



Site Selection and Justification Report
Telecommunications Antenna System Proposal

Charleston Lake South Tower Site

2902 Outlet Road, Leeds and the Thousand Islands ON, K0E 1L0



Location Coordinates: 44.4788, -76.0450
Tower Height: 76 metres
Structure Type: Freestanding Telecommunications Tower
Purpose: Wireless Broadband Infrastructure Deployment

Submitted by:
Kingston Online Services
303 Bagot St., Suite 16A, Kingston ON, K7K 5W7
planning@kos.net | 613-549-8667



1. Introduction

This report provides a justification for the proposed installation of a 76 metre self-supporting telecommunications tower at 2902 Outlet Road in the Township of Leeds and the Thousand Islands. The facility, proposed by Kingston Online Services (KOS), is intended to expand high-speed fixed wireless internet service—delivering speeds of up to 250 Mbps to local residences—while also providing critical backhaul connectivity to other sites within the Township of Leeds and the Thousand Islands and the Township of Front of Yonge.

The report demonstrates that alternative sites and co-location opportunities have been considered, and that the proposed site minimizes environmental, visual, and land use impacts while meeting the technical requirements of the network.

2. Site Selection Process

- **Alternative Sites Considered**

A search ring was defined based on topography and existing service gaps. Three other parcels were reviewed within this ring however:

- Several parcels were heavily treed and presented access challenges.
- Several parcels had significant wetland coverage.
- The proposed site at 2902 Outlet Road offered the best balance of elevation, landowner willingness, and existing access.

- **Co-location Opportunities**

A review of the ISED database confirmed that the nearest available structures are technically unsuitable, as they do not provide adequate coverage of the identified service gap nor the required downstream backhaul connectivity.

- **Justification for Proposed Site**

2902 Outlet Road is centrally located within the identified coverage gap, has existing access via Outlet Road, and sits on cleared farmland that avoids sensitive features. The landowner has consented to host the facility, making this the most technically and practically viable option with minimal environmental impact.

3. Existing Conditions

- **Vegetation and Screening Features**

The site is located on open agricultural land, with hedgerows and mature trees present along the lot lines. These features provide natural screening for the base the structure while leaving the upper tower visible.



- **Address & Access**

Direct access is available from Outlet Road, a municipal roadway with safe, low-volume traffic suitable for construction and maintenance.

- **Natural Heritage Features**

Township GIS and provincial mapping confirm wetlands exist nearby but not within the tower footprint. No ANSIs or significant woodlots will be directly affected. The Cataraqui Region Conservation Authority has confirmed no impact to regulated features.

- **Natural Hazard Features**

No floodplains, steep slopes, or erosion hazards are present at the tower location.

- **Proximity of Public Roadways**

The facility will be set back more than 100 metres from Outlet Road, reducing roadside visibility.

4. Design and Technical Rationale

- **Proposed Height**

The proposed 76 metre tower height is necessary to clear the local tree canopy (averaging 20 metres to 25 metres) and undulating terrain. A shorter structure would not provide reliable line-of-sight coverage or effective backhaul connectivity.

- **Structure Design and Colouration**

A 76 metre self-supporting lattice tower with a natural galvanized steel finish. The structure will be anchored on three reinforced concrete foundations measuring 1.5 metres by 1.5 metres spaced approximately 4.5 metres apart. This tower will not require guy wires, further reducing the footprint.

- **Lighting**

Under Transport Canada Standard 621, structures under 90 metres in height are normally not required to have obstruction lighting unless identified as a concern through NAV CANADA's aeronautical assessment. For this proposal, Kingston Online Services has submitted applications to NAV CANADA and Transport Canada and is awaiting a determination. Should lighting be required, shielded red obstruction lighting will be installed to minimize visual impact.

5. Potential Impacts and Mitigation

- **Residential Uses**

The nearest residence is located over 70 metres from the proposed site. With vegetation screening and the tower, visual impacts will be minimized. No noise, vibration, or emissions beyond federal standards are anticipated.



