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1.0

INTRODUCTION

The Biglieri Group Ltd. ("TBG") has been retained by SBA Canada ("SBA") to coordinate the planning applications and approvals necessary to permit the proposed communication tower at 2876 Highway 121 in the City of Kawartha Lakes.

Wireless services, such as mobile phones and broadcasting, are increasingly consumed by and are important to Canadians. These services are used daily by consumers, businesses, police, fire fighter and ambulance services, as well as all levels of government, air navigation systems and national defence.

For wireless systems to work effectively and meet increasing demand, antenna systems are required to be installed on towers or similar structures in order to provide coverage and deliver the services needed by consumers in a given area. Innovation, Science and Economic Development Canada, the Federal Government department which regulates the deployment of antenna systems, including communication towers, encourages the building of multi-tenant towers and antenna site sharing. SBA's business is built on sharing.

As Canada's focused and independent tower company, SBA promotes its towers and sites to all radio network users, including mobile phone operators, broadcasters, police services, utilities and municipalities. SBA is committed to bringing customers the very best in tower and antenna site services. They operate in accordance with all applicable policies, work hard to maintain effective community liaisons, and work closely with all stakeholders in the siting process.

There is ever-growing consumer demand for wireless products in Canada. Additional mobile operators are bringing attractive new choices for consumers, and new technologies that allow for a

richer "high speed" wireless experience. To support these new and improved services, additional antenna sites and communications facilities are often necessary at specific geographical locations. SBA is continually seeking to augment their portfolio in order to provide quality antenna site services to wireless operators, who in turn can introduce or improve their network capabilities for the benefit of a community's residents and businesses.

SBA has identified the area surrounding the intersection of Highway 121 and Highway 49 in the City of Kawartha Lakes as an area in need of new wireless infrastructure in order to support the requirements for improved service for mobile service providers. TBG, on behalf of SBA, has worked to identify an acceptable tower location that will provide improved wireless coverage. This Report will provide further information about the Site Selection process, SBA's proposed tower design and compliance to general requirements.



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2.0

JURISDICTION

The Federal Government has exclusive jurisdiction over the installation or modification of antenna systems in Canada. Wireless communications and broadcast operators in Canada are licensed by the Department of Innovation, Science and Economic Development Canada. Innovation, Science and Economic Development Canada is the approval authority for proposed communication facilities through the exclusively federal jurisdiction vested in the Radiocommunications Act Section 5(1) (a) (i.1).

Typically, the Provinces have devolved land-use matters and responsibility to the local level through municipal governments. Radiocommunications facilities are considered a federal undertaking as they are authorized under the federal Radiocommunications Act and overseen by the Minister of Innovation, Science and Economic Development. However, proponents of telecommunications towers must still comply with both Provincial and Federal regulations. Local Land-Use Authorities (LUAs) follow a different review process for radiocommunications facilities than is used for other development proposals. Proponents are required to consult with local municipalities in the siting process to determine LUA-specific requirements.

The legislative requirement to Land-Use Authority participation and consultation can be found in Innovation, Science and Economic Development Canada's document, Client Procedure Circular (CPC), Radiocommunication and Broadcasting Antenna Systems CPC-2-0-03, Issue 5, dated July 15, 2014. The purpose of consultation with the Local Land-use Authority, according to the CPC, is to ensure that land use authorities are aware of significant antenna structures and/or installations proposed within their local surroundings.

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This Justification Report is intended to provide the necessary information as required by the municipal procedures outlined in the City of Kawartha Lakes' protocol document titled "Telecommunications System Protocol" dated May 22, 2012. This Report will provide the appropriate justification as per the requirements legislated by Innovation Science and Economic Development Canada as well as the City of Kawartha Lakes' municipal Protocol. The following will provide justification for the installation of a telecommunication tower at 2876 Highway 121 in the City of Kawartha Lakes.

3.0

JUSTIFICATION

Two of the most important parts of a radio communication system are the antenna and the tower. The antenna is essential as it sends and receives signals from the radio station. The tower allows the antenna to be raised above obstructions such as trees and buildings to ensure that it can clearly send and receive communication signals. Each radio station and its antenna system (including the tower) provide radio coverage to a specific geographic area, often called a cell. Telecommunication providers must ensure that antenna systems are carefully located and that they provide a clear signal over the entire cell area, without interfering with other stations.

If the station is part of a radio telephone network, the number of stations needed also depends on how many people are using the network. If the number of stations is too few, people may not be able to connect to the network, or the quality of service may decrease. As demand increases for mobile phones and new telecommunication services, additional towers are required to maintain or improve the quality of service to the public.

In SBA's search for antennas system solutions in the local community, the suitability of existing infrastructure was reviewed in detail. It was determined that other infrastructure was not available within the 1-kilometre search radius.

Based on the investigation into signal strength and the locations where towers are needed to deploy a successful network, it was determined that the property located at 2876 Highway 121 (Coordinates: 44°41'21.59"N, 78°38'24.80"W) represents the most preferred location for a new communication tower. This is primarily due to its location within the context of other existing communication towers and antenna locations (**Figure 1**). An analysis of the available Advanced Wireless Services in the area

has been completed by Yves R. Hamel et Associates inc. (YRH) through propagation mapping and is attached in **Appendix A**.

