Guidelines for Ground Disturbance Work Done Near Our Underground Infrastructures

Bell

Commission des services électriques de Montréal

énergir

ENBRIDGE Gaz Québec

Hydro Québec

TELUS

VIDÉOTRON

January 2026 - Version 6

Important:

BEFORE starting ground disturbance work, a locate request must be made to Info-Excavation at info-ex.com or, if it's an emergency, please call **1 800 663-9228**

If underground infrastructures are located within your work area, all responses and locate reports must be received and in hand before undertaking any ground disturbance work.

info excavation

Publication Information

This is the sixth edition of the Guidelines for Ground Disturbance Work Done Near Our Underground Infrastructures.

The updated digital version and a summary of the changes made in this version are available on Info-Excavation's website at info-ex.com.

These new guidelines replace the older versions of guidelines from network owners collaborating in this document.

To receive printed copies of these new guidelines or for making any other requests, please contact us at info@info-ex.com.

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Introduction

These guidelines are intended for anyone who plans or performs ground disturbance work in the vicinity of underground infrastructures. They state which regulations must be followed and specify the general technical requirements prescribed by the network owners collaborating in this document. This document's goal is to properly anticipate the activities, delays and costs involved in meeting these requirements. However, the job's design as well as the choice of working methods and practices used to comply with these requirements are the sole responsibility of those performing the work.

This document has been created to ensure public safety and the safety of workers, prevent damages to underground infrastructure, maintain essential services and reduce the socio-economic costs associated with infrastructure damage. These are the priorities set forth by Info-Excavation and its partners.

Ground disturbance and excavation work including test holes, must be carried out in accordance with applicable legislation. The following procedures have been approved by the owners of underground infrastructures to prevent damages to their installations. Any company or person complying with the procedures mentioned in this document is not required to submit a specific work approval request to the owner of the underground infrastructure, as required by paragraph 2 of section 3.15.1 of the Safety Code for the Construction Industry (R.S.Q., c. S-2.1, r. 4).

It remains the responsibility of those planning or performing the ground disturbance work near underground infrastructures to respect and enforce compliance with applicable laws, regulations and standards which supersede this document.

For underground infrastructures regulated by the Canada Energy Regulator (CER), please refer to the "Damage Prevention" section of the CER's website to learn about applicable regulations.

Prior to commencing any ground disturbance work, all approvals (municipal, MTMD, private landowners, etc.) and locate reports must be obtained and kept on site.

Ground disturbance work may include, but is not limited to, the following:

a) Digging, excavating (ex.: pool, paved driveway, landscaping);
b) Test holes / Exploratory holes;
c) Trenching;
d) Ditching (ex.: private culvert);
e) Tunnelling;
f) Trenchless excavation/drilling/pile-driving/boring;
g) Drill and tap/hydraulic jacking;
h) Stripping of topsoil;
i) Profiling/levelling;
j) Plowing for the installation of an underground infrastructure;
k) Tree planting;
l) Land clearing and stump removal (grubbing);
m) Blasting/use of explosives;
n) Concrete and asphalt crushing and scarring (ex.: pavement sawing);
o) Installing / removing fence posts, bars, rods, anchors, piles or stakes (e.g. guardrails, carport installation, sidewalks);
p) Crossing of Pipelines or other major underground infrastructures underneath the travelled portion of a public road;
q) Hydrodemolition;
r) Underwater excavating work.
s) Demolition of houses, buildings, structures, etc

Natural Gas and CSEM: Sewer Cross Bores

For a sewer blockage located outside your home, you must make an emergency locate request to Info-Excavation before attempting any work to clear the blocked sewer line.

Worker Training

Info-Excavation offers training on damage prevention of underground infrastructures and several infrastructure owners also offer specific training for those working near their underground network. Employees are therefore educated on the best practices to use and the risks for the safety of workers and the public.

