



a Genesee & Wyoming Company

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ONTARIO ENERGY ST.

*EB-2013-0185  
file 4*

Goderich-Exeter Railway Company Ltd  
9001, boul. de l'Acadie, bureau 600  
Montreal, QC  
H4N 3H5

June 7, 2013

Ontario Energy Board  
Attn: Board Secretary  
P.O. Box 2319  
27<sup>th</sup> Floor  
2300 Yonge Street  
Toronto (Ontario)

Filings: EB-2013-0185- Request for Intervenor Status

Enclosed: - Localization map of GEXR tracks

- Wireline crossing and longitudinal occupancy specifications

Dear Ms. Walli,

Goderich-Exeter Railway Company Ltd ("GEXR") is a short line freight railway operating in Southern Ontario. GEXR requests the status of intervenor in file # EB-2013-0185. While GEXR will not physically attend all the proceedings, GEXR wishes that all further communications relevant to this project be submitted in writing to the following address:

Goderich-Exeter Railway Company Ltd  
Attn : Jérémie Largeaud  
9001, boul. de l'Acadie, Suite 600  
Montreal, QC  
H4N 3H5

The contemplated underground transmission line that will run from Grand Bend, ON to Seaforth, ON, depending on the route chosen, will potentially cross GEXR railway right of way. All installations of underground cables within the railway right of way should comply with the "Wireline crossing and longitudinal occupancy specifications" attached hereafter.

Please address your request for flagman protection to access the railway right of way, or further questions to me.

Best regards,

Jérémie Largeaud, ing./eng., MSc.,  
Engineering Services Manager  
Goderich-Exeter Railway Company Ltd  
[jlargeaud@gwrr.com](mailto:jlargeaud@gwrr.com)  
Tel: 514-948-6999 ext : 2255

# **WIRELINE CROSSING AND LONGITUDINAL OCCUPANCY SPECIFICATIONS**

This section of the policy applies to all public and private utilities, including electric power, telephone (including fiber optics), telegraph, cable television, and similar lines that are located, adjusted or relocated within the property under the jurisdiction of The Railroad. Such utilities may involve underground, surface or overhead facilities. Any utility line greater than five hundred (500) feet in length will be considered a Longitudinal Occupancy and is to be located on uniform alignment, within ten (10) feet or less of the property line so as to provide a safe environment and to preserve space for future railroad improvements or other utility installations. The Railroad's Engineer must approve any installation over one mile. Utilities will be located so as to provide a safe environment and shall conform to the current "National Electrical Safety Code," and "The American Railway Engineering and Maintenance Association Specifications." Where laws or orders of public authority prescribe a higher degree of protection, then the higher degree of protection prescribed shall supersede the provisions set forth here.

## **1. Longitudinal Occupancy**

### **1.1 Overhead Installations**

1. Minimum four feet clearance required above signal and communication lines.
2. Poles must be located 50 feet out from the centerline of railroad main, branch and running tracks, CTC sidings, and heavy tonnage spurs. Pole location adjacent to industry tracks; must provide at least a 10-foot clearance from the centerline of track, when measured at right angles. If located adjacent to curved track, then said clearance must be increased at a rate of 1-½ inches per degree of curved track.
3. Must not be located within 300' of a bridge in either direction.
4. Must not be attached to a company pole line or pole lines licensed to others except where specifically authorized.
5. All poles extending in height above ground equal to or greater than the distance from pole to end of cross line will be anchored and guyed against tipping toward track.
6. Guys will be guarded to a distance of 8' above ground line and the guards shall be orange in color.
7. Regardless of the voltage, unguyed poles shall be located a minimum distance from the centerline of any track, equal to the height of the pole above the ground-line plus 10 feet. If guying is required, the guys shall be placed in such a manner as to keep the pole from leaning/falling in the direction of the tracks.
8. Poles (including steel poles) must be located a minimum distance from the railroad signal and communication line equal to the height of the pole above the ground-line or else be guyed at right angles to the lines. High voltage towers (34.5kV and higher) must be located off railroad right of way.
9. For proposed electrical lines paralleling tracks, The Railroad may request that an inductive interference study be performed at the expense of the utility owner.

Inductive interference from certain lines have the potential to disrupt the signal system in the track causing failures in the track signals and highway grade crossing warning devices. The Engineer will determine the need for a study on a case-by-case basis.

