

Engagement Plan Geotechnical Assessment – Fort Simpson, NT Air Tanker Base Resurfacing Project



PRESENTED TO
**Government of the Northwest Territories
Department of Infrastructure**

OCTOBER 8, 2024
ISSUED FOR USE
FILE: 704-ENG.YARC03667-01

Revision History

Revision	Description	Revised By (Initials)	Revision Date
1	Initial Version	Tetra Tech	2024-10-08

Review and Approval

The following signatures indicate that the undersigned have read and agreed to the contents of this document, and that they approve and accept its distribution and use.

Description	Authority	Signature	Date
Document Owner	Tetra Tech		2024-10-08
Reviewed by: Full Name, Job Title	Richard Hoos, R.P. Bio. Principal Consultant		2024-10-08
Approved by: Full Name, Job Title	Rob Girvan, P.Eng. Manager – Yellowknife Arctic Group		2024-10-08

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ACRONYMS & ABBREVIATIONS

Acronyms/Abbreviations	Definition
GNWT-INF	Government of the Northwest Territories - Department of Infrastructure
MVLWB	Mackenzie Valley Land and Water Board
Tetra Tech	Tetra Tech Canada Inc

LIMITATIONS OF REPORT

This report and its contents are intended for the sole use of the Government of the Northwest Territories Department of Infrastructure (GNWT-INF). and their agents. Tetra Tech Canada Inc. (Tetra Tech) does not accept any responsibility for the accuracy of any of the data, the analysis, or the recommendations contained or referenced in the report when the report is used or relied upon by any Party other than GNWT-INF or for any Project other than the proposed development at the subject site. Any such unauthorized use of this report is at the sole risk of the user. Use of this document is subject to the Limitations on the Use of this Document attached in the Appendix or Contractual Terms and Conditions executed by both parties.

1.0 INTRODUCTION

Tetra Tech has been retained by the Government of the Northwest Territories, Department of Infrastructure (GNWT-INF) to conduct a Geotechnical Assessment for the Fort Simpson Air Tanker Base Resurfacing Project (Appendix A). This Engagement Plan outlines the plan for current and future community engagement related to the geotechnical drilling program to be undertaken at this site.

Tetra Tech plans to drill four boreholes at the subject site within the proposed new apron footprint. This would include recording the nature of the materials encountered and collecting representative samples. Groundwater and/or possible ground ice conditions would also be noted. A track mounted auger drill (D-50) operated by EnviroTech Drilling Solutions Ltd, from Yellowknife is proposed to conduct the drilling (Appendix B).

This Engagement Plan (Plan) was developed in general conformance with the Mackenzie Valley Land and Water Board (MVLWB) Engagement Guidelines for Applicants and Holders of Water Licences and Land Use Permits (MVLWB 2018). The Plan serves to provide a formal written framework for how Tetra Tech will inform and engage with potentially affected parties prior to, during, and following completion of this proposed geotechnical drilling project.

2.0 COMPANY NAME, CONTACT, AND EFFECTIVE DATE

The Government of the Northwest Territories, Department of Infrastructure (GNWT-INF) is the Proponent for this proposed Project. Key contact information for this Project is as follows:

Cesar Concepcion
South Slave Regional Manager, Projects
9706 – 100 Street, P.O. Box 86
Fort Simpson, NT X0E 0N0
Phone: 867-872-8354
Email: cesar_concepcion@gov.nt.ca

The information presented herein is current as of October 2024.

3.0 PROJECT DESCRIPTION

Tetra Tech understands that the apron surface at the Fort Simpson Airport air tanker base needs to be repaired. In order to determine the best options for repairing the apron, a geotechnical investigation is required to determine the soil conditions and potential presence of permafrost beneath the apron. Once the subsurface conditions are known, a report with options for potential repair options along with Class C cost estimates can be provided.

Tetra Tech proposes to use Enviro -Tech Drilling Solutions (Enviro-Tech) out of Yellowknife to complete the drilling (Appendix B). Four boreholes are planned, two to a depth of 10 m and two to 6 m to determine subsurface conditions beneath the apron. Tetra Tech will meet with airport officials to verify any buried utilities in the drilling area, and to confirm onsite working and communication protocols.

Boreholes will be drilled at the identified locations to the specified depths, or to refusal if encountered. The soils and ground ice encountered will be visually logged at the time of drilling in accordance with ASTM D2488, D4083-89 and the Guide to Field Description of Permafrost for Engineering Purposes (NRC 1963).

Samples will be collected at 1.5 m intervals, or at changes in stratigraphy, where warranted. A photographic log of the site investigation including photographs of the drill equipment and representative disturbed samples will be taken.

The boreholes will be backfilled with cuttings and/or gravel at completion. Borehole locations and elevations will be recorded with a handheld GPS device. The geotechnical drilling is expected to take place over two days. The details of the site investigation may be modified to suit site conditions.

Before mobilizing to the site, Tetra Tech will develop a project-specific safety plan, in consultation with the drilling contractor so that the safety features and any potential hazards of the equipment being used on the project are included in the Plan. The project will also have a community engagement plan, spill contingency plan and a waste management plan, all of which will be submitted to the MVLWB public registry for review and comment.

4.0 ENGAGEMENT PLAN FRAMEWORK

4.1 Goals of Engagement

In assessing the proposed 2024 drilling program to be undertaken at the Fort Simpson Airport air tanker base, three engagement goals were identified and are summarized in Table 1.

