic ecology team, conducted aerial surveys and assessed fish and fish habitat surveys along a potential Churchill River crossing. Over the span of four days, the aquatic team conducted the survey along the Churchill River where the proposed transmission line would cross. Prior to field investigations, the team conducted a preliminary inventory of fish species that may have ranges that overlap with proposed crossing of the Churchill River. The field crew conducted a site flyover to assess the safety of the field site and determine a centre line for the field investigation. Bathymetric and topographic surveys were completed, as well as aerial photographs taken to document riparian and terrestrial habitat. Members of Tataskweyak Cree Nation (TCN) in Manitoba aided with directing and providing focus to the fieldwork team by detailing local knowledge related to fisheries and other traditionally significant components within the project study area. Fish sampling was conducted using non-lethal methods. Fish sampling included species identification and fork length measurement. All fish were immediately released, no injuries or mortalities were documented or reported.

Sturgeon on Churchill River, September 2022

Adam Borowiecki, Robert Spence, Griffin Hewitt, Churchill River survey, August 2022

9.3.2 Findings

In total, 35 species of freshwater fish are known to have distribution ranges that include the Churchill River watershed, one which is Lake Sturgeon which are currently listed as "Endangered" by Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and listed under Schedule 1 in Species at Risk Act (SARA). A total of 52 fish representing six species were captured during field investigations. Lake Chub comprised the largest proportion of total catch (51.9%), followed by Lake Whitefish (17.3%), Walleye (9.6%), Northern Pike (9.6%), and White Sucker (5.7%). Three Lake Sturgeon were captured during field investigations. Freshwater mussel shells were observed along the study area shoreline, further investigation may be warranted to determine species composition and density.

9.3.3 Next Steps

Additional fieldwork for river crossings will require terrestrial assessments for breeding bird nesting, amphibian activity, rare vegetation species assessments, and heritage assessments. Further engagement activities with communities and resource users will provide local knowledge relating to fisheries and other traditionally significant ecosystem components that will aid in directing and providing focus to field investigations.

Surveying the land with binoculars

9.4 ARCHAEOLOGY

9.4.1 Field Program

The heritage and cultural resources team prepared for fieldwork by reviewing the LiDAR and Ortho-photography data collected by the project to identify areas of moderate and high archaeological potential for focused field assessments in Manitoba and Nunavut. In September 2022, archaeologists focused field assessments on the Nunavut portion of the project corridor in the vicinity of the Diane River crossing. In the same month, the team with support from Dene Knowledge Keeper Florence Hamilton from Sayisi Dene First Nation conducted field assessments in the Manitoba portion of the project corridor.

Main objectives of this year's fieldwork were to:

- Complete a detailed assessment of the corridor crossing the Diane River, and determine a proposed route through this section that would not impact archaeological features;
- Begin an in-field visual assessment of features identified through LiDAR analysis;
- Record the 20 archaeological locations noted from the air during the previous year's overview flights of the Nunavut portion of the route.

The team was only able to begin the survey of the Diane River area due to flight delays and poor weather conditions.

Within Manitoba, the team undertook a desktop review of existing registered archaeological sites within 30 kilometres of the proposed corridor. A request was made to Manitoba's Historic Resources Branch (HRB) to review the inventory. This field season the team conducted field investigations of landforms between the Caribou and Clark Rivers near Pakulak Lake, which were identified as being high of archaeological concern.