List of Network Owners Participating in This Document

Natural Gas	
énergir	• 1-844-780-4355 • Authorization request and easement management: 1-866-630-3450 or servitude@energir.com
ENBRIDGE Gaz Québec	• Non-urgent call: 1-819-771-8321 extension 2250 • Emergency: 1-819-771-8321, option 1 • Derogation and authorization requests : preventiondesdommages@enbridge.com
Electricity	
Commission des services électriques de Montréal	• 514-868-3111 (CSEM - Network Maintenance Division) • Outside regular business hours: call 311 or 514-809-3390
Hydro Québec	• 1-800-790-2424 Report an outage 24/7
Telecommunication	
Bell	• Quebec: ◦ Damage Prevention Management: 1-877-255-2325, option 3 ◦ Damage Reporting: 1 877-255-2325, options 2 - 4 ◦ Engineering Department: equipecivil@bell.ca or call 1-877-247-5888 • Atlantic Provinces: 1-844-224-8344 • Ontario: 1-844-225-5550 • Alberta: 1-800-242-3447 • British Columbia: 1-800-474-6886 • Manitoba: 1-800-940-3447
VIDÉOTRON	514-599-2651 and 1-800-361-2727
TELUS	• Quebec: ◦ Damage Reporting: 1-888-434-2425 ◦ Engineering Department: 1-866-935-2473 /TELUS_Civil_TQ@telus.com

This document was developed by the network owners listed above and in collaboration with Info-Excavation.

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In Case of an Emergency or Damage:

- Stop working.
- Leave the equipment in place, shut off heavy machinery engines and all other motorized or electrical equipment.
- Do not attempt to repair, backfill or seal off the damage.
- **In an emergency, call 911.**

Natural Gas: Damage causing a gas leak

- **Avoid flames and sparks** (cigarettes, vapes, cell phones and any other non-intrinsically safe electrical equipment[2]).
- **Quickly move away from the leak.**
- If the natural gas ignites:
  - **Do not attempt to put out the flames,**
  - **Remain at a safe distance from the fire,**
  - **Wait for the arrival of the fire department.**

Telecommunication:

There are three types of telecommunication cable: copper, coaxial cable and fibre-optic. Each of these has its own hazards.

- **Never handle a damaged fibre-optic cable or look directly at the fibre's end.** Fibre-optic lines transmit light that can permanently damage the retina and are covered with a rigid metal coating that can be very sharp and very dangerous.
- **Do not touch or move copper or coaxial cables,** as they may transmit an important electrical current and, being covered with a rigid metal coating, it can be very sharp and dangerous. However, if handling is necessary, always wear leather protective gloves.

[2] - Non-intrinsically safe electrical equipment: Unprotected equipment that could ignite vapours, dust or gas because of the sparks or heat it generates.

In Case of an Emergency or Damage:

Electricity:

Heavy Equipment Operator:

- Stay calm. Stay in the vehicle and don't touch any metal parts inside the vehicle.
- If possible, **call 911 or emergency services.** Mention that electrical equipment has been damaged.
- If bystanders want to help you, tell them not to approach the vehicle and, above all, not to touch it.
- If there is an imminent danger and you must leave the vehicle:
  - Put your feet together and keep your arms close to your body.
  - Keep your feet together as you jump out. Make sure you never touch any metal part of the vehicle and the ground at the same time.
  - Hop away from the vehicle, keeping your feet together until you are at least 10 metres away from the vehicle or from any fallen power lines.

Workers near Fallen Power Lines (less than 10 metres):