Table 1: Engagement Goals

Goals	Commitment to the Affected Parties
Inform Involves providing information to: <ul style="list-style-type: none">▪ Notify potentially affected parties of an issue/ project/ decision.▪ Assist affected parties in understanding the project and issues that may arise.	<ul style="list-style-type: none">▪ Keep the potentially affected parties informed.
Engage <ul style="list-style-type: none">▪ Allows potentially affected parties the opportunity to provide feedback; usually at points in the project planning or implementation process.	<ul style="list-style-type: none">▪ Listen to and acknowledge concerns and questions.▪ Provide feedback when required on how input has influenced decisions.
Involve <ul style="list-style-type: none">▪ Allows potentially affected parties to work directly with the City and/or their designated representative(s) throughout the process to ensure that aspects are consistently understood and considered.	<ul style="list-style-type: none">▪ Work with the potentially affected parties to highlight how their concerns and input are reflected in the project.

4.2 Methods and Frequency of Engagement

Taking into consideration the project goals, project planning and mitigation measures, the proposed methods of engagement are outlined in Table 2. The Project Team are open to adding other methods as requested by affected parties.

Table 2: Methods and Frequency of Engagement

Method	Frequency
Written notification to potentially affected parties	At the start of engagement (September 2024)
Sharing of documents, plans and other information related to the project	Throughout project permitting and implementation phases.
Telephone, email communications, correspondence	Throughout project permitting and implementation phases.

4.2.1 Engagement Methods

4.2.1.1 Written Notification and Sharing of Documents

Consistent with the Mackenzie Valley Land and Water Board Engagement Guidelines (MVLWB 2018), written notifications are appropriate when providing information or requesting a meeting. The on-site geotechnical drilling program is expected to take place following receipt of the anticipated Land Use Permit in November-December, 2024. Sharing documents, such as plans, maps, reports and photos, will be done upon request or when necessary to resolve issues or fill information gaps.

4.2.1.2 Informal On-Site meetings /Teleconferences

Consistent with the MVLWB Guidelines, a face-to-face meeting between the proponent and the appropriate representatives of a potentially affected party is recommended for discussing and attempting to resolve any issues. However, given the continuing COVID related concerns and remoteness considerations, telephone/teleconference calls and email communications have been used in lieu of face-to-face meetings. Ongoing communications will be co-ordinated should any affected parties express concern following receipt of written notification or at any other time when required to resolve issues or discuss aspects of the project.

The engagement plan and tentative schedule for all affected parties is summarized in Table 3.

Table 3: Engagement Plan and Schedule

When	Purpose	Goal	Who	Engagement Technique
September - 2024	Notification to explain the project, identify concerns and potential project impacts	Inform	All parties	Written notification via email or regular mail. Note that follow-up phone calls will be made
October- November – 2024	Follow-up with potentially affected parties re any concerns related to the project	Inform, engage and involve	All parties	Sharing of documents and additional information as requested by affected parties, by email/ teleconference, etc. as appropriate

As previously noted, the engagement process has already begun, with telephone communications, emails, written notification to the potentially affected parties, and sharing of document. Copies of the introductory notification letters sent to the potentially affected parties are included as Appendix C of this plan.

A pre-submission engagement log of activities undertaken with potentially affected parties in support of the Land Use Permit application to date is provided in Appendix D. Copies of all communications with the potentially affected parties to date are provided in Appendix E.

4.3 Communicating, Implementing and Reviewing the Plan

Communicating the engagement plan is an important element to the success of the community engagement process. When engagement is required, Tetra Tech is open to discussing what method may work best for this project. If the proposed engagement methods are not working for any affected party, alternative methods will be explored so that all parties can be engaged to the extent they desire.

Tetra Tech recognizes the importance of being flexible in the implementation of the plan. Engagement efforts will be monitored and where a method does not appear to be effective or when the scope or importance of an issue changes, it will be necessary to modify the engagement plan.

If it is necessary to modify the engagement plan, any revisions will be forwarded to the MVLWB for approval.

4.4 Follow-Up Reporting

Reporting on an engagement initiative after it has been completed is an important step in the engagement process as it ensures that those involved see their input was received, understood and valued. Throughout the project, all comments, concerns and inputs received will be tracked. Follow-up reports will be compiled after completion of the proposed project. These reports will acknowledge those that participated and provide an accurate record of the engagement process and how final decisions were reached.

5.0 POTENTIALLY AFFECTED PARTIES

Based on direction received from the MVLWB for previous Yellowknife drilling projects that Tetra Tech has completed, Table 4 lists the potentially affected parties initially engaged for the proposed 2024 winter drilling program.

Table 4: Potentially Affected Parties Identification

Organization	Contact Name	Position	Contact Information
Dehcho First Nations, Fort Simpson	Ms. Leona Tanche	Executive Director	Email: Leona_tanche@dehcho.org Phone: (867) 695-2355
	Ms. Jessica Jumbo	Director of Land and Resources	Email: Jessica_Jumbo@dehcho.org Phone: (867) 695-2610
Łı́ıdlı́ı Kúęę First Nation, Fort Simpson	.Liza McPherson	Executive Director	Email: exdir@liidliikue.com Phone: (867) 695-3131-1004
	Derek Squirrel	Acting Executive Director	Email: exdir@liidliikue.com Phone: (867) 695-3131-1004
Fort Simpson Métis52	Chief/President Daniel Peterson	Community Leader and Proponent	Email: metisnation52@northwestel.net Phone: (867) 695-2431
	Ms. Lisa Thurber	Executive Administrator	Email: metisnation52@northwestel.net Phone: (867) 695-2431
Village of Fort Simpson	Darrel White	Senior Administrative Officer	Email: dwhite@fortsimpson.com Phone: 867-695-2253
	Mitch Gast	Operations Manager	Email: mgast@fortsimpson.com Phone: (867) 695-6501

6.0 PROJECT CONTACTS

Table 5 lists the primary project contacts for the proposed 2024 winter drilling program at this time.