It is the intention of SBA Canada to build communication towers where more than one tenant will be locating, in order to promote co-location. The proposed communication facility will allow for future sharing opportunities with various telecommunication providers. The construction of a telecommunication facility that permits co-location will eliminate the need for any additional communication towers within the surrounding area.

Telecommunication towers do not work in isolation and therefore they all contribute to a network. Gaps in coverage create dropped calls and lead to unreliability, which can be unsafe for clients that rely on the service. Moreover, sites are not selected at random and are reliant on factors such as: site conditions like topography, forecasted client usage patterns, the distance to existing sites, the obstruction of objects (trees and buildings) from one tower to the next, and the ability to lease lands with potential landowners.

The towers must meet the safety standards set by Health Canada. Having a continuous uninterrupted network and strong signal strength created from appropriate tower placement allows for the transmitting power of a cellular phone to operate at its optimal (minimal) power requirements when connecting and maintaining a signal. When cellular phones operate as such, the absorption of radiofrequency energy by the user may decrease as the cellular phone is not required to operate as hard to maintain a signal. By placing a tower on the proposed site, the network coverage will be improved, reliable and potentially safer for cellular phone users in the area.

Further justification is provided in **Table 1** on how the proposed location satisfies the City of Kawartha Lakes' Site Selection Criteria for Telecommunication Towers.

