



TQM  
Pipeline

POINT-DRISSIE / DATUM  
GÉODÉSICQUE / GEODETIC  
BM 4P 570  
ELEVATION 70,332 m

## **Play it safe**

**during work  
or any other activity  
near the pipeline**



**This guide is for everyone involved in planning or carrying out work or other activities near the TQM Pipeline system. It gives the directives to follow to obtain permission and specifies the general technical requirements.**



UNDERGROUND PIPELINE  
TRANSMISSION OF NATURAL GAS

TQM Pipeline has operated a natural gas transmission system in the province of Québec since 1982.

Our system comprises two sections. The 2000 line runs from Les Cèdres along the North Shore of the St. Lawrence River to Saint-Nicolas on the South Shore opposite Québec City. The 3000 line begins in Lachenaie and crosses the Montérégie and the Eastern Townships, ending in East Hereford.

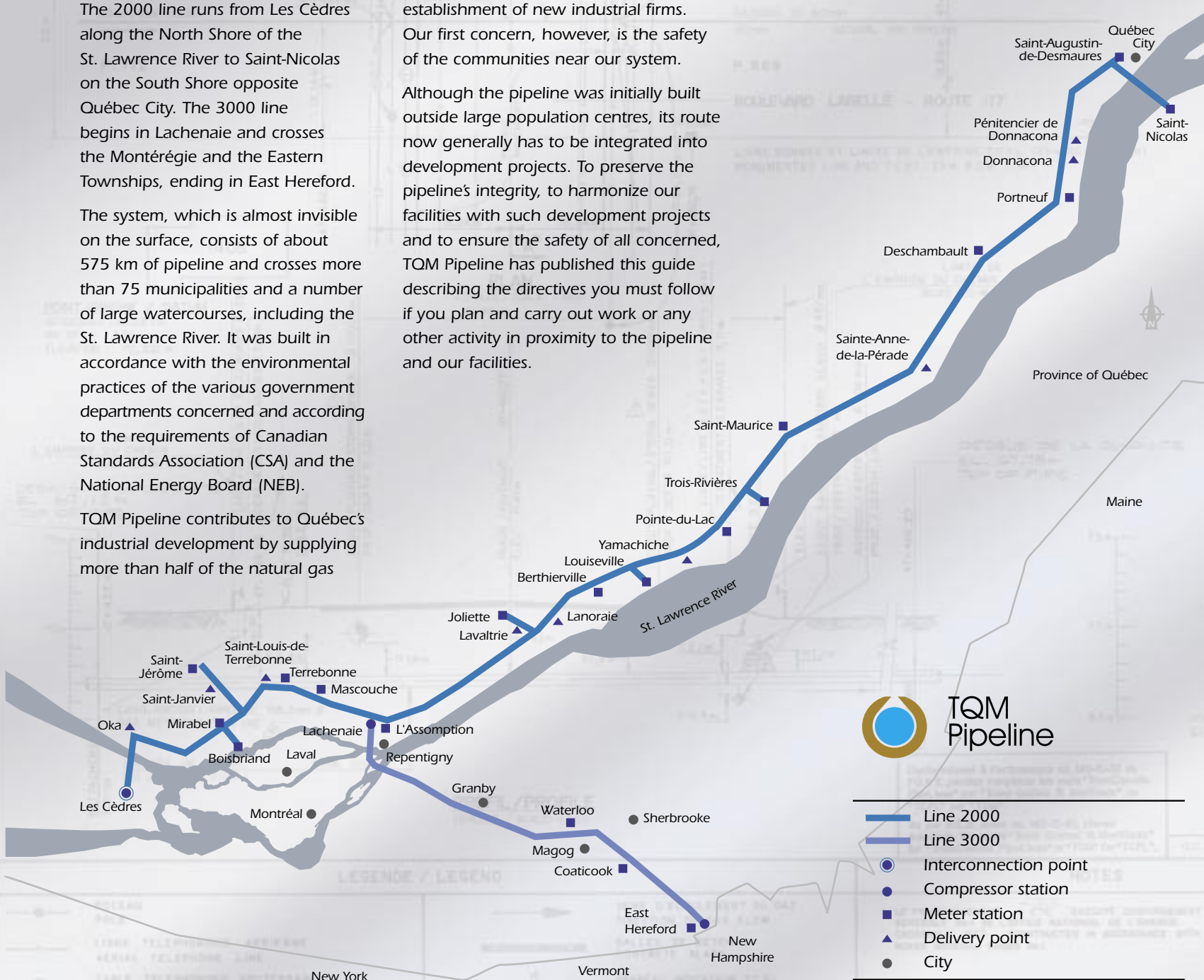
The system, which is almost invisible on the surface, consists of about 575 km of pipeline and crosses more than 75 municipalities and a number of large watercourses, including the St. Lawrence River. It was built in accordance with the environmental practices of the various government departments concerned and according to the requirements of Canadian Standards Association (CSA) and the National Energy Board (NEB).