Table 5: Project Contacts

GNWT-INF	Tetra Tech Canada Inc
Cesar Concepcion South Slave Regional Manager, Projects 9706 – 100 Street, P.O. Box 86 Fort Simpson, NT X0E 0N0 Phone: 867-872-8354 Email: cesar_concepcion@gov.nt.ca	Rob Girvan Manager – Yellowknife Arctic Group Tetra Tech Canada Inc. P.O. Box 2244, 201, 4916-49 St., Yellowknife, NT, X1A 2P7 Phone: 1 (867) 675-0252 Mobile +1 (867) 444-0657 Email: Rob.Girvan@tetrattech.com
	Rick Hoos Principal Consultant Tetra Tech Canada Inc. Suite 1000, 10th Floor, 885 Dunsmuir St. Vancouver, BC V6C 1N5 Phone. Direct (604) 608-8914; Cell. (604) 813-4952; Email: Rick.Hoos@tetrattech.com

REFERENCES

- Mackenzie Valley Land and Water Board (MVLWB). 2018. Engagement Guidelines for Applicants and Holders of Water Licences and Land Use Permits. June 5, 2018.
- NRC (National Research Council). 1963. Guide to a field description of permafrost for engineering purposes. Technical Memorandum (National Research Council of Canada. Division of Building Research); No. DBR-TM-79, 1962-10-26 A. Available online: <https://doi.org/10.4224/40003252>

APPENDIX A

SITE OF PROPOSED GEOTECHNICAL EVALUATION OF FORT SIMPSON AIR TANKER BASE RESURFACING PROJECT



LEGEND

- Project Boundary Corner
- Project Boundary

NOTES
Base data source:
Imagery from Google Earth; Airbus (2023)

Corner	Latitude	Longitude
1	61.762645	-121.232386
2	61.762413	-121.232628
3	61.762743	-121.234076
4	61.763235	-121.233633
5	61.763416	-121.232874

STATUS
ISSUED FOR REVIEW

Scale: 1:2,025

40 20 0 40

Metres

PROJECTION
UTM Zone 10

DATUM
NAD83

FILE NO.
YARC03667-01_Fig01_SiteLocation.mxd

CLIENT

**GEOTECHNICAL ASSESSMENT FOR THE
FORT SIMPSON AIR TANKER BASE
RESURFACING PROJECT**

Project Location

OFFICE TL-VANC	DWN SL	CKD BB	APVD RH	REV 0
DATE October 1, 2024	PROJECT NO. ENG.YARC03667-01			

Figure 1

APPENDIX B

D -50 AUGER BROCHURE



5 Fisher Street
LaPorte, Indiana 46350
E-mail: info@diedrichdrill.com

Phone: 800-348-8809
Local: 219-326-7788
Fax: 219-324-5962

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D-50 DRILL SPECIFICATIONS

Performance ratings are based on engineering specifications, calculations and accepted industry standards. Capacities may vary according to drilling conditions. Diedrich Drill reserves the right to amend these specifications at any time, without notice.

GENERAL	<p>All purpose drill rig for soil and rock explorations using augers, rotary tools, or core drilling tools.</p> <p>Rated from 125 ft.(38m) to 250 ft.(76m) depth with hollow stem or continuous flight augers up to 14"(356mm) hole size.</p> <p>Rated to 1000 linear feet(305m) of core drilling using N series tools.</p>
FRAME AND BASE	The drill frame is a weldment, constructed of heavy wall rectangular steel tubing, with sufficient strength and rigidity for heavy duty use.
POWER UNIT	The basic D-50 Magnum unit is powered by a 4-cylinder diesel or a 4 cylinder turbo charged diesel engine.* Electric starting and engine instruments are standard. *Other engine options are available
CLUTCH AND TRANSMISSION	<p>Clutch - 13 inch(330mm) automotive type. (60HP gas engine uses 11 inch(279mm) clutch)</p> <p>Transmission - Heavy duty helical gear transmission with 4-forward and 1-reverse gears.</p> <p>Optional cathead is driven by a power-take-off providing 1 speed forward and 1 reverse.</p>
RIGHT ANGLE DRIVE	The right angle drive is a heavy-duty gearbox, totally enclosed, and running in oil
ROTARY BOX	The rotary box consists of a 80# triple-stranded roller chain drive, totally enclosed, and running in oil. The quill and spindle are supported on tapered roller bearings. The lower bearings run submerged in oil. The upper bearings are externally greased.
SPECIFICATIONS	<p>Spindle Bore.....3-1/2"(89mm)</p> <p>Spindle Travel.....70"(1778mm)</p> <p>Thrust.....up 22,581 lbs (100kN) @2300psi</p> <p style="text-align: right;">down 14,453 lbs (64kN) @2300psi</p> <p>Max Feed Rate.....up FPM 49 (15m/min)</p> <p style="text-align: right;">up Rapid Retract option FPM 70</p> <p>(21m/min)</p> <p style="text-align: right;">down FPM 76 (23m/min)</p> <p>Max gross spindle torque*...1st gear</p> <p style="text-align: right;">up to 9,012ft.lbs (12,218Nm)</p> <p>Max spindle speed*.....1st gear, 95 RPM</p>