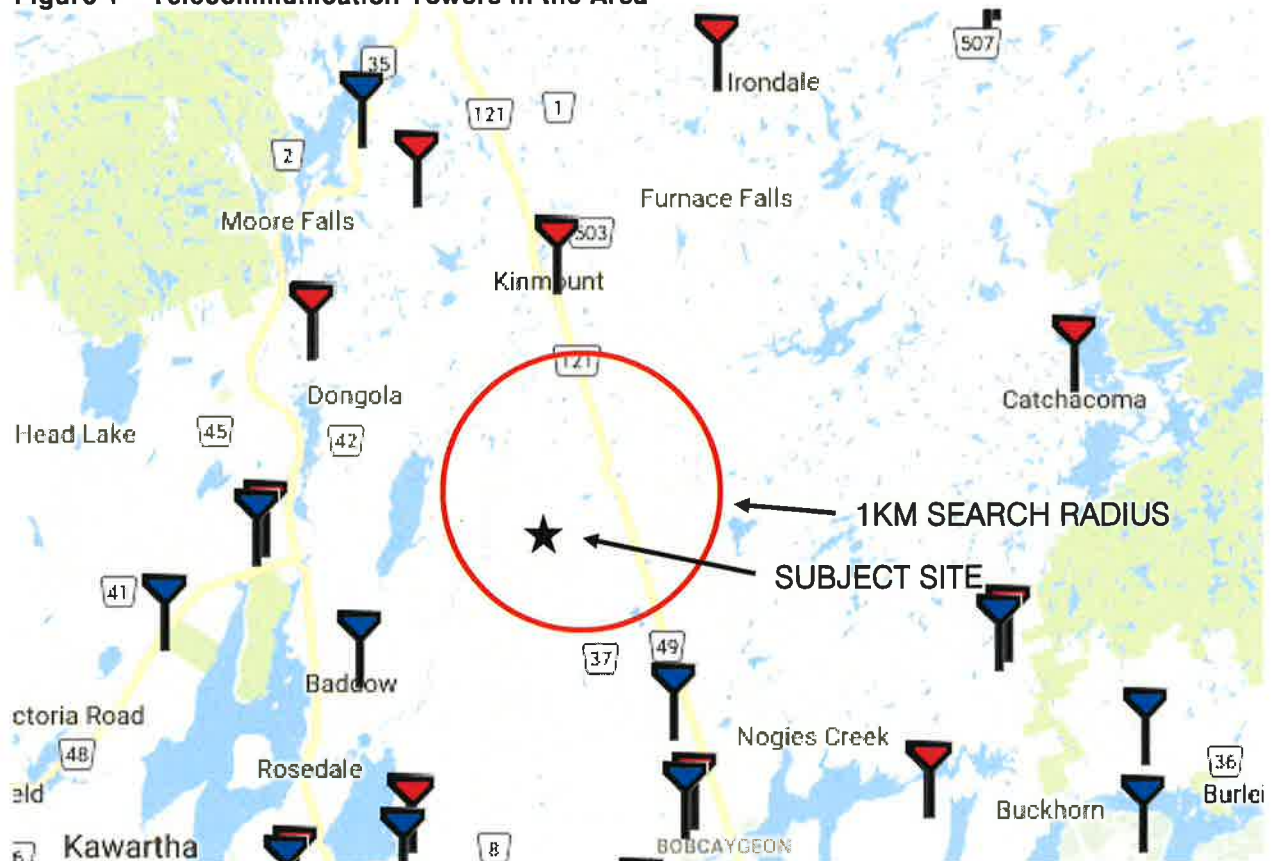


Table 1 – City of Kawartha Lakes Site Selection Criteria and Response

Requirement	Response
3.01 The installation of new telecommunications facilities is generally discouraged unless all other options for co-location within the carriers search area have been explored and are not considered to be technically viable. The preferred methods of achieving additional capacity are	
a) location of new telecommunications facilities on publicly owned lands and buildings;	There are no publicly owned lands located within the search radius for the proposed telecommunications tower.
b) co-location on existing towers or structures within the City or within adjacent municipalities;	There are no towers located within the search radius for the proposed telecommunications tower.
c) use of alternative tower structures that are less obtrusive;	There are no towers located within the search radius for the proposed telecommunications tower.
d) clustering of new towers adjacent to existing telecommunications facilities; and,	There are no towers located within the search radius for the proposed telecommunications tower.
e) location of new telecommunications facilities on hydro transmission towers or within or adjacent to existing hydro transmission corridors.	There are no hydro transmission towers located within the search radius for the proposed telecommunications tower.
3.02 Telecommunications facilities should be located in a manner which minimizes their overall impact on the community. The following site selection criteria will be applied to the proposed location of any new telecommunication facility.	
a) New telecommunications towers should be encouraged in more sparsely populated areas within the City's limits.	The proposed telecommunications tower is proposed to be located on a parcel of land designated as Rural, in a sparsely populated area.
b) Distances should be maximized for new telecommunications towers to existing and future residential areas, community and institutional uses, historical downtown areas, and waterfront areas.	The proposed telecommunications tower is not within close proximity to any of the areas identified. The compound is located approximately 450 metres from the closest neighbouring building.
c) New telecommunications towers should generally be set back a minimum of 120 metres or three times the tower height, whichever is greater, from any lands designated or zoned for residential uses or schools.	The proposed telecommunications tower is proposed in a Rural area with no lands designated for residential uses or schools within 120 metres.
d) Alternative tower structures for New tower locations within and surrounding a settlement area, as identified in the City of Kawartha Lakes land use planning documents, are recommended to be implemented as alternative tower structures and designed to achieve the City's urban design objectives.	The proposed telecommunications tower is not located within a settlement area boundary and is not within close proximity. Therefore, this is not applicable.
e) There should be no negative impact on significant natural features or hazard land areas. New telecommunications tower installations will not be permitted in designated and/or zoned environmentally sensitive areas and shall be setback a minimum of 30 metres from a waterbody.	The proposed telecommunications tower is proposed to be located outside of the environmentally sensitive areas on the subject site.
f) Telecommunications towers should be set back a minimum of 50 metres from Provincial Highways, 30 metres from local roads, and 15 metres from property lines. The setback shall be measured from the base of the tower or the guyed wires, whichever is greater.	The proposed telecommunications tower is setback approximately 360 metres from the road and 15 metres from the property line.

g) Terminal vistas from existing and future roads and areas of topographical prominence will be avoided. Where a telecommunications tower in these areas is necessary, alternative tower structures in conjunction with the lowest possible height shall be used by the applicant.	The proposed telecommunications tower is not located at a terminal vista or an area of topographical prominence.
h) Locations and heights where Transport Canada will require lighting on the tower should be avoided.	No lighting on the tower is required.
i) Telecommunication facilities shall not be permitted on lands without direct access from an open and maintained road or within an unopened road allowance.	Access to the leased parcel will be through a 6.0 metre wide access and utility easement from Highway 121 which will take the form of an extension to the existing driveway.
j) Advertising shall not be permitted on any telecommunications facility.	No advertising will be proposed.

Figure 1 – Telecommunication Towers in the Area





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4.0

SITE LOCATION

The subject site (the "site") is legally recognized as Part of Lot 5, Concession 6, in the City of Kawartha Lakes. The subject site is municipally known as 2876 Highway 121. The site has a total area of 79.1 hectares or 195.4 acres. The site is currently occupied by a single-detached dwelling and ancillary buildings that support the agricultural use on the subject site. Portions of the site are occupied by environmental features. The site is surrounded by large rural lots with agricultural uses. The property is west of the intersection of Highway 121 and 49 in the City of Kawartha Lakes (Figure 2).

The site is designated as "Rural" and "Environmental Protection" with "Significant Woodlands" and "Unevaluated Wetlands" in the City of Kawartha Lakes Official Plan. The site is zoned as "Rural General (RG) Zone" and "Environmental Protection (EP) Zone" in the Township of Somerville Zoning By-law 78-45.

The proposed tower is to be located in the centre of the property along the eastern limits of the site (Figure 3). The proposed tower is located outside of the areas delineated as Environmentally Protected. Site photos are provided in Appendix B.