9.4.2 Findings

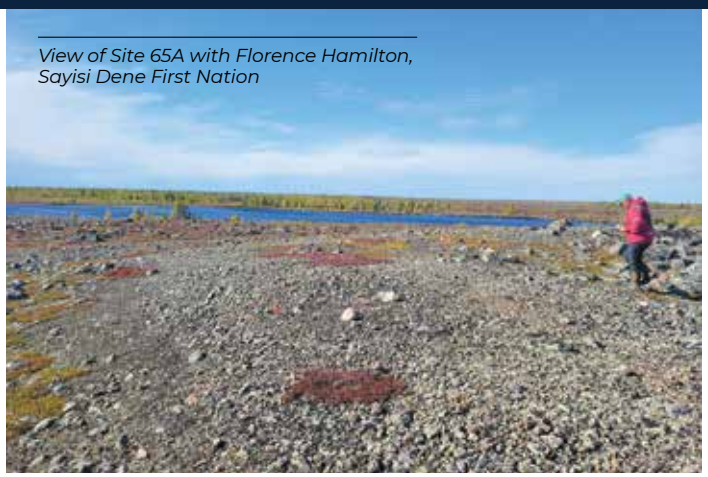
During the Diane River field investigation, areas around site features were delineated to identify site boundaries to determine how best to avoid significant sites. The team was able to conduct field surveys along the west bank of the river within the corridor, and two previously undocumented archaeological sites were recorded.

These two new archeological sites include a small campsite with several rock features, and an extensive lithic workshop comprising of several concentrations of quartzite flakes and some rock features.

In Manitoba, 18 archaeological sites were documented, including habitation sites and lithic scatters (a biproduct of making stone tools by pre-contact peoples). Other documented archaeological artifacts included stone arrow heads and hide scrapers, tamarack poles, tent steaks, stone tent rings.

One site that was recorded, site 89C, was of particular interest. This site, stretching close to half a kilometer featured many artifacts and archaeological features including tent rings and lithic scatters, spent historic rifle casings, fragments of canvas tarps and grommets and pottery sherds. This site is now considered the most northernly instance of precontact Indigenous crafted pottery found within the province of Manitoba to date

Fragment of Pottery from site 89C – Late Kame Hills type between 250 and 1100 years before present



View of Site 65A with Florence Hamilton, Sayisi Dene First Nation

and provides tangible evidence of land use spanning from the mid 20th century back as far as 2000 years before present Descriptions of these 18 sites will be sent to the Sayisi Dene for both interpretive input and culturally appropriate site naming.

9.4.3 Next Steps

Within Nunavut, a more thorough field investigation of the Diane River crossing, including the East bank will be of high priority in 2023 to determine appropriate routing with less potential impact on sensitive archaeological sites. There will be a strong focus on investigating proposed geotechnical drill sites. Additionally, the 20 archaeological feature locations previously identified during the helicopter survey in 2021 will still need to be documented, time permitting.

Prior to the start of a new field season in 2023, the newly recorded sites identified in Manitoba will be registered with the HRB, and descriptions of these sites will be sent to the Sayisi Dene so that they can be assigned culturally appropriate names. Within Manitoba, at lease two archaeological sites located along the corridor in Fox Lake Resource Management Area (RMA) will require site visits to determine their condition and if they have received any significant impacts since their initial recording. Several kilometers of paleo beach features situated within the Split Lake RMA will need to be investigated with a primary focus placed on river and stream crossings. Further investigations of high potential areas, between the Nunavut boarder and Split Lake RMA, which were noted during the Helicopter overflight and from inspection of the LiDAR and Orthophotography Data still require boots-on-the-ground ground truthing.

Training session for Kivalliq community-based researchers, InterGroup Winnipeg office, January 2023

9.5 SOCIO-ECONOMIC

9.5.1 Field Program

Beginning late 2022, a socio-economic team began early activities to characterize the socio-economic baseline of the Nunavut and Manitoba communities potentially affected by the project. Initial data collection focused on desktop research. Sources used for the desktop research include existing literature and databases from public sources including Statistics Canada, federal and provincial government reports and data, and online sources. Preparatory activities for the socio-economic field program were completed. The socio-economic team worked with the Inuit Qaujimajatuqangit/Indigenous Knowledge team to develop an integrated table of contents for the human environment baseline that reflects Inuit societal values. Community Researcher positions were advertised in the five Kivalliq communities in the project corridor.[1] Four Inuit were hired and trained to gather socio-economic data.