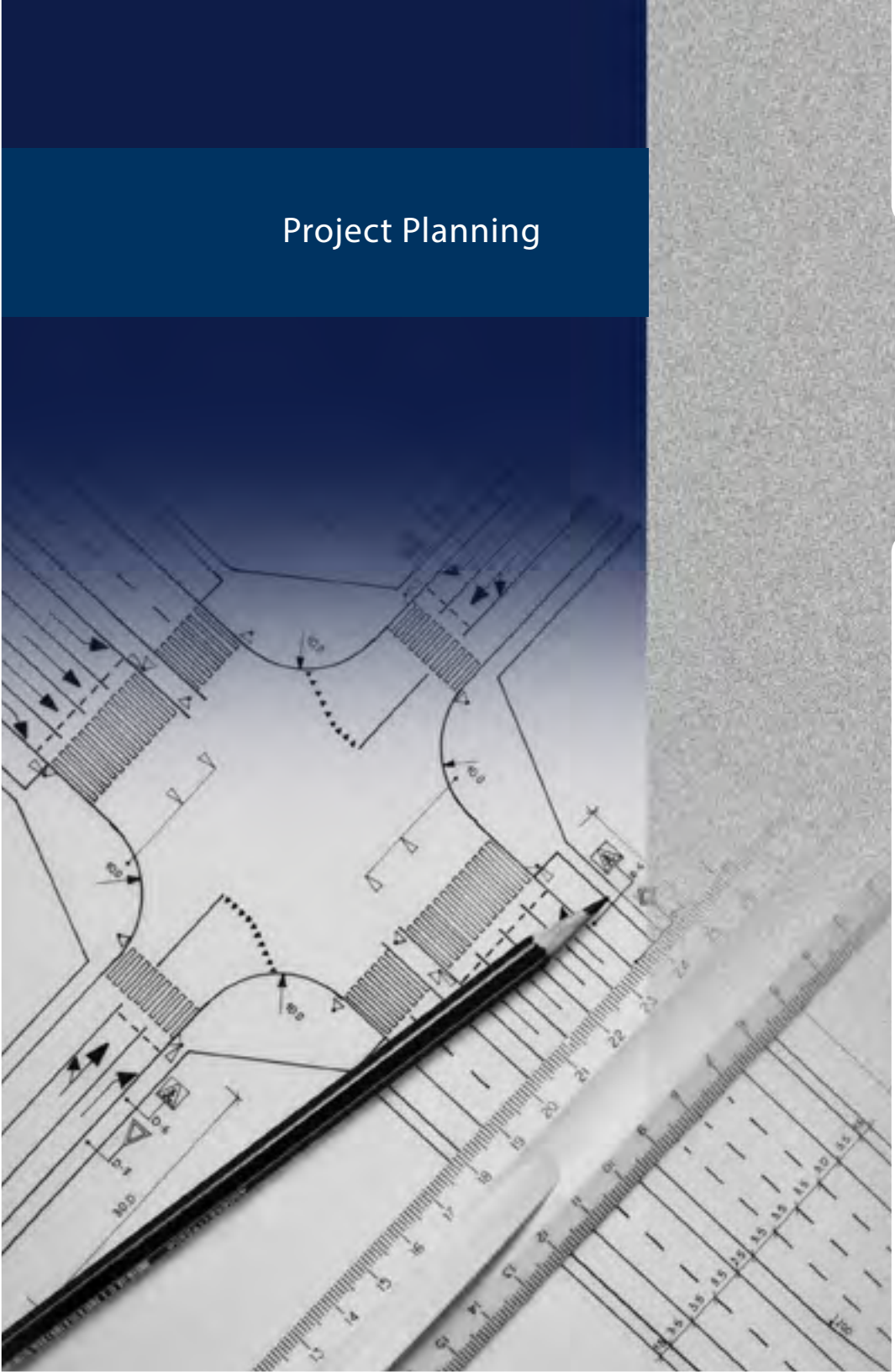
- If possible, **call 911 or emergency services.** Mention that an electrical equipment has been damaged.
- Do not approach the vehicle and do not touch it. Tell anyone in the vicinity to stay well away from the vehicle and not to touch it.
- Hop away from the vehicle, keeping your feet together until you are at least 10 metres away from the vehicle or from any fallen power lines

For any other situation

such as tears, grooves, abrasions, dents, cracks made on an underground infrastructure or any other damage made to connected equipment (tracer wires, anodes, etc.), please notify the owner of the damaged infrastructure or Info-Excavation, and verify the written instructions given in the locate reports. Consult the list of network owners participating in this document.

- **NEVER leave a trench exposed** in a way that makes it accessible to the public. All necessary safeguards must be installed.
- **NEVER bury a damaged infrastructure,** regardless of the extent of damages.
- **If you discover that a natural gas pipeline has ruptured a sewer line,** communicate immediately with the emergency number of the owner of the natural gas pipeline listed on page 5.