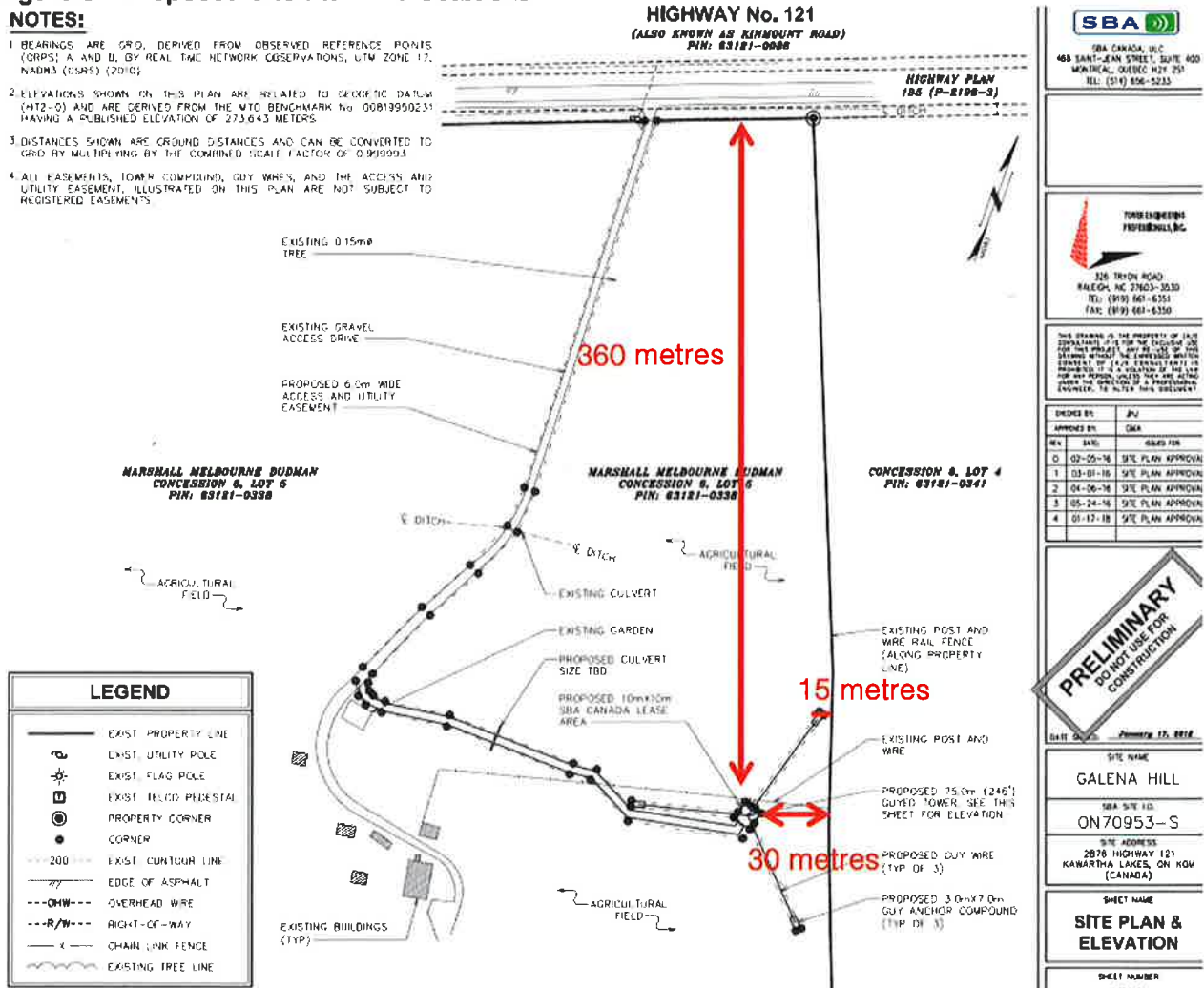
Figure 2 – Site Location Map



Figure 3 – Proposed Site Plan and Setbacks

NOTES:

1. BEARINGS ARE GROUND, DERIVED FROM OBSERVED REFERENCE POINTS (CORPS) A AND B, BY REAL TIME NETWORK OBSERVATIONS, UTM ZONE 17, NAD83 (GSR) (2010).
2. ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO GEODETIC DATUM (MTZ-0) AND ARE DERIVED FROM THE MTD BENCHMARK NO. 00819950231 HAVING A PUBLISHED ELEVATION OF 273.643 METERS.
3. DISTANCES SHOWN ARE GROUND DISTANCES AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.999993.
4. ALL EASEMENTS, TOWER COMPOUND, GUY WIRES, AND THE ACCESS AND UTILITY EASEMENT, ILLUSTRATED ON THIS PLAN ARE NOT SUBJECT TO REGISTERED EASEMENTS.





5.0

PROPOSED DESIGN

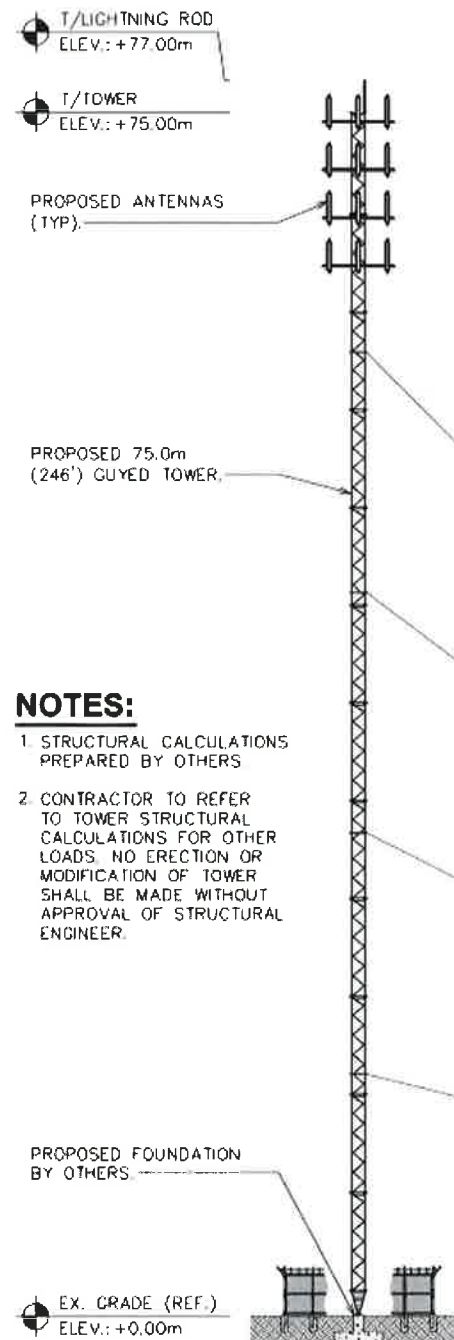
The proposed communication facility will consist of a 75-metre guyed wire telecommunications tower with a lightning rod at the top of the tower, totalling a height of 77 metres (**Figure 4**). The proposed height will ensure that there are opportunities to allow for co-location of multiple carriers on the tower in order to provide stronger signal strength to a variety of mobile customers in the area. The height is required in order to connect with the surrounding towers which are over 1 kilometre away as shown in **Figure 1**.