9.5.2 Findings

Existing data has been used to characterize the socio-economic baselines for both Nunavut and Manitoba to the extent possible and identify gaps are being filled through primary data collection. As of March 24, 2023, 20 interviews have been conducted in four of the five Kivalliq region communities. Information collected will be used to more fully characterize population, community infrastructure and services, the local economy, health and well-being, and education in the Kivalliq region communities. Findings will reflect the analysis of primary and secondary data.

9.5.3 Next Steps

Community Researchers will continue collecting socio-economic Information to provide a more complete understanding of the current human environment baseline of the project study area in Nunavut. Processes are underway to collaborate with the Fox Lake Cree Nation, the Tataskweyak Cree Nation, and the Ghotelnene K'odtineh Dene (Sayisi Dene First Nation and Northlands Dene First Nation) to implement primary data collection in Manitoba. This understanding is required for future environmental assessments that the project team is working towards.

[1] https://www.aqqiumavvik.com/_files/ugd/1f7032_c2502caafc0746c98f59dedb87ed4ef2.pdf

9.6 INUIT QAUJIMAJATUQANGIT/ INDIGENOUS KNOWLEDGE

9.6.1 Field Program

Beginning late 2022, an Inuit Qaujimajatuqangit (IQ)/ Indigenous Knowledge (IK) team began a review of existing available IQ/IK though KIA databases and other published materials. This included the development of an IQ framework that supports the characterization of the human environment relative to Inuit societal values, as well as the adoption of aajiiqatigiingniq – an Inuit Research Methodology to support the overall collection of data. The Aajiiqatigiingniq Research Model[1] was developed by the Arviat Wellness Society, and focuses on four steps:

1. Building relationships and meaningful community engagement;
2. Building understanding;
3. Data collection based on respectful methodologies and focusing on authentic voices; and
4. Validation and relational consequence building.

Central to the process was the hiring and training of Community Researchers,[2] who as part of their training for the position helped validate the research approach and tools. The first step in aajiiqatigiingniq research methodology is building relationships and understanding of context. The Community Researchers team members have been central to this process and have shared perspectives on how to best approach their home communities in undertaking IQ collection, as well as shaping the research tools. As noted by the Arviat Wellness Society "This initial engagement of participants is described in the Inuit Qaujimajatuqangit principle of piliriqatigiingniq or coming together in an equal and collaborative relationship to meet commonly described goals or tasks through a collective working relationship"[3] and is central to the IQ process going forward.

Data collection in communities began in early 2023 and to date has included a combination of key person interviews, map biographies with resource harvesters, and workshops with Elders. To date, 15 map biographies have been undertaken. Workshops with Elders have occurred in all five communities to introduce the project to support future conversations on IQ.

Elders mapping session, Whale Cove, March 2023 Left to right: Sam Arualak, Lewis Voisey, Jennifer Olson

[2]Positions were advertised in Arviat, Whale Cove, Rankin Inlet, Chesterfield Inlet, and Baker Laker, with four individuals hired to support the process.

[3]https://www.aqqiumavvik.com/_files/ugd/1f7032_c2502caafc0746c98f59dedb87ed4ef2.pdf

9.6.2 Findings

The data collection process has been interactive and adaptive in nature. In addition to sharing perspectives on Inuit societal values, the research team has been active in sharing updates on process and findings, including the challenges they've faced in recruiting participants for the process. This has resulted in adjusted approaches to better suit the local context. One of the key learnings to date has been the need for providing more time to share information about the project, which is central to people's willingness and ability to share information in the process. This resulted in an adjusted approach in which researchers from the consulting team spent time in the communities to both share context, as well as provide data collection support and coaching to the local research team. This building of understanding will support the process as it advances.