		4th gear, 597 RPM
		* varies with engine
	HYDRAULIC SYSTEM	<p>On the D-50 unit, oil is supplied by a heavy-duty gear type two-section pump rated at 19 GPM(72 l/min) and 24 GPM(91 l/min) at 2400 RPM. Maximum operating pressure is 2300 PSI(15,513 k Pa). The pump is gear driven from the engine accessory drive or from the front crank shaft.</p> <p>The hydraulic valves are stock sectional body directional control valves with an integral non-adjustable relief valve. All controls are conveniently located on a single console for ease of operation. An optional regenerative spool can be provided for the main feed valve providing a high speed spindle lift as well as normal operation.</p>
	AUGER ADAPTER	<p>A heavy duty universal joint which mounts to the spindle with a single nut is provided for ease in hook-up and adjusting for misalignment. All components are sized to withstand torque and axial loads encountered under most drilling conditions. 1-5/8" (41.3 mm) female hex is standard, other sizes available.</p>

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APPENDIX C

LETTERS TO INFORM POTENTIALLY AFFECTED PARTIES

- 1 Dehcho First Nations
- 2 Łíídlıı Kúę First Nation
- 3 Fort Simpson Métis Nation
- 4 Village of Fort Simpson



September 25, 2024

Dehcho First Nations
9414 – 100 Street
Fort Simpson, NT
X0E 0N0

ISSUED FOR USE
FILE: 704-ENG.YARC03667-01
Via Email: Leona_tanche@dehcho.org

Attention: Ms. Leona Tanche
Executive Director

Subject: Geotechnical Assessment – Fort Simpson Air Tanker Base Resurfacing Fort Simpson, NT

Greetings and further to my recent attempts to call you, this is to advise that Tetra Tech has been retained by the Government of the Northwest Territories, Department of Infrastructure to conduct a Geotechnical Assessment for the Fort Simpson Air Tanker Base Resurfacing Project (Attachment A).

Tetra Tech understands that the apron surface at the air tanker base needs to be repaired. In order to determine the best options for repairing the apron, a geotechnical investigation is required to determine the soil conditions and potential presence of permafrost beneath the apron. Once the subsurface conditions are known, a report with options for potential repair options along with Class C cost estimates can be provided.

On behalf of the GNWT, we will be applying for a Land Use Permit for this geotechnical assessment in the near future for the geotechnical investigation. However, before submitting the necessary permit application, we would like to share the following project information and to seek feedback on the ways that your organization might like to be engaged on this project. We would also like to discuss your thoughts regarding ongoing communications and engagement that you would like to be involved with related to the project as it goes through the permitting and project implementation phases.

In terms of schedule, we are planning to submit the required Land Use Permit application to the Mackenzie Valley Land and Water Board (MVLWB) by the end of September, so please let us know if you have any initial questions or concerns regarding this proposed geotechnical drilling program or wish to discuss further with us.

Tetra Tech proposes to use EnviroTech Drilling Solutions (EnviroTech) out of Yellowknife to complete the drilling (Attachment B). Four boreholes are planned, two to a depth of 10 m and two to 6 m to determine subsurface conditions beneath the apron. Tetra Tech will meet with airport officials to verify any buried utilities in the drilling area, and to confirm onsite working and communication protocols.

Boreholes will be drilled at the identified locations to the specified depths, or to refusal if encountered. The soils and ground ice encountered will be visually logged at the time of drilling in accordance with ASTM D2488, D4083-89 and the Guide to Field Description of Permafrost for Engineering Purposes (NRCC, 1963).

Samples will be collected at 1.5 m intervals, or at changes in stratigraphy, where warranted. A photographic log of the site investigation including photographs of the drill equipment and representative disturbed samples will be taken.

The boreholes will be backfilled with cuttings and/or gravel at completion. Borehole locations and elevations will be recorded with a handheld GPS device. The geotechnical drilling is expected to take place over two days. The details of the site investigation may be modified to suit site conditions.

Tetra Tech Canada Inc.
Box 2244, 201, 4916 - 49 Street
Yellowknife, NT X1A 2P7 CANADA
Tel 867.920.2287 Fax 867.873.3324

Before mobilizing to the site, Tetra Tech will develop a project-specific safety plan, in consultation with the drilling contractor so that the safety features and any potential hazards of the equipment being used on the project are included in the Plan. The project will also have a community engagement plan, spill contingency plan and a waste management plan, all of which will be submitted to the MVLWB public registry for review and comment.

Thanks very much and please advise if you have any initial questions or concerns.

Respectfully submitted,
Tetra Tech Canada Inc.

FILE: 704-ENG.YARC03667-01
FILE: 704-ENG.YARC03667-01
FILE: 704-ENG.YARC03667-01

Rick A.W. Hoos, M.Sc., R.P. Bio.
Principal Consultant
Direct Line: 604.608.8914
Cell: 604.813.4952
Rick.Hoos@tetratech.com

Attachment A – Proposed Site for Geotechnical Investigation and New Housing Unit
Attachment B – EnviroTech D-50 Drill Specifications

From: [Hoos, Rick](#)
To: Leona_tanche@dehcho.org
Cc: [Girvan, Rob](#)
Subject: Geotechnical Assessment – Fort Simpson Air Tanker Base Resurfacing Fort Simpson, NT
Date: October 1, 2024 11:11:00 AM
Attachments: [Geotechnical Drilling Program-Fort Simpson Fort Simpson Air Tanker Base DFN.pdf](#)
[image001.png](#)
[image002.png](#)
[image003.png](#)

Leona:

Greetings and further to my recent attempts to call you, attached please find our introductory letter which describes the proposed 4-hole geotechnical drilling program that Tetra Tech will be undertaking at the Fort Simpson Airport later this year on behalf of the Government of the Northwest Territories, Department of Infrastructure (GNWT-INF), following receipt of the required Mackenzie Valley Land and Water Board Land Use Permit.