The site layout includes the tower compound at 10 metres by 10 metres and three guyed anchor compound areas at 7 metres by 3 metres. The tower compound will be surrounded by secure chain-link fencing to maintain security, only allowing authorized personnel to enter. Landscaping along the northern limits of the tower compound is proposed for visual screening purposes (**Figure 5 and Figure 6**). Within the compound area will be the required utility structures as well as the tower itself.

The proposed telecommunications tower compound area is setback approximately 360 metres from the road. Photo simulations of the proposed telecommunications tower emphasizing its visibility from three different vantage points have been prepared and attached as **Appendix C**. The tower compound is also set back approximately 30 metres from the property line to the east. The guyed anchor compounds will be setback 15 metres or more from the property line to the east.

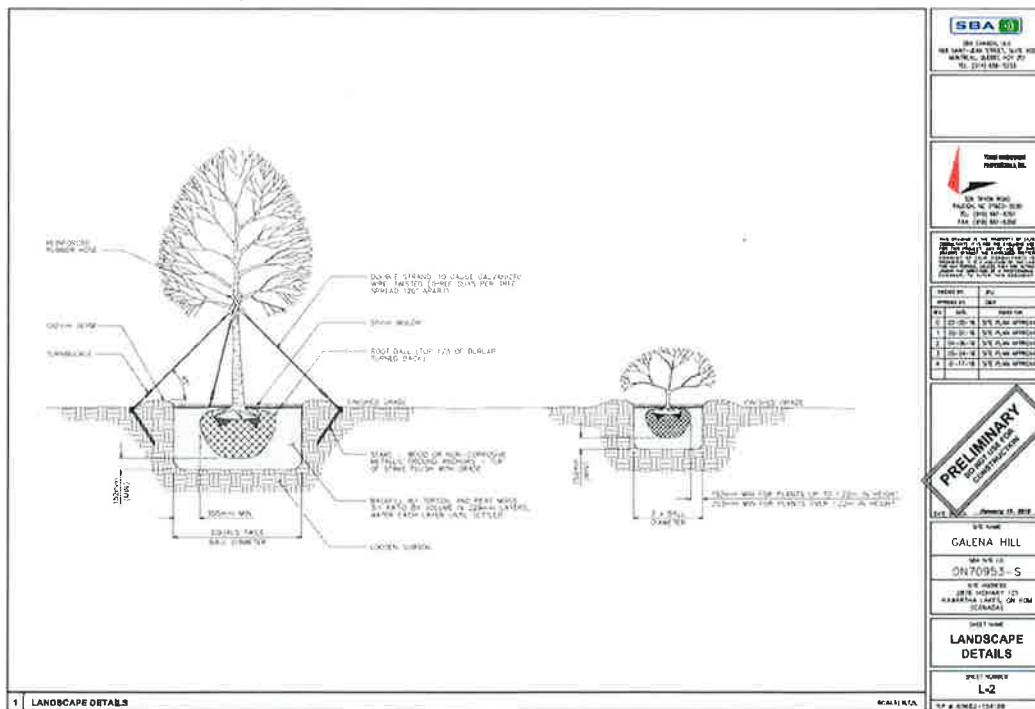
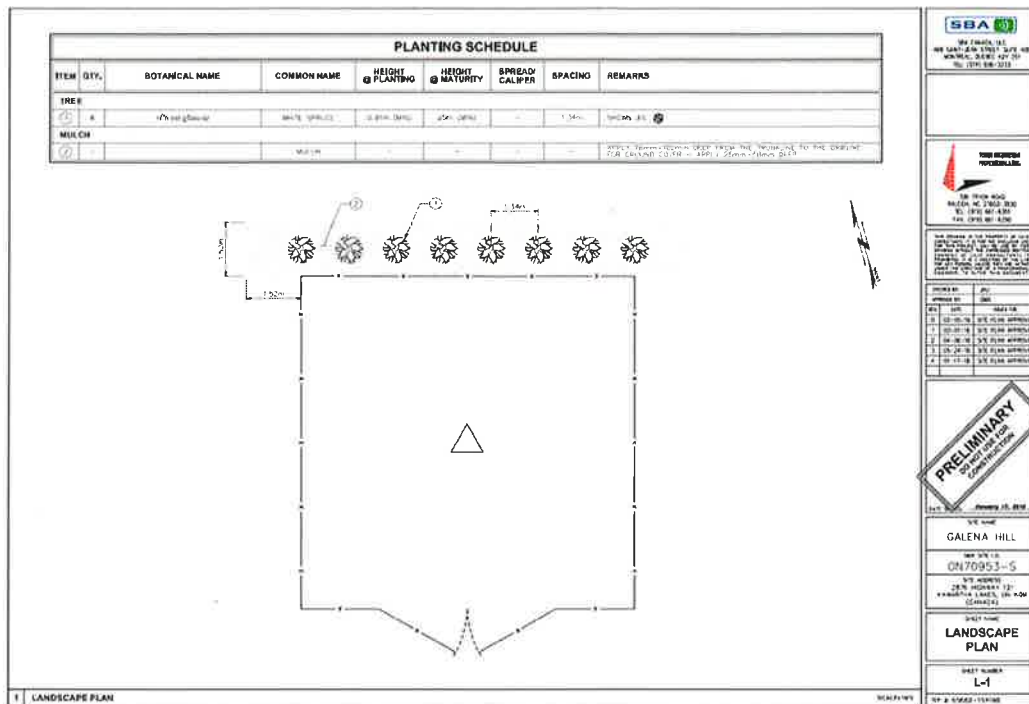
Access to the leased parcel will be through a 6.0 metre wide access and utility easement from Highway 121 which will take the form of an extension to the existing driveway.