9.6.3 Next Steps

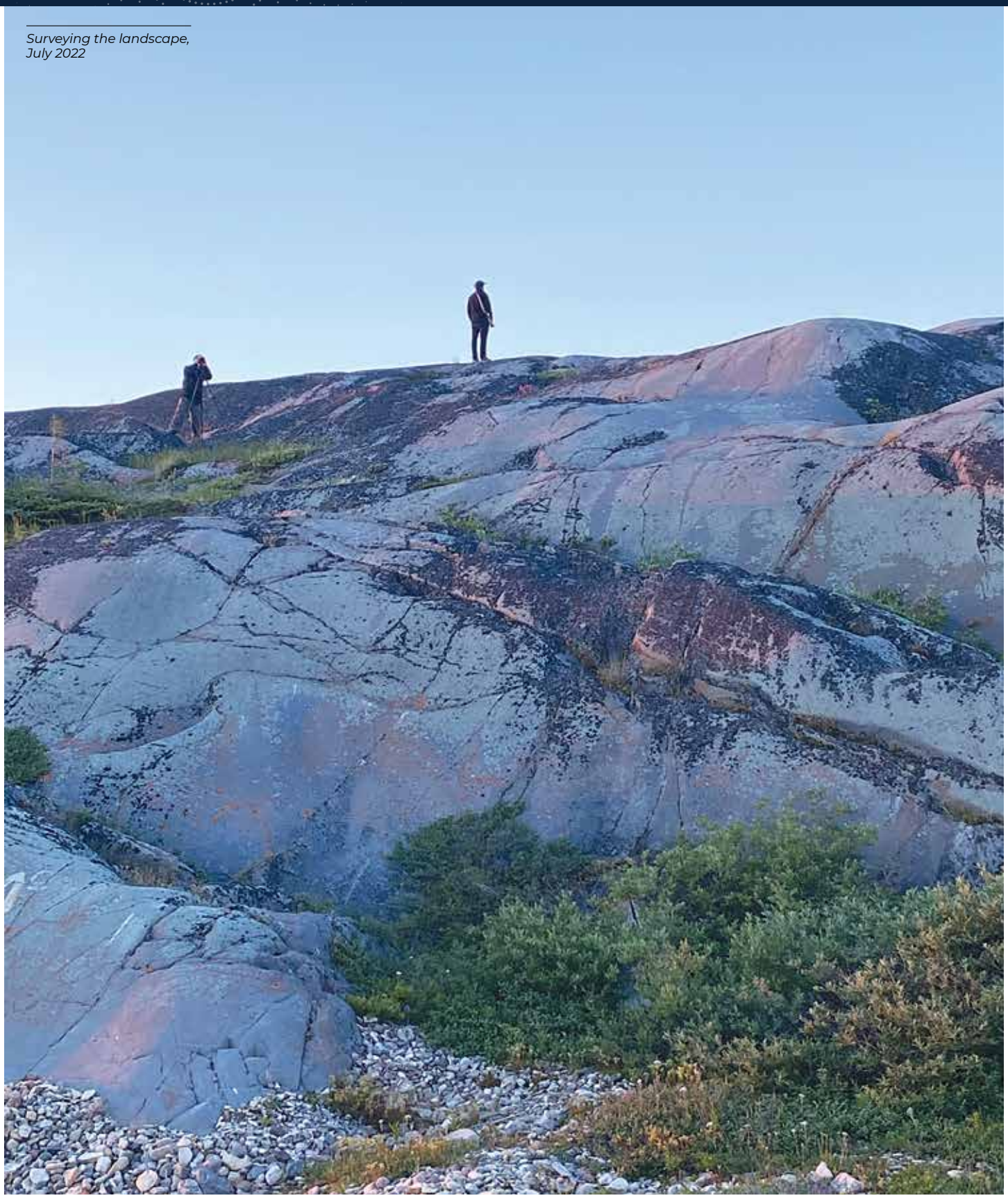
Community Researchers will continue collecting data in five communities in the Kivalliq region. Following the primary data collection, interviews will be transcribed and translated (if conducted in Inuktitut), and map biographies collated to create maps representative of land and resource use. This information will be presented in summary format to the KIA communities to confirm and validate the findings, as well as act as a further opportunity to build understanding on the project.