## **2.2 *Underground Installations***

1. Underground utility installations should be located on top of the back slope at the outer limits of the railroad property.
2. If the pipeline is located forty (40) feet or less from centerline of track, the pipeline shall be encased in a steel pipe subject to approval from The Railroad. No pipe may be placed closer than twenty-five (25) feet from centerline of track. Pipe must be buried with a minimum cover of three (3) feet.
3. If less than minimum depth is necessary because of existing utilities, water table, ordinance or similar reasons, the line shall be rerouted.
4. Locations where it will be difficult to attain minimum depth due to wet or rocky terrain shall be avoided. Any location change from plan must be approved by The Railroad.
5. The use of plastic carrier pipe for sewer, water, natural gas and other liquids is acceptable under specific circumstances. The use of plastic pipe is satisfactory if the pipe is designed to meet AREMA and all applicable federal and state codes, and if the carrier pipe is properly encased with a steel casing pipe for the entire length on The Railroad right of way.
6. Manholes shall be limited to those necessary for installation and maintenance of underground lines. Manholes vary as to size and shape depending on the type of utility they serve. To conserve space, their dimensions should be minimally acceptable by good engineering and safety standards. In general, the only equipment to be installed in manholes located on railroad property is that which is essential to the normal flow of the utility, such as circuit reclosers, cable splices, relays, valves and regulators. Other equipment should be located outside the limits of the railroad property. Manholes shall not protrude above the surrounding ground nor be located in the shoulder, shoulder slope, ditch, backslope, or within twenty-five (25) feet of the centerline of track without approval of The Railroad.
7. The Utility Owner will not be permitted to attach to The Railroad bridges or route facilities through drainage structures or cattle passes. Utilities are not to be attached to other railroad structures without the written approval of The Railroad's Engineer.
8. As a general rule, overhead power, communication and cable television line crossings at bridges must be avoided.
9. Electric Power Lines
  - a. A minimum depth of 3.0 feet below natural grade (BNG) will be maintained for 750 volts and less, and 4.0 feet BNG for greater than 750 volts.
  - b. A 6-inch wide warning tape will be installed, 1.0 foot BNG directly over the underground power line

where located on Railroad right-of-way outside the track ballast sections.

## 10. Fiber Optic Lines

- a. A minimum depth of 4.0 feet BNG for fiber optic cable wirelines.
- b. Whenever feasible, all cable should be laid within 5 feet from property lines.
- c. A 6-inch wide warning tape will be installed, 1.0 foot BNG directly over the underground fiber optic line where located on Railroad right-of-way outside the track ballast sections.

## 2. Railroad Crossings

### 2.1 *Overhead Installations*

1. Minimum four feet clearance required above signal and communication lines.
2. Poles must be located 50 feet out from the centerline of railroad main, branch and running tracks, CTC sidings, and heavy tonnage spurs. Pole location adjacent to industry tracks; must provide at least a 10-foot clearance from the centerline of track, when measured at right angles. If located adjacent to curved track, then said clearance must be increased at a rate of 1-½ inches per degree of curved track.
3. Regardless of the voltage, unguyed poles shall be located a minimum distance from the centerline of any track, equal to the height of the pole above the ground-line plus 10 feet. If guying is required, the guys shall be placed in such a manner as to keep the pole from leaning/falling in the direction of the tracks.
4. Poles (including steel poles) must be located a minimum distance from the railroad signal and communication line equal to the height of the pole above the ground-line or else be guyed at right angles to the lines. High voltage towers (34.5kV and higher) must be located off railroad right of way.
5. Crossings will not be installed under or within 500 feet of the end of any railroad bridge, or 300 feet from the centerline of any culvert or switch area.

6. Overhead Wireline Clearance Chart

Formula: .5" increase for every 1,000 volts in excess of 50 KV  
 6" increase for every 12,000 volts in excess of 50 KV

Voltage (to ground)	Minimum Clearance Required above top Of rail	Minimum Clearance (Including Static Wires) Required above Communication and Signal Lines
0 to 750	27'0"	4'0"
8,700	28'0"	4'0"
15,000	28'0"	6'0"
50,000	30'0"	6'0"
74,000	31'0"	7'0"
98,000	32'0"	8'0"
122,000	33'0"	9'0"
146,000	34'0"	10'0"
170,000	35'0"	11'0"
194,000	36'0"	12'0"
218,000	37'0"	13'0"
242,000	38'0"	14'0"
266,000	39'0"	15'0"
290,000	40'0"	16'0"