Figure 4 – Elevation of Proposed Tower



NOTES:

1. STRUCTURAL CALCULATIONS PREPARED BY OTHERS
2. CONTRACTOR TO REFER TO TOWER STRUCTURAL CALCULATIONS FOR OTHER LOADS. NO ERECTION OR MODIFICATION OF TOWER SHALL BE MADE WITHOUT APPROVAL OF STRUCTURAL ENGINEER.





6.0

COMPLIANCE WITH GENERAL REQUIREMENTS

A proponent is responsible to ensure that the location of the proposed facility and the construction of the proposed facility is in compliance with Section 7.0 of Innovation, Science and Economic Development Canada's CPC-2-0-03. The CPC states that "in addition to roles and responsibilities for site sharing, land-use consultation and public consultation, proponents must also fulfill other important obligations including: compliance with Health Canada's Safety Code 6 guideline for the protection of the general public; compliance with radio frequency immunity criteria; notification of nearby broadcasting stations; environmental considerations; and Transport Canada/NAV Canada aeronautical safety responsibilities". The information below expands on these requirements as they relate to the proposed telecommunications tower and provides further information on how SBA will satisfy these requirements prior to construction of the proposed facility.

6.1 Radio Frequency Exposure Limits and Immunity

SBA attests that the wireless telecommunications facility described in this justification report will be installed and operated on an ongoing basis so as to comply with Health Canada's Safety Code 6, as may be amended from time to time, for the protection of the general public including any combined effects of nearby installations within the local radio environment. SBA also attests that the

installation will be designed and operated in accordance with Innovation, Science and Economic Development Canada's immunity criteria as outlined in EMCAB-2 in order to minimize the malfunctioning of electronic equipment in the local surroundings.

6.2 Proximity of Proposed Structure to Broadcasting Undertakings

In cases where the proposed tower exceeds 30 metres in height above ground level, the proponent is required to notify operators of AM, FM and TV undertakings within 2 kilometres due to the potential impacts that the proposed structure might have on these broadcasting undertakings. SBA Canada attests that the above noted operators will be notified prior to construction of the proposed telecommunications tower.

6.3 Canadian Environmental Assessment Act

SBA Canada attests that the proposed telecommunications facility described in this justification report will be installed and operated in a manner that respects the local environment and that complies with other statutory requirements, such as those under the Canadian Environmental Protection Act, 1999 and others. As per the Canadian Environmental Assessment Act 2012, the proposed telecommunications facility is not incidental to a designated project and is not proposed on federal land.

6.4 Aeronautical Safety and Federal Aeronautical Clearances

NAV Canada and Transport Canada are the federal agencies responsible for determining the impact of tall structures on air navigation systems. These

federal agencies also determine whether any marking/lighting requirements are necessary to proposed structures. As a proponent of a telecommunication tower, you are responsible to ensure that the location of the proposed facility does not interfere with the operation of aircraft in the surrounding airspace. To this end, proponents are required to submit two applications, one to NAV Canada and one to Transport Canada.

NAV Canada determines if the proposed tower or site poses any risk to navigational aids or aerodromes. If not, the proposed tower location and elevation are inserted into the relevant aeronautical charts and publications. NAV Canada issues a letter to the proponent indicating if there are any risks associated with the location or if there are any objections.

Transport Canada also reviews the proposed site and determines if the proposed structure requires lighting or paint markings to ensure that the tower is visible to aircraft through all conditions. A letter is provided to the proponent that outlines the lighting and painting requirements for a particular site.

As a result of the above noted items, land use authority and/or public concerns over the use of lights or flashing are not within the control of the proponent as it is dictated under the federal mandate of the Aeronautics Act (1985).