Project Planning



1 - Project Planning

1.1 Engineering Request

Once a project reaches the planning or bidding stage it is critical to check if any underground infrastructure is located near your worksite in order to:

- Avoid any unforeseen costs or delays during the work;
- Plan for all the necessary precautionary measures;
- Warn those involved of the risk of incidents.

You need to make an engineering request to Info-Excavation to access plans from owner members of underground infrastructures, and find out which underground infrastructures are located within your work area. Allow five (5) business days to receive the plan.

Please note that the data transmitted may vary from one company to another. In the event a plan cannot be transmitted by the owner member of the underground infrastructure, a locate with site markings could be performed.

Under no circumstances obtaining an engineering request relieves you of the obligation to make a locate request before starting the ground disturbance work.

You must contact owners of underground infrastructures directly if they are not members of Info-Excavation (such as some municipalities and RCM's). For the complete list of members, please visit Info-Excavation's website.

1.2 Required Clearances by Type of Work

1.2.1 Planting Trees and Shrubs

A minimum lateral clearance distance is required between the tree root ball and the existing underground infrastructure. The distance may differ depending on the nature of the underground infrastructure. For underground infrastructure located in concrete ducts, the minimum clearance distance is 1.0 m (3 ft). For some infrastructure owners, these particularities will be indicated on the locate reports and in Table 2 - Clearances to Maintain for Some Owners of Underground Infrastructures (see Section 1.2.6)

For important underground infrastructures (e.g., high-pressure natural gas pipelines, vital mains, etc.) identified by a specific reference on the locate report, an authorization request must be submitted and the owner of the relevant underground infrastructure will require a larger lateral clearance for trees and shrubs.

When it is impossible to respect the requested clearance, an agreement must be reached with the owner of the underground infrastructure. Please consult the list of network owners participating in this document.

For the purposes of these guidelines, the term "shrubs" applies to plants that are in the form of small trees or shrubs and whose maximum height at maturity does not exceed 2.5 meters. They must have a slow-spreading root system and be able to tolerate transplanting so that they can be removed or moved during construction work. However, it remains essential to comply with the prescribed minimum clearance distances.

1.2.2 Ditch Redesign and Maintenance Work

A locate request is required for this type of work. Each owner of underground infrastructures will state the instructions to be followed·

Instructions set forth by owners of underground infrastructures are important, as there are specific risks related to ditch redesign and maintenance work. For instance, the owner may require that a company representative be onsite while work is performed to ensure that the cover is sufficiently thick throughout the entire length of the work.

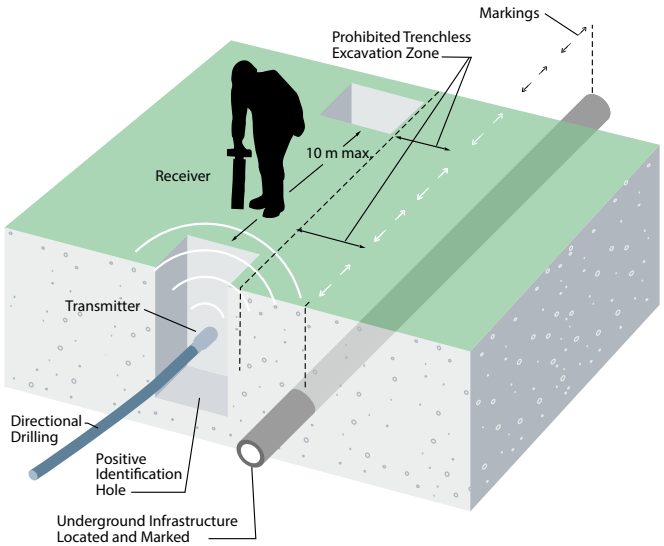
1.2.3 Trenchless Excavation

When working with drilling equipment, screw piles and the use of augers, the risk of damage increases. The conditions to be observed are set out in the following paragraphs. The distance may differ depending on the nature of the underground infrastructure, and guidelines may be indicated on the locate reports and in Table 2 - Clearances to Maintain for Some Owners of Underground Infrastructures.