Tetra Tech understands that the apron surface at the air tanker base needs to be repaired to determine the best options for repairing the apron, this geotechnical investigation is required to determine the soil conditions and potential presence of permafrost beneath the apron. Once the subsurface conditions are known, a report with options for potential repair options along with Class C cost estimates will be provided.

However, before submitting the necessary permit application, we would like to share the project information provided and to seek feedback on the ways that the Dehcho First Nations might like to be engaged on this project. We would also like to discuss your thoughts regarding ongoing communications and engagement that you would like to be involved with related to the project as it goes through the permitting and project implementation phase.

Before mobilizing to the site, Tetra Tech will develop a project-specific safety plan, in consultation with the drilling contractor so that the safety features and any potential hazards of the equipment being used on the project are included in the Plan. The project will also have a community engagement plan, spill contingency plan and a waste management plan, all of which will be submitted to the MVLWB public registry for review and comment. Thanks very much and please advise if you have any initial questions or concerns.

Regards,

Rick

Richard Hoos, MSc., R.P. Bio. | Principal Consultant
p. 604.608.8914 | **c.** 604.813.4952 | **f.** 604.684.6241
rick.hoos@tetrattech.com

Tetra Tech Canada Inc.

Suite 1000, 10th Floor, 885 Dunsmuir St. Vancouver, BC V6C 1N5 | tetrattech.com | eba.ca



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September 25, 2024

Łíídlıı Kúę First Nation
PO Box 469
Fort Simpson, NT X0E 0N0

ISSUED FOR USE
FILE: 704-ENG.YARC03667-01
Via Email: exdir@liidliikue.com

Attention: Ms. Liza McPherson
Executive Director

Subject: Geotechnical Assessment – Fort Simpson Air Tanker Base Resurfacing Fort Simpson, NT

Greetings and further to my recent telephone call and detailed message left, this is to advise that Tetra Tech has been retained by the Government of the Northwest Territories, Department of Infrastructure to conduct a Geotechnical Assessment for the Fort Simpson Air Tanker Base Resurfacing Project (Attachment A).

Tetra Tech understands that the apron surface at the air tanker base needs to be repaired. In order to determine the best options for repairing the apron, a geotechnical investigation is required to determine the soil conditions and potential presence of permafrost beneath the apron. Once the subsurface conditions are known, a report with options for potential repair options along with Class C cost estimates can be provided.

On behalf of the GNWT, we will be applying for a Land Use Permit for this geotechnical assessment in the near future for the geotechnical investigation. However, before submitting the necessary permit application, we would like to share the following project information and to seek feedback on the ways that your organization might like to be engaged on this project. We would also like to discuss your thoughts regarding ongoing communications and engagement that you would like to be involved with related to the project as it goes through the permitting and project implementation phases.

In terms of schedule, we are planning to submit the required Land Use Permit application to the Mackenzie Valley Land and Water Board (MVLWB) by the end of September, so please let us know if you have any initial questions or concerns regarding this proposed geotechnical drilling program or wish to discuss further with us.

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Yellowknife, NT X1A 2P7 CANADA
Tel 867.920.2287 Fax 867.873.3324

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Thanks very much and please advise if you have any initial questions or concerns.

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Tetra Tech Canada Inc.

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Principal Consultant
Direct Line: 604.608.8914
Cell: 604.813.4952
Rick.Hoos@tetrattech.com

Attachment A – Proposed Site for Geotechnical Investigation and New Housing Unit
Attachment B – EnviroTech D-50 Drill Specifications

From: [Hoos, Rick](#)
To: exdir@liidliikue.com
Cc: [Girvan, Rob](#)
Subject: Geotechnical Assessment – Fort Simpson Air Tanker Base Resurfacing Fort Simpson, NT
Date: October 1, 2024 11:05:00 AM
Attachments: [Geotechnical Drilling Program-Fort Simpson Fort Simpson Air Tanker Base LKFN.pdf](#)
[image001.png](#)
[image002.png](#)
[image003.png](#)

Liza:

Greetings and further to my recent telephone call and detailed message left, attached please find our introductory letter which describes the proposed 4-hole geotechnical drilling program that Tetra Tech will be undertaking at the Fort Simpson Airport later this year on behalf of the Government of the Northwest Territories, Department of Infrastructure (GNWT-INF), following receipt of the required Mackenzie Valley Land and Water Board Land Use Permit.

Tetra Tech understands that the apron surface at the air tanker base needs to be repaired to determine the best options for repairing the apron, this geotechnical investigation is required to determine the soil conditions and potential presence of permafrost beneath the apron. Once the subsurface conditions are known, a report with options for potential repair options along with Class C cost estimates will be provided.

However, before submitting the necessary permit application, we would like to share the project information provided and to seek feedback on the ways that the Łı́ı́ııı Kú ę First Nation might like to be engaged on this project. We would also like to discuss your thoughts regarding ongoing communications and engagement that you would like to be involved with related to the project as it goes through the permitting and project implementation phase.