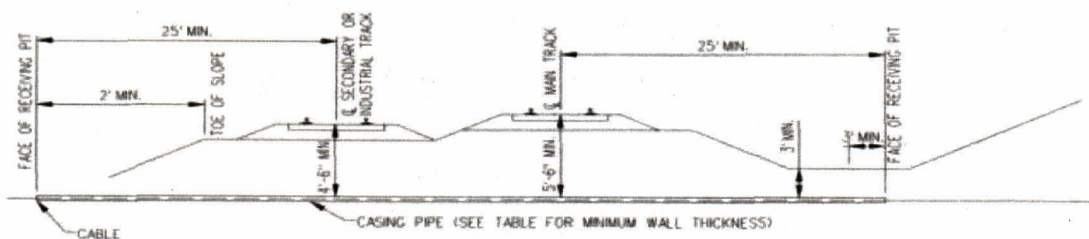
7. Complete spanning of the property is encouraged with supportive structures and appurtenances located outside railroad property. For electric supply lines, normally the crossing span shall not exceed 150 feet with adjacent span not exceeding 1-1/2 times the crossing span length. For communication lines, the crossing span shall not exceed 100 feet in heavy loading districts, 125 feet in medium loading districts, and 150 feet in light loading districts; and the adjacent span shall not exceed 1-1/2 times the crossing span length. For heavier type construction, longer spans will be considered.
8. Joint-use construction is encouraged at locations where more than one utility or type of facility is involved. However, electricity and petroleum, natural gas or flammable materials shall not be combined. Pipe truss design and layout will need to be reviewed and approved by The Railroad's Engineer.
9. To ensure that overhead wire crossings are clear from contact with any equipment passing under such wires, communication lines shall be constructed with a minimum clearance above top of rail of twenty-four (24) feet, and electric lines with a minimum clearance of twenty-six and one-half (26 1/2) feet or greater above top of rail when required by the "National Electric Safety Code" or state and local regulations. Electric lines must have a florescent ball marker on low wire over centerline of track.

10. The utility owner will label the posts closest to the crossing with the owner's name and telephone number for emergency contact.
11. All overhead flammable and hazardous material lines will need The Railroad's Engineer approval, but should be avoided if possible.
12. For proposed electrical lines crossing tracks, The Railroad may request that an inductive interference study be performed at the expense of the utility owner. Inductive interference from certain lines have the potential to disrupt the signal system in the track causing failures in the track signals and highway grade crossing warning devices. The General Director of Signals will determine the need for a study on a case-by-case basis.

## 2.2 **Underground Installations**

- a. All underground utility crossings of railroad trackage shall be designed to carry Cooper's E-80 Railroad live loading with diesel impact (AREMA Cooper's loading Section 8-2-8). This 80,000-lb. axle load may be distributed laterally a distance of three (3) feet, plus a distance equal to the depth from structure grade line to base of rail, on each side of centerline of single tracks, or centerline of outer track where multiple tracks are to be crossed. In no case shall railroad loading design extend less than ten (10) feet laterally from centerline of track. Longitudinally, the load may be distributed between the five foot axle spacing of the Cooper configuration. Railroad loading criteria will also apply where future tracks on The Railroad are contemplated; to the extent this information is available.
- b. All utility crossings under ditches and railroad trackage should have a minimum depth of cover of three (3) feet below the flow line of the ditch or ground surface and five and one half (5-1/2) feet from base of rail. In fill sections, the natural ground line at the toe of slope will be considered as ditch grade. The depth of cover shall not be less than that meeting applicable industry standards

### CABLE CROSSING

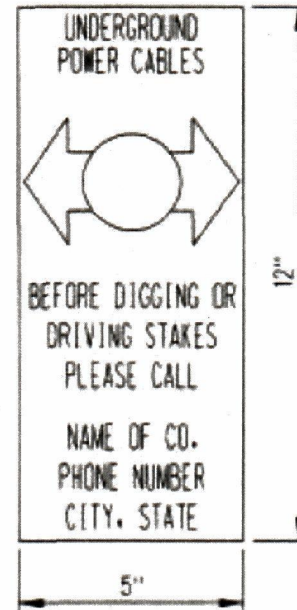


ALL MINIMUM DIMENSIONS MEASURED NORMAL TO  $\phi$  OF OUTSIDE TRACK.