- **Viewscapes**
While the tower will be visible from certain vantage points, the surrounding tree cover and rural character help reduce its prominence.
- **Institutional and Recreational Uses**
There are no schools, parks, or community facilities in close proximity to the site. No adverse impacts on recreational activities are anticipated.
- **Land Use**
The facility footprint is approx. 10 square metres which would be negligible and will not interfere with surrounding rural or residential uses.
- **Other Impacts**
The installation will comply with all applicable regulations, including ISED's CPC-2-0-03 and Health Canada's Safety Code 6, ensuring no risk to public health or safety. Access will use an existing farm entrance, avoiding new disturbance.

6. Conclusion

The proposed telecommunications tower at 2902 Outlet Road, Leeds and the Thousand Islands represents the most suitable and technically viable location to address a significant broadband service gap in the Charleston Lake South area.

This site provides:

- Optimal technical performance at 76 metre height
- Minimal environmental and cultural impacts
- Compatibility with surrounding rural land uses
- Safe and efficient access from Outlet Road

Based on these considerations, the site is justified as the preferred and most viable location for the proposed facility.



Proposed 76 m Self-Support Telecommunications Tower 2902 Outlet Road, Leeds and the Thousand Islands

Prepared by: Kingston Online Services
Date: 2025-09-03
Scale: 1:1500

Latitude: 44.4788°N
Longitude: 76.0450°W



0 37.5 75 150 Metres





ServiceOntario

PARCEL REGISTER (ABBREVIATED) FOR PROPERTY IDENTIFIER

LAND
REGISTRY
OFFICE #28

44301-0161 (LT)

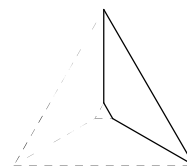
PAGE 1 OF 1
PREPARED FOR KOS
ON 2025/10/01 AT 10:26:08

ONLAND

PROPERTY DESCRIPTION:

PT LT 14 CON 6 LANSDOWNE AS IN LR139244; S/T 17L9918; LEEDS/THOUSAND ISLANDS

NOTE: ADJOINING PROPERTIES SHOULD BE INVESTIGATED TO ASCERTAIN DESCRIPTIVE INCONSISTENCIES, IF ANY, WITH DESCRIPTION REPRESENTED FOR THIS PROPERTY.
NOTE: ENSURE THAT YOUR PRINTOUT STATES THE TOTAL NUMBER OF PAGES AND THAT YOU HAVE PICKED THEM ALL UP.



1. Limit State Design
2. FACTORED LOADING
3. TYPICAL DESIGN NOT FOR CONSTRUCTION
4. Max T/T=<2.15Deg at Yr10 wind for HP2

NO	ELEV	ANTENNA	TX-LINE
1-3	246.1'	(3) Tarana BN	(6)-Fiber
4	226.4'	(1) ePMP4600	(1)-Fiber
5	98.4'	(1) GX-80 2ft Dish	(2)-Fiber
6	105'	(1) ePMP4600	(1)-Fiber
7	196.9'	(1) GX-80 2ft Dish	(2)-Fiber
8	203.4'	(1) ePMP4600	(1)-Fiber
9	114.8'	(1) 850EX-P 3ft Dish	(2)-Fiber
10	111.5'	(1) ePMP4600	(1)-Fiber

NO	TYPE
A	SR 2-3/4" ^①
B	SR 2-1/4" ^②
C	SR 1-3/4" ^③
D	SR 1-5/8" ^④
E	SR 1-1/2" ^⑤
F	SR 1-3/8" ^⑥
G	SR 1-1/4" ^⑦
H	SR 1-1/8" ^⑧

H=21.48 k
V=73.01 k
M=2127.65 k-ft
T=-10.26 k-ft

H=13.88 k
V=173.94 k
U=-152.04 k



Fax: (519) 650-5088

Date: 26 sep 2025

Tower Height: 250.00'