Before mobilizing to the site, Tetra Tech will develop a project-specific safety plan, in consultation with the drilling contractor so that the safety features and any potential hazards of the equipment being used on the project are included in the Plan. The project will also have a community engagement plan, spill contingency plan and a waste management plan, all of which will be submitted to the MVLWB public registry for review and comment. Thanks very much and please advise if you have any initial questions or concerns.

Regards,

Rick

Richard Hoos, MSc., R.P. Bio. | Principal Consultant
p. 604.608.8914 | **c.** 604.813.4952 | **f.** 604.684.6241
rick.hoos@tetrattech.com

Tetra Tech Canada Inc.

Suite 1000, 10th Floor, 885 Dunsmuir St. Vancouver, BC V6C 1N5 | tetrattech.com | eba.ca



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September 25, 2024

Fort Simpson Métis
PO Box 408
Fort Simpson, NT X0E 0N0

ISSUED FOR USE

FILE: 704-ENG.YARC03667-01

Via Email: metisnation52@northwestel.net

Attention: Mr. Daniel Peterson
President

Subject: Geotechnical Assessment – Fort Simpson Air Tanker Base Resurfacing Fort Simpson, NT

Greetings and further to my recent telephone call with Ms. Lisa Thurber of your office, this is to advise that Tetra Tech has now been retained by the Government of the Northwest Territories, Department of Infrastructure to conduct a Geotechnical Assessment for the Fort Simpson Air Tanker Base Resurfacing Project (Attachment A).

Tetra Tech understands that the apron surface at the air tanker base needs to be repaired. In order to determine the best options for repairing the apron, a geotechnical investigation is required to determine the soil conditions and potential presence of permafrost beneath the apron. Once the subsurface conditions are known, a report with options for potential repair options along with Class C cost estimates can be provided.

On behalf of the GNWT, we will be applying for a Land Use Permit for this geotechnical assessment in the near future for the geotechnical investigation. However, before submitting the necessary permit application, we would like to share the following project information and to seek feedback on the ways that your organization might like to be engaged on this project. We would also like to discuss your thoughts regarding ongoing communications and engagement that you would like to be involved with related to the project as it goes through the permitting and project implementation phases.

In terms of schedule, we are planning to submit the required Land Use Permit application to the Mackenzie Valley Land and Water Board (MVLWB) by the end of September, so please let us know if you have any initial questions or concerns regarding this proposed geotechnical drilling program or wish to discuss further with us.

Tetra Tech proposes to use EnviroTech Drilling Solutions (EnviroTech) out of Yellowknife to complete the drilling (Attachment B). Four boreholes are planned, two to a depth of 10 m and two to 6 m to determine subsurface conditions beneath the apron. Tetra Tech will meet with airport officials to verify any buried utilities in the drilling area, and to confirm onsite working and communication protocols.

Boreholes will be drilled at the identified locations to the specified depths, or to refusal if encountered. The soils and ground ice encountered will be visually logged at the time of drilling in accordance with ASTM D2488, D4083-89 and the Guide to Field Description of Permafrost for Engineering Purposes (NRCC, 1963).

Samples will be collected at 1.5 m intervals, or at changes in stratigraphy, where warranted. A photographic log of the site investigation including photographs of the drill equipment and representative disturbed samples will be taken.

The boreholes will be backfilled with cuttings and/or gravel at completion. Borehole locations and elevations will be recorded with a handheld GPS device. The geotechnical drilling is expected to take place over two days. The details of the site investigation may be modified to suit site conditions.

Before mobilizing to the site, Tetra Tech will develop a project-specific safety plan, in consultation with the drilling contractor so that the safety features and any potential hazards of the equipment being used on the project are included in the Plan. The project will also have a community engagement plan, spill contingency plan and a waste management plan, all of which will be submitted to the MVLWB public registry for review and comment.

Thanks very much and please advise if you have any initial questions or concerns.

Respectfully submitted,
Tetra Tech Canada Inc.

FILE: 704-ENG.YARC03667-01
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FILE: 704-ENG.YARC03667-01

Rick A.W. Hoos, M.Sc., R.P. Bio.
Principal Consultant
Direct Line: 604.608.8914
Cell: 604.813.4952
Rick.Hoos@tetratech.com

Attachment A – Proposed Site for Geotechnical Investigation and New Housing Unit
Attachment B – EnviroTech D-50 Drill Specifications

From: [Hoos, Rick](#)
To: metisnation52@northwestel.net
Cc: [Girvan, Rob](#)
Subject: Geotechnical Assessment – Fort Simpson Air Tanker Base Resurfacing Fort Simpson, NT
Date: October 1, 2024 10:58:00 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[Geotechnical Drilling Program-Fort Simpson Fort Simpson Air Tanker Base Fort Simpson Métis.pdf](#)

Lisa:

Greetings and further to our recent telephone, attached please find our introductory letter which describes the proposed 4-hole geotechnical drilling program that Tetra Tech will be undertaking later this year on behalf of the Government of the Northwest Territories, Department of Infrastructure (GNWT-INF), following receipt of the required Mackenzie Valley Land and Water Board Land Use Permit.

Tetra Tech understands that the apron surface at the air tanker base needs to be repaired to determine the best options for repairing the apron, this geotechnical investigation is required to determine the soil conditions and potential presence of permafrost beneath the apron. Once the subsurface conditions are known, a report with options for potential repair options along with Class C cost estimates will be provided.