The process in northern Manitoba is at an earlier stage, and the collection of Indigenous Knowledge will be developed with cooperation of the Indigenous communities involved. **It is expected that the aajiiqatigiingniq approach will be shared with Indigenous communities, and that the collection of Indigenous knowledge could include community-led or jointly developed studies.**

Land use mapping, Whale Cove, March 2023 Left to right: Jennifer Olson, Guy Enuapik

Land Use Mapping, Jaylene Ukpatiku, Baker Lake, March 2023

Surveying the landscape, July 2022



10.0 PROJECT NEXT STEPS

Anticipated next steps for project planning include continuation of baseline data collection to advance further assessment of the entire proposed development corridor, determine an optimal project route, as well as submit a Project Description for the Environmental Assessment process.

Data collection to date has supported the characterization of existing conditions and the identification of priority activities in 2023, including:

- Continued engagement with communities and organizations to learn what's important to them and share project information;
- Primary and secondary data analysis;
- Ground and aerial based surveys;
- Collection of data from deployed monitoring equipment; and
- Mapping.

Engagement with Inuit and Indigenous communities, including Elders and resource users will remain an important activity. The project prioritizes the inclusion of Inuit Qaujimajatuqangit and Indigenous Knowledge and will work with communities to determine the best approach.

Aerial survey photo, September 2022

Appendix A:

Data Collection Team

APPENDIX A: DATA COLLECTION TEAMS

This section includes description of service providers undertaking the initial preliminary studies along the proposed KHFL development corridor.

Sarliaq Holdings Ltd (Sarliaq) is a Rankin Inlet based company that provides logistical support for large or small scale development in the Kivalliq region. Sarliaq provides freight moving and delivery within town, to and from mine sites, or out on the land. Currently Sarliaq supports Agnico Eagle Mines with employee transportation to and from the Meliadine mine site. Sarliaq also builds hunting and survival equipment including cabins, qamutiks, and trailers. With extremely professional services, the Sarliaq team is an invaluable resource to the project team. The project routinely relies on Sarliaq for vehicles while in community as well as coordination of experienced local hires for all disciplines of fieldwork.

A&B Suluk Translation Services is an Arviat based company that provides Inuktitut / English translation services. Their translation support for the project has been invaluable with fast and accurate service.

Doris Tautu Interpretation is based in Chesterfield Inlet and provides professional interpreting services. Doris's ability to travel with the project team and provide real time interpretation to and from Inuktitut / English has allowed the project team to create inclusive meetings.

Doris Tautu interpreting at a community meeting, Rankin Inlet, March 2023

Front row, left to right: Jaylene Ukpatiku, Joni Gibbons, Gary Ippiak, and Saviqataaq Ford

Kivalliq Community Researchers Jaylene Ukpatiku, Joni Gibbons, Gary Ippiak, and Saviqataaq Ford have been hired by the project to collect socio-economic data and map biographies. Researchers participated in training on how to conduct research and then headed back to their home communities to collect data. They have been busy interviewing key members of their community and completing map biographies with hunters and harvesters in their home communities.

Chadwick Consulting is a Manitoba-based firm focusing on Indigenous relations and northern issues. The firm specializes in project management and stakeholder relations, as well as planning, media, and government relations. Chadwick Consulting works closely with the KIA and the project team on efforts related to engagement with the government of Nunavut as well as the Federal and Manitoba governments and takes the lead on project communications. Chadwick Consulting also represents the project in public forums, updates the KIA and Nukik Boards and leadership on activities, and presents recommendations to advance the overall feasibility effort.

InterGroup Consultants Ltd. (InterGroup) is an independent, multi-disciplinary firm based in Winnipeg, Manitoba, with over 48 years of experience providing a wide range of consulting services to clients and industries across Canada and all three Territories. InterGroup provides leading-edge consulting services in managing project development, multi-stakeholder processes, public engagement, socio-economic research, heritage and cultural resources, and economic analyses. The InterGroup team provides advice on the strategic development, regulatory and licensing considerations for the project, along with planning and implementation of engagement efforts, socio-economics, Inuit Qaujimajatuqangit/ Indigenous Knowledge, archaeology, and heritage for the future impact assessment.