Design Wind & Ice: $Q_e=470\text{Pa}$ wind, 30mm ice

WILLIAMS SUPER HIGH TENSILE ROCK BOLT INSTALLATION INSTRUCTIONS:

BOLT DIAMETRE = 1-3/8"
 REQUIRED HOLE DIAMETRE IN ROCK = 2-1/2"
 WILLIAMS PART No. R1S11B20
 TORQUE TO SET SHELL: 750 ft-lbs
 PRE-TENSION LOAD: 90 kips

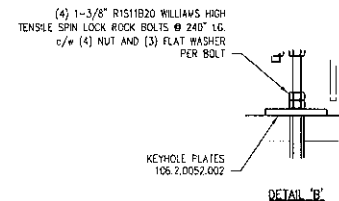
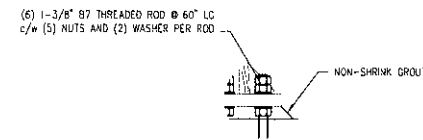
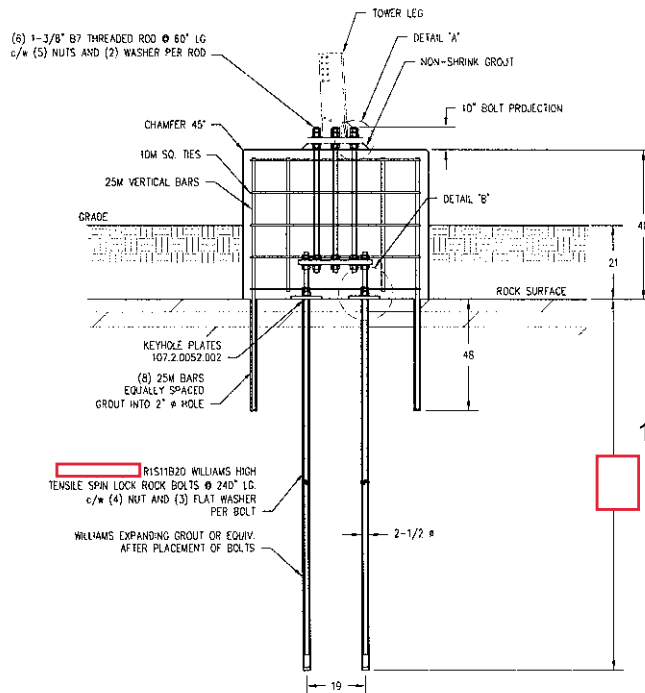
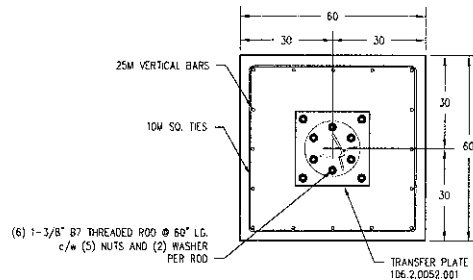
PROCEDURE

1. DRILL HOLE TO PROPER SIZE, BATHET AND DEPTH SHOWN ON DRAWING. DRILL HOLE 12" DEEPER THAN EMBEDMENT LENGTH.
2. PLACE WILLIAMS ROCK BOLT IN POSITION IN THE HOLE WITH SUFFICIENT PROJECTION. TORQUE THE BOLT TO 750 ft-lbs TO PROPERLY SET THE SHELL. IF SHELL DOES NOT ENGAGE WITH ROCK, REFER TO PROJECT ENGINEER.
3. IF SHELL DOES NOT ENGAGE WITH ROCK, REFER TO PROJECT ENGINEER.
4. PLACE SMALL AMOUNT OF QUICK SETTING GROUT AROUND THE TOP OF THE BOLT HOLE WHILE AT THE SAME TIME INSTALL THE AIR GROUT TUBE 12" LONG AND BEARING PLATE.
5. CLEAN THREADS ABOVE THE BEARING PLATE AS WELL THE NUTS WITH OIL. USE A PULL JACK TO APPLY TENSION LOAD OF 90 kips INTO THE BOLT AND INSTALL SECOND NUT TO LOCK IT.
6. BLOW COMPRESSED AIR AROUND THE ROCK BOLTS TO CLEAN THE HOLE. PUMP STANDARD NON-SHRINK GROUT AROUND BOLT UNTIL CONTINUOUS FLOW OF GROUT IS VISIBLE COMING OF AIR TUBE. THE GROUT SHALL HAVE A STRENGTH OF 27.5 MPa.
7. CONSULT WILLIAMS' INSTALLATION PROCEDURES FOR ADDITIONAL INFORMATION.