However, before submitting the necessary permit application, we would like to share the project information provided and to seek feedback on the ways that the Fort Simpson Métis might like to be engaged on this project. We would also like to discuss your thoughts regarding ongoing communications and engagement that you would like to be involved with related to the project as it goes through the permitting and project implementation phase.

Before mobilizing to the site, Tetra Tech will develop a project-specific safety plan, in consultation with the drilling contractor so that the safety features and any potential hazards of the equipment being used on the project are included in the Plan. The project will also have a community engagement plan, spill contingency plan and a waste management plan, all of which will be submitted to the MVLWB public registry for review and comment. Thanks very much and please advise if you have any initial questions or concerns.

Regards,

Rick

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October 1, 2024

Village of Fort Simpson
PO Box 438,
Fort Simpson, NT, X0E 0N0

ISSUED FOR USE
FILE: 704-ENG.YARC03667-01

Via Email: dwhite@fortsimpson.com
mgast@fortsimpson.com

Attention: Darrel White
Senior Administrative Officer

Mitch Gast
Operations Manager

Subject: Geotechnical Assessment – Fort Simpson Air Tanker Base Resurfacing Fort Simpson, NT

Greetings and further to my telephone call with Mitch of your office earlier today, this is to advise that Tetra Tech has been retained by the Government of the Northwest Territories, Department of Infrastructure (GNWT-INF) to conduct a Geotechnical Assessment for the Fort Simpson Air Tanker Base Resurfacing Project (Attachment A).

Tetra Tech understands that the apron surface at the air tanker base needs to be repaired. In order to determine the best options for repairing the apron, a geotechnical investigation is required to determine the soil conditions and potential presence of permafrost beneath the apron. Once the subsurface conditions are known, a report with options for potential repair options along with Class C cost estimates can be provided.

On behalf of the GNWT-INF, we will be applying for a Land Use Permit for this geotechnical assessment in the near future for the geotechnical investigation. However, before submitting the necessary permit application, we would like to share the following project information and to seek feedback on the ways that your organization might like to be engaged on this project. We would also like to discuss your thoughts regarding ongoing communications and engagement that you would like to be involved with related to the project as it goes through the permitting and project implementation phases.

In terms of schedule, we are planning to submit the required Land Use Permit application to the Mackenzie Valley Land and Water Board (MVLWB) by the end of September, so please let us know if you have any initial questions or concerns regarding this proposed geotechnical drilling program or wish to discuss further with us.

Tetra Tech proposes to use EnviroTech Drilling Solutions (EnviroTech) out of Yellowknife to complete the drilling (Attachment B). Four boreholes are planned, two to a depth of 10 m and two to 6 m to determine subsurface conditions beneath the apron. Tetra Tech will meet with airport officials to verify any buried utilities in the drilling area, and to confirm onsite working and communication protocols.

Boreholes will be drilled at the identified locations to the specified depths, or to refusal if encountered. The soils and ground ice encountered will be visually logged at the time of drilling in accordance with ASTM D2488, D4083-89 and the Guide to Field Description of Permafrost for Engineering Purposes (NRCC, 1963).

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Thanks very much and please advise if you have any initial questions or concerns.

Respectfully submitted,
Tetra Tech Canada Inc.

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Rick A.W. Hoos, M.Sc., R.P. Bio.
Principal Consultant
Direct Line: 604.608.8914
Cell: 604.813.4952
Rick.Hoos@tetrattech.com

Attachment A – Proposed Site for Geotechnical Investigation
Attachment B – EnviroTech D-50 Drill Specifications

APPENDIX D

PRE-SUBMISSION ENGAGEMENT LOG

**PRE-SUBMISSION ENGAGEMENT LOG
FORT SIMPSON AIRPORT, 2024 DRILLING PROGRAM**

AS OF: OCTOBER 08, 2024

Number	Affected Party and/or Attendees	Date	Engagement Activity Type	Issue(s) Raised by Affected Party	Recommendation from Affected Party	Proponent Response to Issue (was issue(s) resolved?)
1	Dehcho First Nations, Fort Simpson Grand Chief Herb Norwegian	25-Sept-2024	Introductory phone call left a message	No issues raised to date	Not needed	No issues raised to date
	Ms. Leona Tanche, Executive Director	01-Oct-2024	Email with attached letter describing proposed drill program provided	No issues raised to date	Not needed DFN would like to receive a copy of the Geotech Report	No issues raised to date
	Ms. Jessica Jumbo, Director of Lands and Resources	01-Oct-2024	Email from Leona advising us to engage with Jessica Jumbo	No issues raised to date		
		07-Oct-2024	Called Jessica and left detailed message	No issues raised to date		No issues raised to date
2	Líídlı́ Kúę First Nation, Fort Simpson	25-Sept-2024	Introductory phone call left a detailed message re the proposed airport drilling program	No issues raised to date	Not needed	No issues raised to date
	Ms. Liza McPherson, Executive Director	01-Oct-2024	Follow-up Email with attached letter describing proposed drill program provided	No issues raised to date	Not needed	No issues raised to date
	Derek Squirrel Acting Executive Director	02-Oct-2024	Called back discussed Project with Derek	No specific issue raised, suggested I call back end of week	Not needed	
		07-Oct-2024	Called back and discussed further with Derek	Derek indicated that this project	Not needed	No concerns expressed

