

Gwich'in Land and Water Board
~~Land Use Permit Application-Tsiigchtchic~~

December 20, 2002

**GWICH'IN LAND AND WATER BOARD
LAND USE PERMIT APPLICATION
BOX 2018 INUVIK NT XOE OTO
PH 867 777 4954 FX 867 777 2616**

SCHEDULE 2

(Subsection 19(2) of Mackenzie Valley Land Use Regulations)

INFORMATION IN SUPPORT OF AN APPLICATION FOR A LAND USE PERMIT

NEW APPLICATION

1. APPLICANTS NAME AND MAILING ADDRESS

NorthwestTel Inc.
P.O. Bag 2727
3rd Floor, 4114 - 4th Avenue
Whitehorse, Yukon
Y1A 4Y4

Telephone (867) 668-5385
Fax (867) 667-6636

Attention: Mr. Glenn Bushell

Agent for applicant: EBA Engineering Consultants Ltd.

6 - 151 Industrial Road,
Whitehorse, Yukon Y1A 2V3

Attention: Jack Dennett, P.Geo.(BC)

Telephone: (867) 668-2071 ext. 30 - Fax: (867) 668-4349
e-mail: jcdennett@eba.ca

2. HEAD OFFICE ADDRESS

Same as above

3. OTHER PERSONNEL

Personnel on Site:	EBA Engineering Consultants	<u>1</u>	(3 days)
	Line cutting crew to clean trail	<u>2</u>	(1-2 days)
	Drilling Contractor	<u>2</u>	(2 days)
	Surveying Contractor	<u>2</u>	(2 days)
Total Number of Persons on Site:		<u>7</u>	

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4. ELIGIBILITY (Refer to section 18 of the Mackenzie Valley Land Use Regulations)

(a) (i)

(a) (ii)

(a) (iii)

(b) (i)

(b) (ii)

5. SUMMARY OF OPERATION (Describe purpose, nature and location of all activities)

a) Summary of Operation

Purpose: The purpose of the land use activity is geotechnical testing of surficial material and shallow bedrock. The geotechnical testing is required to establish ground conditions in order to design foundations for a guyed communication tower.

The proposed land use activity is 4 shallow investigative boreholes at the tower site. The boreholes are estimated to be approximately 8 m in depth and 15 cm in diameter. A tracked prospector drill rig with reverse circulation air drilling, operated by Midnight Sun Drilling, would be used. A photograph of the equipment is appended to this application.

Location: The site is located on a hilltop approximately 750 m northeast of the north terminus of the ferry over the Mackenzie River at Tsiigehtchic (Figure 1). No permanent access road is proposed for the future development at the site. To conduct the geotechnical testing proposed in this application, the site will be accessed by following trails and old cut lines, with the trailhead located at km 147 on the Dempster Highway, approximately 4.3 km north the north terminus of the ferry over the Mackenzie River. The drill will travel overland for a distance of approximately 5 km to the study site. About 2 km of the route will follow old trails and cut lines, with the remaining distance overland. Some brushing may be required along the old trail and cut lines. The overland section will follow unforested areas where possible. Some parts of the overland route will require tree removal to allow passage of the self-propelled, tracked drill. Trail cutting to allow access and drilling is estimated to affect less than one-half hectare in area.

Note that this permit application is for a geotechnical testing program only; permits for construction of a tower will be applied for separately.

The proposed geotechnical exploration program will not impact the following: dams, ditches, railroads, roads, transmission lines, pipelines, survey lines, monuments, air landing strips, trap lines or cabins. No known historical or archaeological sites have been identified; however, this should be confirmed by the appropriate agency responsible for inventorying such sites.

No camp is to be set-up. Personnel will be accommodated in the town of Ft. McPherson.

6. SUMMARY of POTENTIAL ENVIRONMENTAL and RESOURCE IMPACTS

(Describe the effects of the proposed land-use operation on land, water, flora and fauna and related socio-economic impacts)

Land

Impact to the land is anticipated to be minimal. The site is located on a local height of land and is relatively dry. It is underlain by a veneer to blanket of till and weathered bedrock over well-bedded, flat-lying sedimentary bedrock. The area lies within the zone of continuous permafrost. The borehole testing program will be carried out in the winter and negligible impact to the soil or vegetative mat is anticipated. Cuttings from the boreholes are expected to be minimal and will be back-filled into the borehole, with any remaining soil being dispersed at the site. No permanent access road is proposed. Access to the site for testing will follow an existing trail and cut lines for part of the route. The remaining overland part of the route will follow open areas wherever possible. Forested areas of the overland route will require some cutting of trees to allow passage of the tracked drill.