TQM Pipeline contributes to Québec's industrial development by supplying more than half of the natural gas

consumed in the province. The ready availability of such an economical and clean source of energy promotes the growth of existing companies and the establishment of new industrial firms.

Our first concern, however, is the safety of the communities near our system.

Although the pipeline was initially built outside large population centres, its route now generally has to be integrated into development projects. To preserve the pipeline's integrity, to harmonize our facilities with such development projects and to ensure the safety of all concerned, TQM Pipeline has published this guide describing the directives you must follow if you plan and carry out work or any other activity in proximity to the pipeline and our facilities.



- Line 2000
- Line 3000
- Interconnection point
- Compressor station
- Meter station
- ▲ Delivery point
- City

## The natural gas carried by TQM Pipeline

### Composition of natural gas

Methane CH <sub>4</sub>	95%
Ethane C <sub>2</sub> H <sub>6</sub>	2.5%
Nitrogen N <sub>2</sub>	1.7%
Other simple hydrocarbons, carbon dioxide, oxygen	0.8%

### Characteristics

- Appearance and odour  
Colourless, odourless gas
- Density  
0.6 (Natural gas is lighter than air, so it rises and dissipates in the atmosphere.)
- Flammability range  
Between 5% and 15% of gas in the air
- Self-ignition temperature  
538°C
- Heating value  
37.6 MJ/m<sup>3</sup>

### Transmission

TQM Pipeline ships natural gas using a system of buried steel pipes. The gas is carried at pressures ranging from 4,000 kPa to 9,930 kPa, and is maintained at an average temperature of 10°C. Even in these conditions, the natural gas remains in a gaseous state.

# Why obtain permission?

TQM Pipeline is subject to the terms and conditions of the National Energy Board Act. The Board specifically issued Pipeline Crossing Regulations under the Act. It is important that you know that the right-of-way is the area where the pipeline is buried. The immediate area measuring 30 metres on either side of the right-of-way forms the safety zone.

Under the Regulations, any work or activity on the pipeline right-of-way, no matter how minor, or any excavation or drilling in the safety zone requires prior written permission from TQM Pipeline.

A person who owns a facility or who performs excavation must first submit an application to TQM Pipeline. This application enables us to determine specific conditions that could affect or compromise the safety of the pipeline. In addition, we will determine the exact location of the pipeline and see that our employees are on site to ensure the work proceeds smoothly and safely. By working together in this way we can avoid any risk to the communities near the pipeline and its facilities.

It is also important to note that TQM Pipeline also has rights, acquired by registered servitude, over each property that the pipeline crosses.



# What work or activities require written permission?

- Any excavation or drilling on the right-of-way.
- Work on or construction of any facility on the right-of-way, such as:
  - Agricultural drain
  - Aqueduct
  - Benchmark
  - Bike path
  - Buried power line or telecommunication line
  - Culvert
  - Ditch
  - Fence
  - Gas pipeline
  - Guard rail
  - Heavy equipment ramp
  - Highway
  - Oil pipeline
  - Post
  - Private road
  - Parking area
  - Railway line
  - Road
  - Sanitary sewer
  - Stake
  - Storm sewer, etc.
- Motor vehicle traffic on the pipeline right-of-way.
- Any work that may interfere with the safety or compromise the integrity of the pipeline.

## **N.B.:**

After obtaining permission, you must contact TQM Pipeline at least three business days before your work begins so that our personnel can determine the exact location of the pipeline and monitor the work. This will ensure the safety of all concerned: the nearby communities, your personnel and yourself.



# How to prepare an application for permission?



To obtain permission for work on the pipeline right-of-way, you must send us two copies of a schematic, plan, sketch or drawing showing the proposed work, along with the following information:

- Name of the owner of the facility, address and telephone number;
- Name of the contractor, if known, address and telephone number;
- Description and nature of the work;
- Geographic location: lot number, cadastre and municipality;
- Scheduled start date for the work.

It will take a maximum of 10 business days from receipt of your application to receive written permission from TQM Pipeline or the reasons for refusal.

Please send your application for permission to:

**TransCanada**  
**1370 Montée Chénier**  
**Les Cèdres (Québec) J7T 1L8**

**Tel.: (450) 462-5300**  
**or 1 800 827-5094 (toll free)**  
**or 1 888 810-8800 (toll free)**  
**Fax: (450) 462-5388**

**Web site: [www.gazoductqm.com](http://www.gazoductqm.com)**

# Summary of requirements



## General

Notice of three business days is required before you carry out work with the prior approval of TQM Pipeline.