NOTE: LOW VOLTAGE CABLE SUCH AS TELEPHONE OR CABLE TV MAY BE INSTALLED IN PVC CARRIER PIPE

## MARKING OF BURIED POWER CABLES ON RAILROAD RIGHT OF WAY

CABLE ROUTE MUST BE MARKED AT EDGE OF RIGHT OF WAY WHERE CABLE ENTERS OR LEAVES RAILROAD PROPERTY. IN CASES OF PARALLEL CABLE ROUTE, SIGNS AS INDICATED IN FIGURE 1 ON THIS EXHIBIT WILL BE PLACED APPROXIMATELY EVERY 200 FEET. SIGNS TO BE OF A PERMANENT VERTICAL TYPE, NOT SMALLER THAN 5 INCHES WIDE BY 12 INCHES HEIGHT. YELLOW BACKGROUND WITH BOLD BLACK LETTERING. SIGNS TO BE MOUNTED ON METAL POSTS OR AS OTHERWISE AGREED TO AT A HEIGHT OF 3 FEET ABOVE GROUND LEVEL.



- c. Must be a minimum of 5'6" feet below base of rail.
- d. Must be enclosed in casing or conduit adequate to protect the line.
- e. Wherever located on railroad right-of-way outside the track ballast section, the following are minimum burial depths below ground line:

Line Voltage	Depth Below Ground Line
0-600	24 inches
601 - 22,000	30 inches
22,001 - 40,000	36 inches
40,001 -	Above 42 inches

- f. For all boring and jacking installations under main and passing tracks, greater than 26 inches in diameter, and at a depth of between 5.5 and 10.0 feet below top of tie, a geotechnical study will need to be performed to determine the presence of granular material and/or high water table elevation, at the sole expense of the Permittee. The study will include recommendations and a plan for a procedure to prevent failure and a collapse of the bore. Generally, core samples are to be taken near the ends of tie at the proposed location, at least as deep as the bottom of the proposed horizontal bore. Test results must be reviewed and approved by The Railroad, or its agent, prior to boring activities commencing.
- g. The Railroad reserves the rights, based on test results, to require the Permittee to select an alternate location, or to require additional engineering specifications be

implemented, at the sole expense of the Permittee, in order to utilize existing location.

- h. The use of plastic carrier pipe for sewer, water, natural gas and other liquids is acceptable under specific circumstances. The use of plastic pipe is satisfactory if the pipe is designed to meet all applicable federal and state codes, and if the carrier pipe is properly encased within a steel casing pipe per AREMA standards. This casing must extend the full width of the right of way. Casing may be omitted only for gaseous products if the carrier pipe is steel and is placed ten (10) feet minimum below the base of rail per AREMA standards.
- i. If the minimum depth is not attainable because of existing utilities, water table, ordinances, or similar reasons, the line shall be rerouted.
- j. Locations that are considered unsuitable or undesirable are to be avoided. These include deep cuts and in wet or rocky terrain or where it will be difficult to obtain minimum depth.
- k. Underground installations may be made by open-trenching from the property line to the toe of the fill slope in fill sections and to the toe of the shoulder slope in cut sections but to no closer than thirty (30) feet of the centerline of track. The remainder will be tunneled, augured, jacked or directional-bored through the roadbed. Refer to the following sections for required encasement of utilities and boring requirements.
- l. Manholes should be located outside railroad property, when possible. No manhole will be located in the shoulder, shoulder slope, ditch or backslope, or within twenty-five (25) feet of the centerline of track, and shall not protrude above the surrounding ground without approval of The Railroad.
- m. Utilities will not be attached to or routed through drainage structures or cattle passes.
- n. Utilities are not to be attached to other railroad structures without written approval of The Railroad Structures Department.
- o. Jacking pits shall be located a minimum of thirty (30) feet from the centerline of track.

### **2.2.1 Electric Power Lines**

- a. A minimum depth of 5.5 feet below the base of rail (BBR) will be maintained.
- b. A minimum depth of 3.0 feet below natural grade (BNG) will be maintained for 750 volt and less, and 4.0 feet BNG for greater than 750 volts.
- c. The wireline must be encased completely across the Railroad right-of-way with a rigid metallic conduit.
- d. Crossings will not be installed under or within 50 feet of the end of any Railroad bridge, centerline of any culvert or switch area.
- e. A The Railroad signal representative must be present during installation if railroad signals are in the vicinity of wireline crossings unless signal representative authorizes otherwise.
- f. Markers that identify the Utility Owner shall be placed at both property lines for utilities crossing the railroad property. For parallel lines markers shall be placed above the cable at intervals no less than 300' apart. The markers should identify

the owner, type of cable and emergency telephone number. A 6-inch wide warning tape will be installed, 1.0 foot BNG directly over the underground power line where located on Railroad right-of-way outside the track ballast sections.