Water

There is no anticipated permanent impact to any local watercourses. One stream will be crossed to access the site. The stream is located approximately 400 m east of the Dempster Highway trailhead. The stream flows south through a very steep gully before entering the Mackenzie River, close to 2 km downstream. The stream will be crossed while it is frozen (winter condition) and the stream will not be crossed during open water conditions. The crossing of the stream channel is along an existing trail to minimize clearing of vegetation. A snow ramp will be constructed with ice and snow to make a temporary crossing-over of the frozen stream channel. No other material will be used. Upon completion of the project, the snow ramp will be v-notched or otherwise removed.

The overland route may involve the crossing of 2 small lakes. Lake crossings will be located to minimize approach grades and length of crossing.

The Mackenzie River is located approximately 500 m horizontal and 70 m vertical from the test site. No impact to the river from the proposed activity is foreseen. Water will not be used for the drilling process.

Flora and Fauna

The access route passes through open areas with willow and other low to medium height bushes and mixed conifer and deciduous forest. Trees are relatively widely spaced in the forested areas. Selecting a path with least impact wherever possible will minimize tree removal required for access to the proposed tower site. The study area is typical of the topography in the region and is not anticipated to encompass unique ecosystem characteristics.

Least Environmental Impact Strategy

Access and test sites will be chosen using a least-impact strategy. Wherever possible, the path of least impact will be selected to access test sites. An access trail to be followed by the drill will be narrow, will follow existing trails and cut lines wherever possible, and only those trees

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required to permit passage will be cut. The visual impact of the trail is anticipated to be negligible. No introduced material will be left at the site.

No camp, buildings, or fuel caches are to be set up. No equipment or material is to be left at the study area. Once sampling and mapping of boreholes is complete, minimal borehole cuttings will be back-filled into the holes with excess dispersed at the site.

Socio-Economic Impacts

No adverse socio-economic impacts are anticipated.

7. PROPOSED RESTORATION PLAN

Disturbance to the area will consist of cutting of some trees to allow access along an overland route and drilling of boreholes (4 holes are estimated). The drill holes are expected to be 15 to 20 centimetres in diameter at the surface. Some borehole cuttings will be back-filled into the hole. Excess material will be dispersed at the site. Any trees that are cut will be limbed, bucked and laid flat. At the close of testing, the site will be inspected to ensure that no foreign material is left at the site. Upon completion of the project, the snow ramp at the stream crossing will be v-notched or otherwise removed.

8. OTHER RIGHTS, LICENSES or PERMITS RELATED to this PERMIT APPLICATION

(Mineral rights, timber permits, water licenses, etc.)

No mineral rights have been or will be applied for. No timber permits are applicable. There will be no water use or disposal as a result of the proposed operation and no water license has been applied for.

A permit to Access Gwich'in Settlement Lands for the geotechnical testing is being applied for concurrent with this application.

Permits for land use, from the Gwich'in Land and Water Board, and for access, from the Gwich'in Land Administration, for the construction of a tower will be applied for separately.

9. ROADS:

No roads are to be constructed to carry out the proposed geotechnical testing program. Access to the test site by the tracked drill will involve following existing trails and cut lines in part and also involve some overland traversing. Some new trail may be created in discontinuous forested areas by cutting of trees but preserving ground vegetation and low bushes. The access route is approximately 5 km long.

10. PROPOSED DISPOSAL METHODS

- a) Garbage Negligible garbage will be generated by the proposed activities. All sites evaluated during the field program will be maintained free of litter and all used materials will be kept with the equipment for removal upon demobilization. Such garbage will be collected and removed to a suitable landfill or other approved disposal site.
- b) Sewage (Sanitary and grey water) No formal sewage facilities will be required on site. Crews will be based in Ft. McPherson and work at the site will be completed within 2 to 3 days.

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- c) Bush and trees Wood debris from any cutting of trees required will be limbed and bucked up in place. Limbs and trunk sections will be laid flat.
- d) Overburden (organic soils, waste material, etc.) No removal of overburden will be undertaken. Disturbed soils will be limited to borehole cuttings. Cuttings from boreholes are expected to be minimal and will be back-filled, with excess material dispersed at the site.