AAE Tech Services Inc. (AAE) is a professional consulting company providing environmental services on a wide variety of projects across Canada. They specialize in aquatic ecology and conservation biology. AAE's primary goal as an environmental consulting firm is to work with communities, companies, and stakeholders to ensure the environment is protected. As their company grows, they are continually expanding their capabilities and taking on new challenges on behalf of their clients, while their partnerships with local independent specialists enable us to carry out large-scale, multi-disciplinary projects. They strive to provide their clients with exceptional service at an outstanding value. The AAE team provides support on the initial aquatic assessment for the project.

Joro Consultants Inc. (Joro) is a Manitoba owned and operated environmental consulting firm specializing in wildlife research, monitoring and environmental assessment. Joro has extensive experience with large biological monitoring and environmental assessment undertakings and has experience in presenting data and findings as part of environmental and cumulative impact assessments involving terrestrial and avian wildlife. They specialize in caribou, large mammals, geospatial analysis, that has served to contribute both to industry partners and academia. Joro has worked with a variety of academic, corporate, government, First Nations, and community partners. Their mission is to provide innovative, efficient services to address original research questions as well as prevent, mitigate, and monitor environmental effects of development. Canadian-owned and operated since 1992 (formerly Terrestrial and Aquatic Environmental Managers), Joro is a committed team of highly-trained personnel including wildlife biologists, ecologists, geographic information systems (GIS) technicians, field technicians, and environmental professionals. The Joro team provides support on the initial terrestrial wildlife and habitat assessment for the project.

Established in 2010, **Palmer Environmental Consulting Group (Palmer)** is a respected team of geoscience and environmental professionals who provide strategic advice and technical expertise to government, land development, and resource industry clients across Canada. Palmer has extensive northern experience in geomorphology, permafrost, hydrology, hydrogeology, water quality, aquatic and terrestrial ecology, and environmental permitting. Their team has earned a reputation in northern Canada as leaders in the characterization and mapping of geomorphology and permafrost based on interpretation of high-resolution imagery and topographic data, for a variety of applications including routing and design of linear infrastructure (e.g., transmission lines, roads/highways), aggregate resource assessment, mineral exploration, archaeological studies and ecosystem mapping. Palmer is working with Dr. Pascal Roy-Lévellée, a permafrost expert from Laval University in Québec City. Dr. Roy-Lévellée operates a research team out of the Churchill Northern Studies Centre in Churchill, Manitoba. The Palmer/Leveillée team provides support on the initial geomorphological and permafrost assessment for the project.

Points West Heritage Consulting Ltd. (Points West) is an independent heritage research firm with over 40 years of experience in conducting archaeological investigations and heritage research in Western Canada. For the past 27 years, the company has focused almost exclusively on projects in Nunavut and Northwest Territories. The company's senior archaeologists have conducted field work for numerous projects across the Arctic from Tuktoyaktuk to Clyde River, Arviat to Nanisivik, and throughout much of the Barrenlands. The company is competent in all levels of archaeological investigations from documentary research and overviews to detailed inventories to mitigation excavations. The senior archaeologists have served as archaeological specialists on several multidisciplinary environmental study teams and have prepared contributions to environmental impact statements and reviews. On this project, Points West has completed an archaeological overview assessment and continues to provide support regarding Nunavut archaeology and heritage issues.

NUKIK CORPORATION
ᓄᑭᒃ ᐊᐅᓚᑦᑎᐊᑦ

Visit Nukik.ca Email **KivalliqLink@intergroup.ca**
ᖁᓱᑕᐅᔨᓐᓂᑦ ᑕᓀᑦᐊᖏᓕᒍ **Nukik.ca** ᖁᓱᑕᐅᔨᓂᑦ ᑐᖅᑭᑎᖏᓐᓄᑦ **KivalliqLink@intergroup.ca**