The proposed communication tower will meet all necessary aeronautical obstruction marking requirements, including painting and lighting, as instructed by Transport Canada and NAV Canada. SBA attests that the requirements as indicated by Transport Canada and NAV Canada will be adhered to. The responses from Transport Canada and NAV Canada have been attached in **Appendix D** and **Appendix E**.

6.5 Attestation to Communication Tower Quality

SBA attests that the proposed tower structure will be designed to CSA specification *S37-01, Antennas, Towers & Antenna Support Structures* and shall be fabricated & erected by Canadian companies that adhere to CSA fabrication & safety standards. An

Attestation Letter has been prepared and has been stamped by a licensed Professional Engineer (**Appendix F**).



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7.0

CONCLUSION

SBA Canada has conducted a thorough and comprehensive investigation of potential sites for new communication antennas and has determined that a new communication tower is necessary as there are no suitable alternative structures within the search radius used to determine the most suitable location for the telecommunications tower given existing towers within the area. SBA proposes a 75-metre guyed wire telecommunications tower (77-metre with lightning rod) in order to allow for co-location of multiple carriers on the tower in order to provide stronger signal strength to a variety of mobile customers in the area.

TBG has reviewed the City of Kawartha Lakes Telecommunications System Protocol (2012) and has determined that all of the site selection criteria are met. There are no publicly owned lands located within the search radius for the proposed telecommunications tower. There are no existing towers or appropriate hydro transmission towers located within the search radius for the proposed telecommunications tower. The proposed telecommunications tower is proposed to be located on a parcel of land designated as Rural, in a sparsely populated area. The proposed telecommunications tower is not within close proximity to any future residential areas, community and institutional uses, historical downtown areas, or waterfront areas. The tower compound is located approximately 450 metres from the closest neighbouring building. The proposed telecommunications tower is proposed in a Rural area with no lands designated for residential uses or schools within 120 metres. The proposed telecommunications tower is not located within or within close proximity to a settlement area boundary. The proposed telecommunications tower is proposed to be located outside of the environmentally sensitive areas on the subject site.

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Once the City of Kawartha Lakes has the opportunity to review the proposed telecommunications tower, TBG on behalf of SBA Canada, will proceed with the Public Consultation Process as outlined in Appendix 1 of CPC-2-0-03. This process will be initiated in partnership with the City of Kawartha Lakes to ensure that all of the public notification requirements are satisfied.

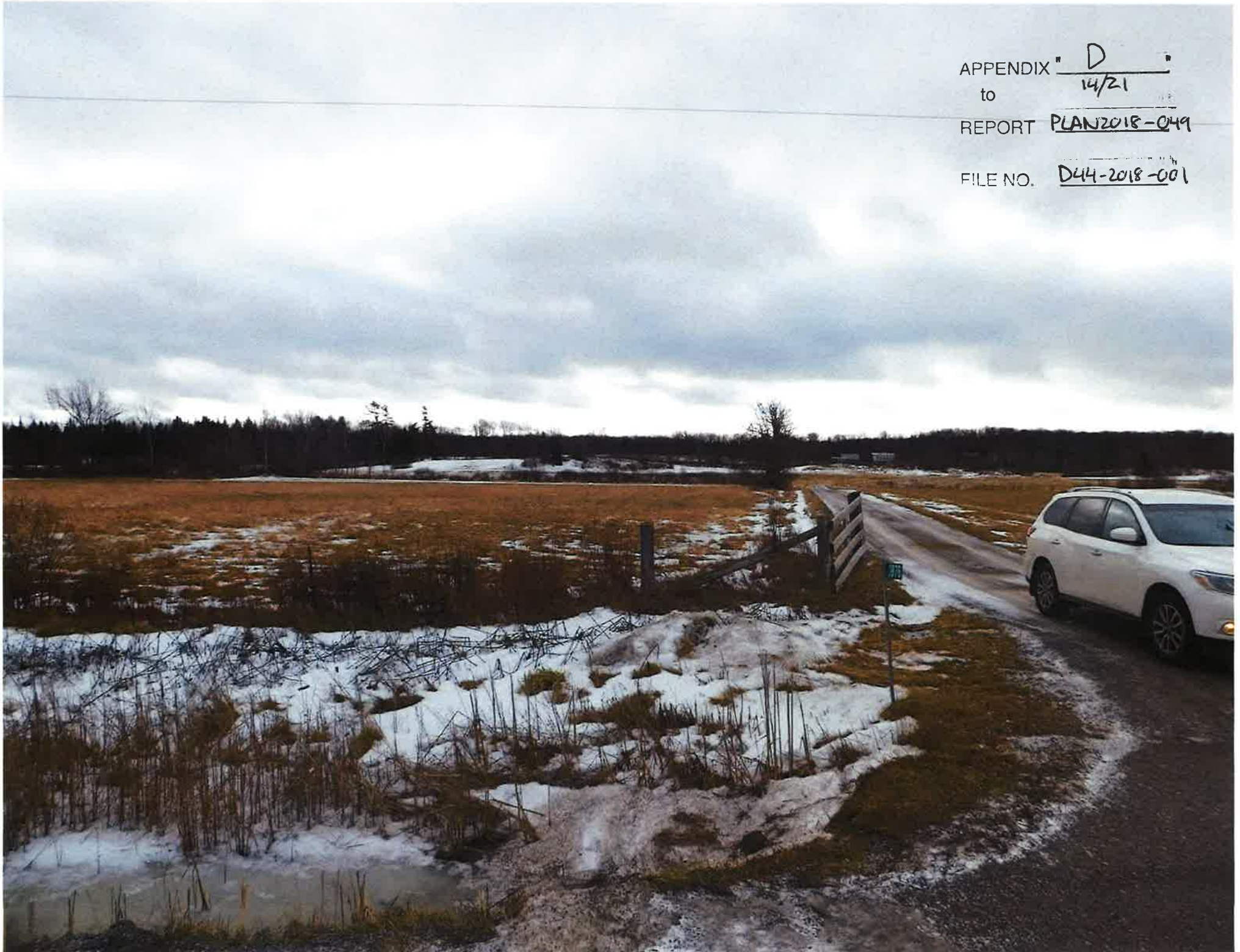
For general information relating to antenna systems, please review Innovation, Science and Economic Development Canada's Spectrum Management and Telecommunications website at <http://www.ic.gc.ca/towers>.