11. EQUIPMENT

(Includes drills, pumps, etc.)

Type and Number	Size	Proposed Use
<u>Rig #2 1994 Prospector Drill</u>	<u>2.5 m X 5.8 m</u> <u>16,400 kg.</u>	<u>borehole drilling</u>
Snowmobiles		transport of personnel and accessory equipment

12. FUEL

Diesel		No fuel of any kind will be stored at the study area. Fuel required for equipment is expected to be limited to internal fuel tanks on the equipment (Rig #2 capacity is 500 litres). If re-fuelling is required, diesel fuel will be transferred to the drill from a tidy tank hauled by snowmobile. A spill kit will be kept on site during all drilling operations. Equipment will be checked to ensure all hydraulic connections are secure and leak-free prior to the work.
Gasoline	No	
Aviation fuel	No	
Propane	No	
Other	No	

13. CONTAINMENT FUEL SPILL CONTINGENCY PLANS

- On-site fuel or hydraulic oil will be limited to that contained in the on-board, integral fuel tanks of the equipment.
- Any potential spill would be of a small volume and would immediately be treated with absorbent pads and, if necessary, contained with a berm or boom.
- A spill kit will be kept on-board the equipment and will provide an immediate source of absorbent pads in the event of a small spill.
- Contaminated absorbent pads would be removed from the construction site for disposal in a manner that satisfies regulatory requirements.
- In the event of a fuel spill, the spill will be reported to the appropriate regulatory agency. The 24-hour emergency report telephone numbers for oil spills or other environmental emergencies are (867) 920-8130 or (867) 873-6924.
- Canada Department of Environment, telephone (867) 667-3400.

14. METHODS of FUEL TRANSFER

Fuel for equipment is expected to be limited to internal fuel tanks on the equipment. If re-fuelling is required, diesel fuel will be transferred to equipment from a secure tank hauled by snowmobile.

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15. PERIOD OF OPERATION

(Includes time to cover all phases of project applied for, including restoration.)

Three days are estimated to complete the work, including restoration. The work is dependent on snow cover and ground conditions, and is proposed to be completed in January or February 2003.

16. PERIOD OF PERMIT

Start Date January 15, 2003

Completion Date April 15, 2003

17. LOCATION OF ACTIVITIES BY MAP COORDINATES

Minimum latitude (degree, minute)

67° 27' 30"

Maximum latitude (degree, minute)

67° 29' 40"

Minimum longitude (degree, minute)

133° 43' 45"

Maximum longitude (degree, minute)

133° 46' 35"

Map Sheet Number 106N/5

18. APPLICANT

Name for Glenn Bushell

Signature [Handwritten Signature] for Northwestel Inc.

