

## COMMUNICATION CABLE/ELECTRICAL CABLE/WIRE CROSSINGS SPECIFICATIONS

Applicants must submit three (3) copies of an acceptable plan. Plans must meet NTA General Order E-11 and E-12, latest revision of CAN/CSA-C22.3 No.1-06 and/or CAN/CSA-C22.3 No.7-06. Cost for reviewing the first plan received shall be included in the basic engineering application fee. The applicant may be charged an additional fee for each review after the initial application due to inadequate or missing information.

### NOTE:

Electrical Cable/Wire specific requirements shown in red.

Communications Cable/Wire specific requirements shown in green

### Plans Must Have:

- Plan Number & Date
  - Revised plans must have a revision number, date of revision, and reason.
- Full company name & contact information of the owner of the utility.
- Land Description (legal description & or Trillium Subdivision & Mileage)
- Site Plan & Profile
  - width of Trillium right-of-way / number of tracks / angle of crossing
- Drawing must be to scale or have all dimensions/measurement noted.
- NOTE stating: **“Construction, maintenance and operation of the line shall be in accordance with Transport Canada General Orders E-11 and E-12 and Canadian Standards Association Standards CAN/CSA-C22.3 No. 1-06 and CAN3-C22.3 No. 7-06 as applicable”.**
- **“Signed”** stamp of a Professional Engineer. **On communications cables this is only required when in joint use with power lines.**
- Existing and proposed facilities must be clearly marked.

### SPECS – Underground:

- Type and details of cable and mechanical protection.
  - Cables must be protected for a minimum distance of 7.5m from center of outermost track at right angles to track by steel pipe (NOTE: communication cables may be protected by HDPE pipe.)
  - Other mechanical protection will be required for the remainder of railway property.
- Profile showing depth of burial from base of rail and ditch bottoms to cable.
- **Minimum depth of burial:**

Depth from	Communications Cable/Wire	Electrical Cable/Wire
Main Tracks	1.68 m	1.68 m
Siding and Industrial Tracks	1.37 m	1.37 m
Road Surface	1.00 m	1.00 m
Ditch Bottom	0.60 m	0.75 m

- Warning Markers required on each edge of the railway right-of-way
- Method of Installation. (ie: boring/augering)
  - Nearest Point at which digging can take place;
    - Starting 10 (ten) feet from the gauge side of the nearest rail, calculate a slope to the bottom of the proposed pipe at 1.5:1. If a 1.5:1 slope cannot be maintained or more restrictive conditions occur, approved shoring will be required.

#### **SPECS – Overhead:**

- When joint facilities are used, drawings must show information pertaining to both users and approval of other user denoted on drawing.
- Location and all information must be shown pertaining to:
  - poles and adjacent structures or towers
  - anchors, guys, crossarms
  - insulators
  - power and communication cables
- Minimum clearances under maximum sag above rails and Trillium Signals and Communications plant
- (CSA-C22.3 No. 1-06).
  - allow 0.3m to clearance listed in CSA-C22.3 No. 1-06 to allow for future track lifts.
- Horizontal and vertical separation distance between wires and cables.
- Standard Clearance:
  - If structure (ie: pole) is  $\leq 4'$  in height then the horizontal clearance must be 6' minimum to centerline of any track.
  - If structure (ie: pole) is  $> 4'$  in height then the horizontal clearance must be 8' minimum to centerline of any track.

#### **Geo-technical Report:**

If installation is known or suspected to be a problem due to soil conditions at location, a written recommendation from a Geo-technical Engineer, who has reviewed soil testing and water table results, will be required. The written recommendation is to note the following:

- That the method of installation is appropriate to the soil conditions.
- There will be no adverse affect to Trillium operations and property.
- The contingency plan if problems arise during construction at the site.