FOUNDATION NOTES:

1. CONTRACTOR SHALL FIELD CHECK ALL DIMENSIONS BEFORE PROCEEDING WITH WORK.
2. FOUNDATION DESIGNED BASED ON GEOTECHNICAL REPORT BY JACQUES WHITEFORD LTD REF# 1017800 DATED SEPT 27, 2006.
3. FOUNDATION BASE SHALL BE PLACED AGAINST ROCK SURFACE.
4. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 30 MPa AT 28 DAYS. AIR ENTRAINMENT OF 5% - 7% SHALL BE USED.
5. BACKFILL SHALL BE PLACED IN LIFTS NO GREATER THAN 6" (150mm) AND COMPACTED TO A MINIMUM OF 95% OF STANDARD PROCTOR.
6. ALL BACKFILL MATERIAL SHALL BE FREE OF DEBRIS, WATER, ORGANIC MATERIAL, ICE ETC...
7. FOUNDATION DESIGNED IN ACCORDANCE TO CAN/CSA-A23.1-04 & CAN/CSA-A23.3-04.
8. CONCRETE WORK IN ACCORDANCE TO CAN/CSA-A23.1-04 & CAN/CSA-A23.3-04.
9. REINFORCEMENT FOR CONCRETE IN ACCORDANCE WITH CAN/CSA-A23.3-04.

250ft 180" SST - Charleston Lake South, ON



(4) 1-1/4" rock bolts

R1S11B20 WILLIAMS HIGH TENSILE SPIN LOCK ROCK BOLTS 240" LG. c/w (4) NUT AND (3) FLAT WASHER PER BOLT

WILLIAMS EXPANDING GROUT OR EQUIV. AFTER PLACEMENT OF BOLTS

16ft in Rock

REINFORCING BAR CHART				
QTY	SIZE	DM "A"	SPACED	DESCRIPTION
B	25M	42"	EQUALLY	← A →
5	10M	54"	11-1/2" c/c	← A →
B	25M	93"	EQUALLY	← A →

Rev.	Rev'd By	App'd By	Rev. Description	Date	Rev.	Rev'd By	App'd By	Rev. Description	Date
A	MD		ISSUE FOR APPROVAL	07 MAR 27					
B	MD		REVISED AS PER VARIOUS COMMENTS	07 APR 20					
C	MD		REVISED AS PER VARIOUS COMMENTS	07 APR 27					