- g. Above-ground utility appurtenances installed as a part of an underground installation shall be located at or near the railroad property line and shall not be any closer than twenty-five (25) feet to the centerline of track.

## **2.2.2 Fiber Optic Lines**

- a. a. The same requirements for electric power line crossings will apply for fiber optic line crossings except for the following:
- b. b. A minimum depth of 4.0 feet BNG for fiber optic cable wirelines.
- c. c. The Railroad's Engineer must approve any specialized equipment used to install cable. No rail plow will be allowed for installation purposes.

## **3. References**

American National Standards Institute (ANSI) Codes, 1430 Broadway, NY, NY 10018.  
American Railway Engineering and Maintenance of Way Association (AREMA) Specifications.

American Society for Testing and Materials (ASTM) Specifications.

American Water Works Association Standards and Specifications, AWWA, 2 Park Avenue, NY, NY 10016.

Manual on Uniform Traffic Control Devices - with revisions, US Department of Transportation, Federal Highway Administration.

National Electrical Safety Code, US Department of Commerce, National Bureau of Standards.

Pipeline Safety Regulations - Code of Federal Regulations, Title 49 - Transportation, Parts 191-192-Natural Gas; Part 195-Liquid Petroleum Gas.

Rules and Regulations for Public Water Systems - latest edition, State Health Departments.

Rules and Regulations promulgated by the Hazardous Materials Regulation Board of the US Department of Transportation.

Statutory Provisions, 23 U.S.C. 109 and 111.

## **4. Definitions of Terms**

The terminology used in this Policy strives for conventional meaning and to insure uniform interpretation. To this end, the following definitions apply:

**ACCESS CONTROL:** Restriction of access to and from abutting lands to railroad property.

**AREMA:** American Railroad Engineering and Maintenance of Way Association.

**ANSI:** American National Standard Institute.

**ASTM:** American Society for Testing and Materials.

**BACKFILL:** Replacement of soil around and over an underground utility facility.

**BORING:** Piercing a hole under the surface of the ground without disturbing the earth surrounding the hole. Boring may be accomplished by any approved manner. Water jetting or puddling will not be permitted. Holes may be mechanically bored and cased using a cutting head and continuous auger mounted inside of the casing. Small diameter holes may be augured and the casing or utility facility pushed in later.

**The Railroad:** Burlington Northern and Santa Fe Railway Company.

**BURY:** Placement of the utility facility below grade of roadway, ditch or natural ground to a specified depth.

**CARRIER:** Pipe directly enclosing a transmitted fluid (liquid or gas).

**CASING:** A larger pipe enclosing a carrier.

**CFR:** Code of Federal Regulations.

**COATING:** Material applied to or wrapped around a pipe.

**COMMUNICATION LINE:** Fiber optic, telephone cable and similar lines, not exceeding four hundred (400) volts to ground or seven hundred fifty (750) volts between any two (2) points of the circuit, the transmittal power of which does not exceed one hundred fifty (150) watts.

**CONDUIT OR DUCT:** An enclosed tubular runway for protecting wires or cables.

**COVER:** The depth of material placed over a utility. Depth of cover is measured from top of utility casing or carrier pipe (if no casing is required) to the natural ground line or construction line above the utility.

**DIRECT BURIAL:** Installing a utility underground without encasement, by plowing or trenching. No rail plows will be permitted.

**ELECTRIC SUPPLY:** Electric light, power supply, and trolley lines, irrespective of voltage used for transmitting a supply of electrical energy.

**ENCASEMENT:** Structural element surrounding a pipe or cable.

**FLEXIBLE PIPE:** A plastic, fiberglass, or metallic pipe having a large ratio of diameter to wall thickness that can be deformed without undue stress. Copper or aluminum pipe shall be considered as flexible pipe.

**GROUNDING:** Connected to the earth or to some extended conducting bodies which intentionally or accidentally is connected with the earth.

**GROUT:** A cement mortar or slurry of fine sand or clay as conditions govern.

**JACK-AND-BORE:** The installation method whereby the leading edge of the jacked pipe is well ahead of the cutting face of the auger bit. The auger is removing waste from inside the pipe as it is being jacked. This method greatly reduces the likelihood of subsidence of granular material during installation.

**JACKING:** The installation of small pipes by the use of hydraulic jacks or rams to push the pipe under the traveled surface of a road, railroad roadbed, or other facility.