Date 20 Dec '02

19. FEES

Type A \$150 \$ 150

Type B \$150 \$ _____

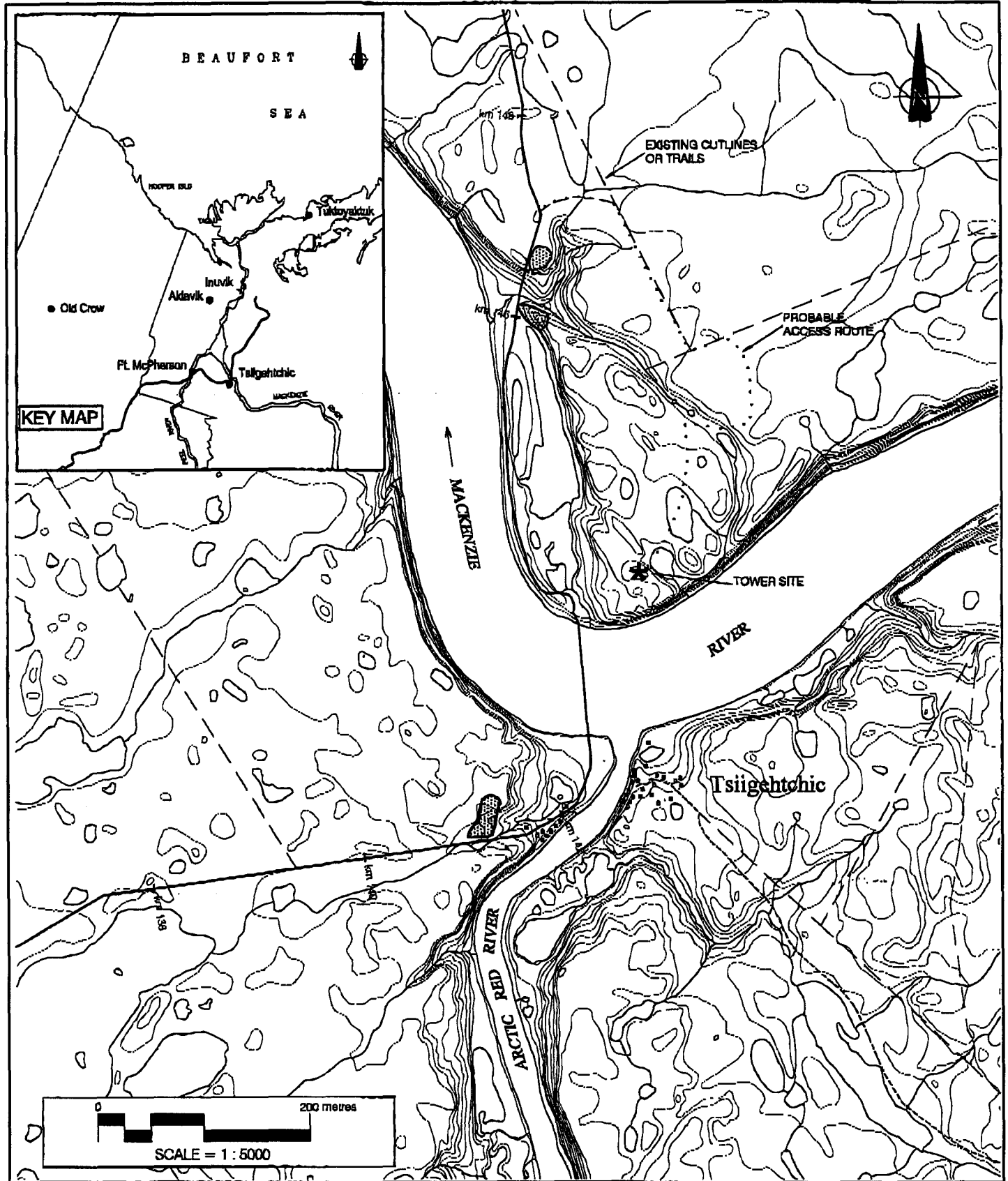
Land Use Fees 0.5 hectares @ \$50.00/hectare \$ 50