## Excavation

On the right-of-way, any excavation or drilling (with the exception of plowing), which involves moving the soil and reduces the initial backfill over the pipeline requires written permission from TQM Pipeline.

In the safety zone, all excavation must be authorized by TQM Pipeline to ensure that it is performed outside the right-of-way according to the Pipeline Crossing Regulations of the National Energy Board.

## Mechanical excavation

A TQM Pipeline employee must monitor any excavation or drilling.

Mechanical excavation can be carried out up to one metre from the pipeline, provided that the pipeline is first located by sounding. The work must then be completed manually.

## Excavation using explosives

A study must be made before any explosives are used on the right-of-way.

## Ditches

Ditches must maintain a minimum of 0.9 metre of backfill above the pipeline.

## New ditches

When ditches are constructed, movable protection consisting of concrete slabs or the equivalent must be installed a minimum of 0.3 metre above the pipeline.

## Existing ditches

Cleaning of a ditch that does not reduce the initial backfill over the pipeline only requires notice of three business days before the work begins, so that a TQM Pipeline employee can monitor it.

## Underground facilities

All underground facilities must maintain:

- a minimum clearance of 0.3 metre around the pipeline;
- an angle of crossing that is as close as possible to 90°;
- a reasonably constant level across the entire width of the pipeline right-of-way.

## Metal pipe

The pipeline is equipped with a cathodic protection system to prevent corrosion. Metal pipe crossing the pipeline must be wrapped in a non-conducting insulating material for a distance of 5 metres on either side of the pipeline. It must also be connected by electric wires to a test lead that is part of the TQM Pipeline system so as to detect and prevent any interference with the pipeline's cathodic protection system.

## Infrastructures

Below the paved surface of new roads and highways, where sewers and water mains are installed below the pipeline, movable protection consisting of concrete slabs must be installed a minimum of 0.3 metre above the pipeline.

## Soil stabilization and pipeline support methods

In all types of soil, when more than 6 metres of the pipeline must be exposed, it must be temporarily supported. If the pipeline has to be exposed in areas where the soil is unstable, the soil stabilization and support methods must be submitted to TQM Pipeline before the work is carried out. The methods must be approved by an engineer or soil specialist, to TQM Pipeline's satisfaction.

## Accessories

All accessories such as sumps, drainage outlets, valves, connections, etc., are strictly prohibited. They must be installed outside the pipeline right-of-way.

## Above-ground facilities

Permanent structures are prohibited on the right-of-way. Landscaping, concrete borders, fences or other structures may be allowed on certain conditions.

## Signage

Signs are prohibited on the right-of-way.

## Streets, roads, highways, parking areas and heavy equipment ramps

Below roads, highways, parking areas and ramps, the minimum cover required varies according to the soil conditions. Please contact us to determine the cover required at the proposed crossing point.

The crossing angle must be as close as possible to 90°.

Highway access ramps must not interfere with TQM Pipeline's access to the other parts of its right-of-way.

Beneath the paved portion of highways where underground utilities are planned or in any other place where TQM Pipeline deems it advisable, movable, protective concrete slabs are required.

In parking areas, the paving above the pipeline must not exceed the paved width of a normal highway. Strips of grass or gravel can be placed between the lanes a minimum of 1.5 metres on either side of the pipeline.

## Fences

Any fence or hedge crossing the pipeline must have an access gate at least 1.5 metres wide, centred over the pipeline and equipped with a lock system that enables TQM Pipeline to gain access at any time, even when the landowner is absent.

## Overhead lines

No pole, pylon, tower, guy, anchor or support structure may be constructed or installed on the right-of-way.

Any telephone, telegraph, telecommunication or electric power line must be installed in accordance with the minimum requirements for clearance between the ground and the wires, according to Standard CAN/CSA-C22.3 no. 1-M87 of the Canadian Standards Association, namely a distance of 4.42 metres.

To facilitate aerial patrol of the pipeline, aerial markers must be placed on the guard wires of towers.

In all cases involving the installation of overhead lines, only notice of three business days before the beginning of the work is required.

## Trees and shrubs

No trees or shrubs are allowed within a perimeter of 5 metres from the centre of the pipeline. Outside this perimeter, shrubs that reach a maximum of 2 metres at maturity are allowed on the right-of-way.

## Raising or lowering the natural terrain

Any raising of the natural terrain is limited to 0.1 metre with the exception of roads.

Any lowering of the natural terrain must not reduce the level of the soil over the pipeline in such a way that the cover is less than 1.2 metres.

## Need more information?

Call us at:

**1 800 827-5094 (toll free)**

**1 888 810-8800 (toll free)**



**TQM  
Pipeline**

*Advancing Together!*