**LICENSE:**

**UTILITY LICENSE AGREEMENTS** are executed for all utility facilities located on railroad property.

**MANHOLE:** An opening to an underground utility system which workmen or other may enter for the purpose of maintaining, inspecting, or making installations.

**NATURAL GAS PIPELINES:**

**DISTRIBUTION SYSTEM** - A pipeline other than a gathering or transmission line.

**SERVICE LINE** - A distribution line that transports gas from a common source of supply to a customer meter.

**TRANSMISSION SYSTEM** - A pipeline other than a gathering line that transports gas from a gathering line or storage facility to a distribution center or storage facility. It operates at a hoop stress of twenty percent (20%) or more of the Specified Minimum Yield Strength.

**NORMAL**: Crossing at a right angle.

**PERMITS: PERMIT TO BE ON The Railroad PROPERTY FOR UTILITY SURVEY** is to be executed prior to all survey work on railroad property.

**PIPE**: A tubular product made as a production item for sale as such. Cylinders formed from plate in the course of fabrication of auxiliary equipment are not pipes as defined here.

**PRESSURE**: Relative internal pressure in PSI (pounds per square inch) gauge.

**PRIVATE LINES**: Any privately owned facilities which convey or transmit the commodities outlined under the definition for Utilities but are devoted exclusively to private use.

**PUBLIC LINES**: Those facilities which convey or transmit the commodities outlined under the definition for Utilities and directly or indirectly serve the public or any part thereof.

**RIGHT OF WAY**: A general term denoting land, property of interest therein, usually in a strip, acquired for or devoted to railroad transportation purposes.

**SEAL**: A material placed between the carrier pipe and casing to prevent the intrusion of water, where ends of casing are below the ground surface.

**SHOULDER**: That portion of the roadbed outside the ballast.

**TRENCHED**: Installed in a narrow excavation.

**TUNNELING**: Excavating the earth ahead of a large diameter pipe by one or more of the following processes: 1) The earth ahead of the pipe will be excavated by men using hand tools while the pipe is pushed through the holes by means of jacks, rams or other mechanical devices, 2) The excavation is carried on simultaneously with the installation of tunnel liner plates, and/or 3) The tunnel liner plates are installed immediately behind the excavation as it progresses and are assembled completely away from the inside.

**UTILITY OWNER**: All privately, publicly or cooperatively owned lines, facilities and systems for producing, transmitting or distributing communications, power, electricity, light, heat, gas, oil, crude products, water, steam, waste, storm water and other similar commodities, including fire and police signal systems

## **5. Applications**

Please use the Pipeline application form found on the website to submit your application.

1. Applications should be submitted to (preferably by e-mail .DWG or .PDF when printable on paper sizes 11X17 or smaller):

Jérémie Largeaud, ing./eng., MSc.,  
**Genesee & Wyoming Canada inc.**  
**Directeur Services d'ingénierie - Engineering Services Manager**  
Cape Breton & Central Nova Scotia Railway Inc.  
Goderich-Exeter Railway Inc.  
Huron Central Railway Inc.  
Chemins de fer Québec-Gatineau Inc.  
Chemin de fer St-Laurent & Atlantique (Québec) Inc.  
Southern Ontario Railway Inc.  
St-Lawrence & Atlantic Railroad Company Inc.  
Services Ferroviaires de l'Estuaire Inc.  
Western Labrador Rail Services Inc.  
Mirabel Railway Inc.  
9001 boul. l'Acadie - bureau 600  
Montreal (Quebec) H4N 3H5  
Tel : (514)-948-6999 ext. 2255

2. Upon receipt of the application, a reply will be sent acknowledging receipt and advising of the Permit & Contract file reference number that has been assigned with attached draft agreements applicable. For this purpose, please provide a reply E-Mail address.
3. Office Hours: 9:00 A.M. to 5:00 P.M. Monday through Friday, ET
4. Phone Number: (514)-948-6999 ext 2255.
5. Agreements will be required for all encroachments on railroad property.
6. Generally, agreement-processing time will be 6 to 8 weeks. Please allow sufficient lead-time for document handling prior to desired construction date. Before construction begins, agreements must be executed by Utility Owner and returned. Verbal authorizations will not be granted or permitted. A minimum of five (5) days advance notice after execution of an agreement will be required prior to initiation of construction.
7. License fees must be submitted at the time the agreement is executed and returned.
8. Applications are to be made on the standard application form including an Exhibit "A."