Number	Affected Party and/or Attendees	Date	Engagement Activity Type	Issue(s) Raised by Affected Party	Recommendation from Affected Party	Proponent Response to Issue (was issue(s) resolved?)
				would not affect LKDFN interests		Recognized the importance of this project to firefighting efforts
3	Fort Simpson Métis52 Chief/President Daniel Peterson Ms. Lisa Thurber Executive Administrator	25-Sept-2024 01-Oct-2024	Introductory phone call with Lisa to describe proposed Airport drilling program introductory email with attached letter describing proposed drill program provided	No issues raised to date	Not needed	No issues raised
4	Village of Fort Simpson Darrel White Senior Administrative Officer Mitch Gast Operations Manager	25 Sept 2024 01 Oct 2024	Introductory phone call left detailed message and requested call back Follow-up phone call with Mitch	The Village indicated that they have no concerns as this project is not located within their jurisdiction as it is located on Federal Property	Not needed	No concerns expressed

APPENDIX E

COMMUNICATIONS WITH POTENTIALLY AFFECTED PARTIES TO DATE

No additional digital or hard copy communications were received

APPENDIX F

LIMITATIONS ON THE USE OF THIS DOCUMENT

LIMITATIONS ON USE OF THIS DOCUMENT

1.1 USE OF DOCUMENT AND OWNERSHIP

This document pertains to a specific site, a specific development, and a specific scope of work. The document may include plans, drawings, profiles and other supporting documents that collectively constitute the document (the "Professional Document").

The Professional Document is intended for the sole use of TETRA TECH's Client (the "Client") as specifically identified in the TETRA TECH Services Agreement or other Contractual Agreement entered into with the Client (either of which is termed the "Contract" herein). TETRA TECH does not accept any responsibility for the accuracy of any of the data, analyses, recommendations or other contents of the Professional Document when it is used or relied upon by any party other than the Client, unless authorized in writing by TETRA TECH.

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Where TETRA TECH has expressly authorized the use of the Professional Document by a third party (an "Authorized Party"), consideration for such authorization is the Authorized Party's acceptance of these Limitations on Use of this Document as well as any limitations on liability contained in the Contract with the Client (all of which is collectively termed the "Limitations on Liability"). The Authorized Party should carefully review both these Limitations on Use of this Document and the Contract prior to making any use of the Professional Document. Any use made of the Professional Document by an Authorized Party constitutes the Authorized Party's express acceptance of, and agreement to, the Limitations on Liability.

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1.2 ALTERNATIVE DOCUMENT FORMAT

Where TETRA TECH submits electronic file and/or hard copy versions of the Professional Document or any drawings or other project-related documents and deliverables (collectively termed TETRA TECH's "Instruments of Professional Service"), only the signed and/or sealed versions shall be considered final. The original signed and/or sealed electronic file and/or hard copy version archived by TETRA TECH shall be deemed to be the original. TETRA TECH will archive a protected digital copy of the original signed and/or sealed version for a period of 10 years.

Both electronic file and/or hard copy versions of TETRA TECH's Instruments of Professional Service shall not, under any circumstances, be altered by any party except TETRA TECH. TETRA TECH's Instruments of Professional Service will be used only and exactly as submitted by TETRA TECH.

Electronic files submitted by TETRA TECH have been prepared and submitted using specific software and hardware systems. TETRA TECH makes no representation about the compatibility of these files with the Client's current or future software and hardware systems.

1.3 STANDARD OF CARE

Services performed by TETRA TECH for the Professional Document have been conducted in accordance with the Contract, in a manner consistent with the level of skill ordinarily exercised by members of the profession currently practicing under similar conditions in the jurisdiction in which the services are provided. Professional judgment has been applied in developing the conclusions and/or recommendations provided in this Professional Document. No warranty or guarantee, express or implied, is made concerning the test results, comments, recommendations, or any other portion of the Professional Document.

If any error or omission is detected by the Client or an Authorized Party, the error or omission must be immediately brought to the attention of TETRA TECH.

1.4 DISCLOSURE OF INFORMATION BY CLIENT

The Client acknowledges that it has fully cooperated with TETRA TECH with respect to the provision of all available information on the past, present, and proposed conditions on the site, including historical information respecting the use of the site. The Client further acknowledges that in order for TETRA TECH to properly provide the services contracted for in the Contract, TETRA TECH has relied upon the Client with respect to both the full disclosure and accuracy of any such information.

1.5 INFORMATION PROVIDED TO TETRA TECH BY OTHERS

During the performance of the work and the preparation of this Professional Document, TETRA TECH may have relied on information provided by persons other than the Client.

While TETRA TECH endeavours to verify the accuracy of such information, TETRA TECH accepts no responsibility for the accuracy or the reliability of such information even where inaccurate or unreliable information impacts any recommendations, design or other deliverables and causes the Client or an Authorized Party loss or damage.

1.6 GENERAL LIMITATIONS OF DOCUMENT

This Professional Document is based solely on the conditions presented and the data available to TETRA TECH at the time the data were collected in the field or gathered from available databases.

The Client, and any Authorized Party, acknowledges that the Professional Document is based on limited data and that the conclusions, opinions, and recommendations contained in the Professional Document are the result of the application of professional judgment to such limited data.

The Professional Document is not applicable to any other sites, nor should it be relied upon for types of development other than those to which it refers. Any variation from the site conditions present, or variation in assumed conditions which might form the basis of design or recommendations as outlined in this report, at or on the development proposed as of the date of the Professional Document requires a supplementary investigation and assessment.

TETRA TECH is neither qualified to, nor is it making, any recommendations with respect to the purchase, sale, investment or development of the property, the decisions on which are the sole responsibility of the Client.