Assignment fee \$50 \$ _____

FOR OFFICE USE ONLY

Application Fee Amount: \$ _____ Receipt No.: _____

Water Use Deposit Amount: \$ _____ Receipt No.: _____



 **EBA Engineering Consultants Ltd.**

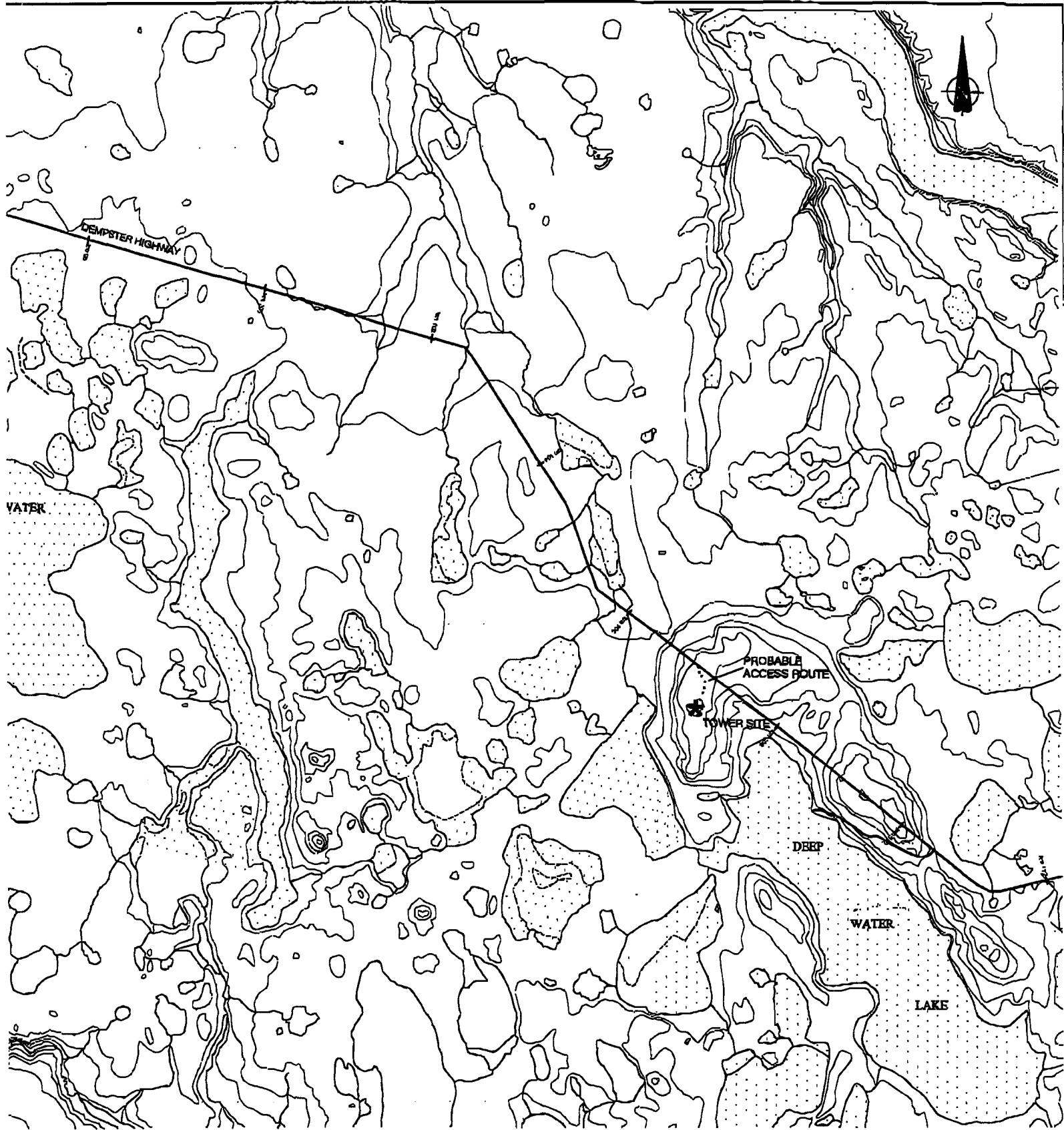
PROJECT **GEOTECHNICAL BOREHOLE TEST PROGRAM
PROPOSED NWTel TOWER SITES, FT. McPHERSON, NWT.**

CLIENT **Northwestel Inc.**

TITLE **LOCATION MAP SHOWING PROPOSED
ACCESS ROUTE AND TOWER SITE**

DATE DEC. 2002 DWN. JSB GHKD. JTD

FILE NO. 0201-1200032 nrvw FIGURE 2



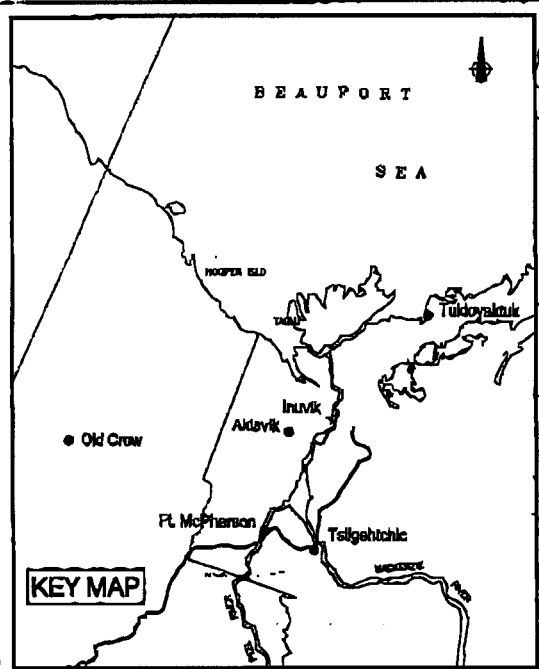
 **EBA Engineering Consultants Ltd.**

PROJECT GEOTECHNICAL BOREHOLE TEST PROGRAM
PROPOSED NORTHWEST TOWER SITES, FT. McPHERSON, NWT.

CLIENT  **NorthwestTel Inc.**

TITLE **LOCATION MAP SHOWING PROPOSED ACCESS ROUTE AND TOWER SITE**

DATE	DEC. 2002	DWN.	JSB	CHKD.	JTD	FILE NO.	0201-1200032	DRWG.	FIGURE 1
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SCALE = 1 : 60,000

CLIENT

DATE