1. ALL DIMENSIONS IN

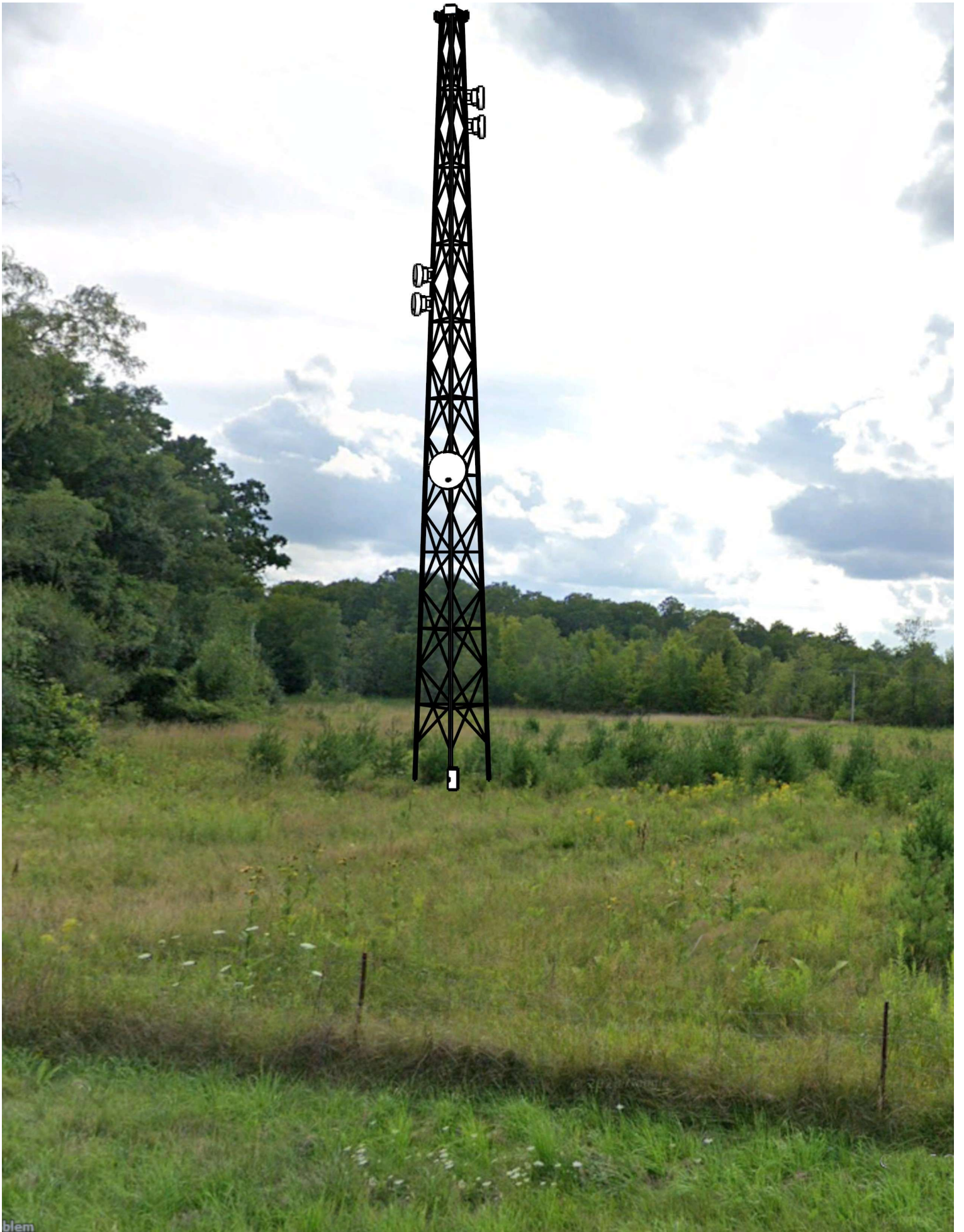
Good Dry Rock
 Typical Not for Construction

ALLAN PIPE FAB INC.
 395 DORRIS DRIVE
 CAMBRIDGE, ON, CANADA
 P: (519) 622-6013 F: (519) 622-7062

Drawn By: [] Checked By: [] Date: 27 Scale: 1:25

Job No: 2935

Drawing Title: FOUNDATION DETAILS Drawing No: 2935.970.106-1





THIS LEASE made this first day of October 2025, between:

MICHAEL WEBSTER

Hereinafter called the "Landlord"

and

1085459 ONTARIO LTD., carrying on business as

KINGSTON ONLINE SERVICES

hereinafter called the "Tenant"

WHEREAS:

1. The Landlord is the owner of the property located at 2902 Outlet Road (the "Land"), legally described as:

2902 Outlet Road
Leeds and the Thousand Islands, ON
K0E 1L0

2. The Landlord has agreed to grant the Tenant the right to place wireless internet equipment on part of the Land as shown on Schedule "A" attached hereto, (the "Leased Land"), including to construct and install:

A 250-foot freestanding tower for the purpose of providing wireless internet services to the surrounding area

NOW THEREFORE WITNESS that in consideration of the mutual rights and obligations herein expressed and for other good and valuable consideration (the receipt and sufficiency of which are hereby acknowledged), the parties agree as follows:

The Landlord warrants that he/she/it is the only person/entity with an ownership interest in Land (save and except for any mortgage interests) and agrees to compensate the Tenant for any damages arising from another owner/co-owner who makes any claim or causes any disruption or interference with the license granted herein.

IN WITNESS WHEREOF the parties have executed this Lease on the date thereafter written.

Tenant



Per:
Authorized signing officer

Landlord



Per:
Authorized signing officer

Subject: RE: Permit Inquiry Form #10553-186 2902 Outlet Rd, LTI
From: Development <Development@crca.ca>
Date: 2025-08-27, 8:20 a.m.
To: "dfenato@kos.net" <dfenato@kos.net>

Hi Dominic

Staff have reviewed your development proposal (drawing attached) and have concluded that the proposed location for the development is not within an area that is subject to Ontario Regulation 41/24. Therefore, a Cataraqui Conservation permit is not required for this development. We would also encourage you to contact the municipalities planning and building department to inquire about any limitations or restrictions that may also apply from a municipal zoning and building perspective.

Regards

Rhonda Roantree
Resource Planning Clerk



2069 Battersea Rd, Glenburnie ON, K0H 1S0
Phone: (613) 546-4228 ext. 220
Toll-Free: 1-877-956-2722
Fax: (613) 547-6474
Web: www.CataraquiConservation.ca

Please note individuals should schedule an appointment with Cataraqui Conservation staff for any in-person inquiries relating to planning and permitting matters. Contact me or visit <https://cataraquiconservation.ca/pages/appointment> to do so.

Cataraqui Conservation sits on the traditional lands of the Haudenosaunee & Anishinabek peoples, and we want to thank the Indigenous people for their continued care and protection of All of Our Relations on this shared land.

From: postmaster@email.pifyapp.com <postmaster@email.pifyapp.com>
Sent: August 26, 2025 2:23 PM
To: Development <Development@crca.ca>
Cc: Krista Fazackerley <Kfzackerley@crca.ca>
Subject: Permit Inquiry Form #10553-186

Permit Inquiry Form

- First Name : Dominic
- Last Name : Fenato
- Email : dfenato@kos.net
- Phone : [REDACTED]
- Civic Address of Property (if you don't know/have a civic address, please add the street name or closest civic address to the property) : 2902 Outlet Rd
- Municipality : Leeds and Thousand Islands
- Lot : 14
- Concession : 6
- Ward :
- Waterbody :
- Coordinates (Latitude/Longitude) : 44.4788, -76.0450
- Select from the following list : :
 - New Building/Structure
- Other :
- Does the project require any of the following? :
- Has a previous application been filed for this property? : Unknown
- Brief Description of Work (2-3 sentences to give us a general understanding) :

We are looking to build 76 m self support tower. The tower would have 3 foundations each 1.5 m x 1.5 m spaced 4.5 m apart. The location is already accessible and we would not cut down any trees.
- Upload a sketch/drawing indicating location of development on the property. : [File](#)

— Attachments:

bnbovp202508270222282902OutletRoad-Site.pdf

574 KB



Sample Public Notification Letter



Dear Resident,

Kingston Online Services (KOS) is proposing to install a 76 metre freestanding telecommunications tower at 2902 Outlet Road, in the Township of Leeds and the Thousand Islands. This facility would be capable of delivering next generation high-speed wireless broadband service up to 250 Mbps to underserved homes in the Charleston Lake area.