We trust you will find all in order, however if you have any questions or require further information, please do not hesitate to contact the undersigned.

Respectfully submitted,
THE BIGLIERI GROUP LTD.

Melinda Holland, M.Pl.
Planner

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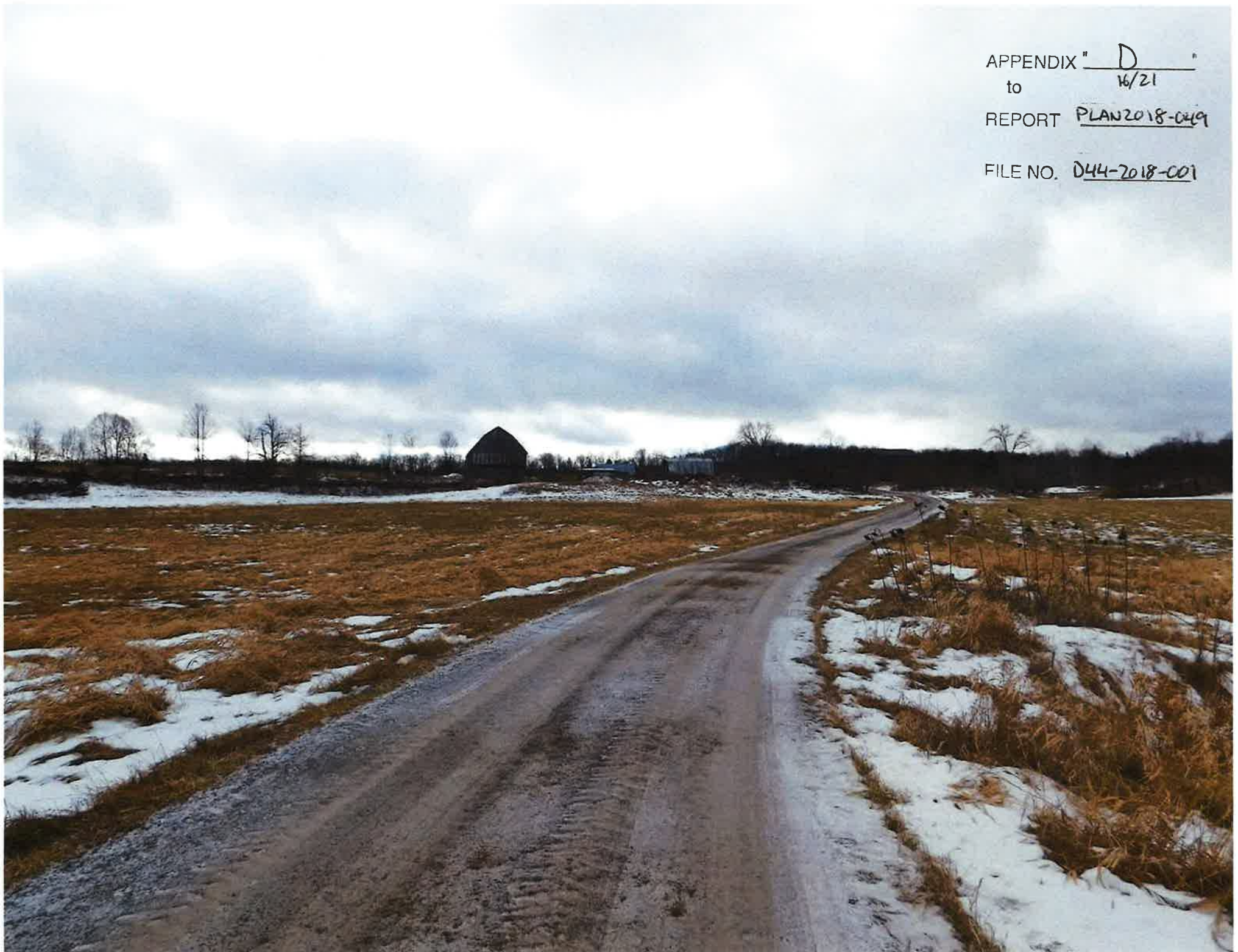
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APPENDIX " D "
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APPENDIX "D"
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FILE NO. D44-2018-0011



APPENDIX " D "
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PHOTO RENDERING PROVIDED BY TOWER ENGINEERING PROFESSIONALS, INC.



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