About the Proposed Facility

- **Height & Design:** A 76 metre self-supporting lattice tower with a natural galvanized steel finish. The structure will be anchored on three reinforced concrete foundations measuring 1.5 metres by 1.5 metres spaced approximately 4.5 metres apart. This tower will not require guy wires, further reducing the footprint.
- **Compound:** A small equipment cabinet at the base; no large compound or building required.
- **Lighting:** Under Transport Canada Standard 621, structures under 90 metres in height are normally not required to have obstruction lighting unless identified as a concern through NAV CANADA's aeronautical assessment. For this proposal, Kingston Online Services has submitted applications to NAV CANADA and Transport Canada and is awaiting a determination. Should lighting be required, shielded red obstruction lighting will be installed to minimize visual impact.
- **Safety Compliance:** The facility will meet all applicable federal requirements, including ISED CPC-2-0-03 and Health Canada's Safety Code 6. An anti-climb system will be installed on the lower sections of the tower to enhance public safety and security.

Why This Location?

- Centrally located within the identified broadband coverage gap.
- Provides reliable line-of-sight over local tree canopy and terrain.
- Avoids sensitive environmental features such as wetlands and significant woodlots.
- Supported by the landowner, with direct access from Outlet Road.

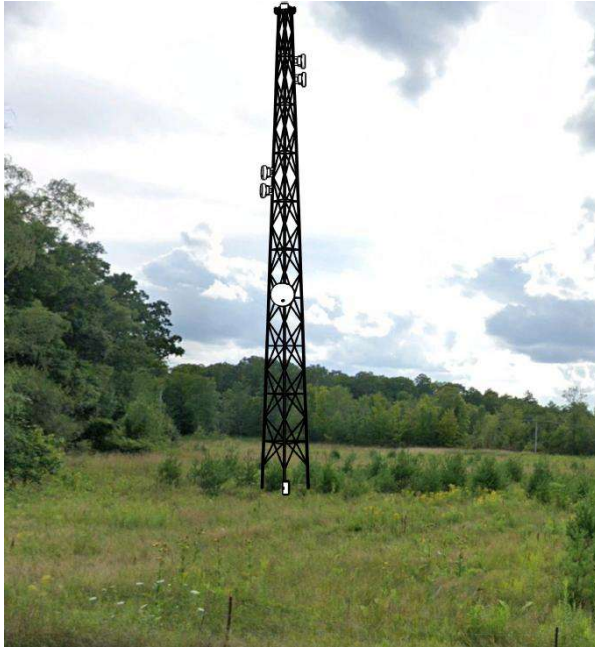
Potential Impacts

- **Residential:** The nearest residence is more than 70 metres away; visual impacts will be minimal due to tree screening and tower profile.
- **Agricultural:** Facility footprint is approximately 10 square metres, with negligible effect on farmland.
- **Environmental:** The proposed site is located outside regulated wetlands and hazard lands, as confirmed through consultation with the Township of Leeds and the Thousand Islands and the Cataraqui Region Conservation Authority. It is situated on open land with existing access,



eliminating the need to disturb trees or vegetation and thereby minimizing environmental impacts.

Simulated tower view



Public Consultation

In accordance with Innovation, Science and Economic Development Canada (ISED) requirements, Kingston Online Services is notifying the public and inviting comments.

- **Comment Period:** Written comments will be accepted for 30 days from the date of this notice.
- **How to Submit:**
 - **Mail:** Kingston Online Services, 303 Bagot Street, Suite 16A, Kingston ON, K7K 5W7
 - **Email:** planning@kos.net
- A community information session will be held _____

We encourage you to share any questions or feedback. KOS is committed to working with residents, the Township of Leeds and the Thousand Islands, and federal regulators to ensure this facility is designed and operated responsibly.

Sincerely,
Kingston Online Services
303 Bagot Street, Kingston ON, K7K 5W7
planning@kos.net | www.kos.net