1.2.3.1 Drilling Parallel to an Underground Infrastructure

No drilling can be done at a distance of less than 1.2 m (4 ft) from markers (markings or sketches) provided by the owner of the underground infrastructure. In some cases, however, this zone may be extended. You are responsible for complying with this clearance distance (see the "1.2.6 - Table 2 - Clearances to Maintain for Some Owners of Underground Infrastructures and notes on locate reports).

Figure 1 - Drilling Parallel to an Underground Infrastructure



1.2.3.1 Drilling Parallel to an Underground Infrastructure (cont'd)

Where the borehole alignment path runs along an underground infrastructure between 1.2 m (4 ft) and 3 m (10 ft) from the markings, positive identification holes should be dug at intervals not exceeding 10 m (32 ft). This will allow the precise location of the drilling head and back reamers (if applicable) to be visually verified. The width of these positive identification holes must be sufficient to see the entire drilling equipment as it travels from the entry point to the exit point along its entire length.

If there are crossings along the trenchless excavation path, please refer to the "Drilling Perpendicular to an Underground Infrastructure" 1.2.3.3 section.

Table 1 - Specific Requirements for Énergir and Enbridge Gaz Québec

Distance between positive identification holes depending on the type of drilling and the distance from the infrastructure

	Distance Between Torpedo Path and Natural Gas Pipeline (m)	Distance Between Positive Identification Holes (m)
Directionnal Drilling	from 1.2 to 3	10
"Torpedo" Type Drilling	Less than 1.6	Forbidden*
	1.6	6.5
	1.7	7.0
	1.8	7.5
	1.9	8.0
	2.0	8.5
	2.1	9.0
	2.2	9.5
	from 2.3 to 3	10.0

* No "Torpedo" type drilling is permitted at a distance of less than 1.6 m from the gas infrastructure.

1.2.3.2 Vertical Drilling (Coring, Pile Driving, Auger Use, etc.)

All vertical drilling **must be carried out at a distance that respects buffer zones but must never be less than 1.2 m (4 ft)** from the markers (marking or locate report) of the intermediate pressure pipes provided by the owner of the underground infrastructure.

However, in some cases, the buffer zone may be increased. It is your responsibility to ensure that it is respected. Please refer to Table 2 - Clearances to Maintain for Some Owners of Underground Infrastructures or the notes on locate reports.

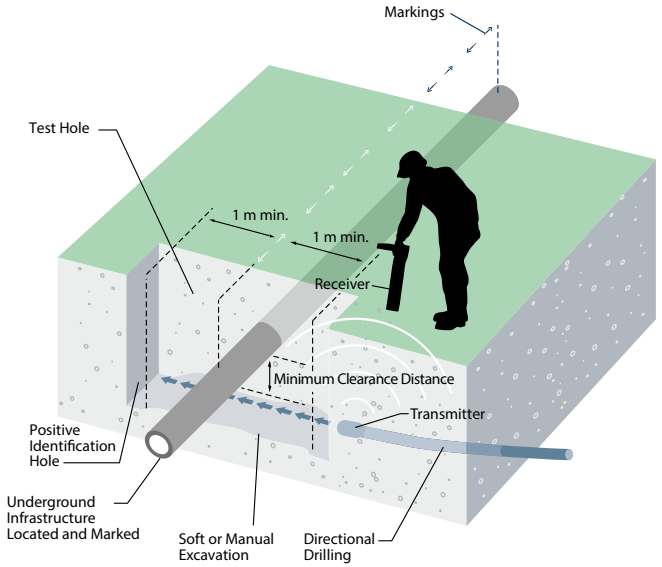
1.2.3.3 Perpendicular Directional Drilling and Angle drilling

When the drilling path crosses an underground infrastructure, **the infrastructure must first be completely exposed**. The width of the positive identification hole must be sufficient (as per Figure 2 and 3) to be able to see all of the drilling equipment, and to stop the drilling operation before any contact with the infrastructure or if an anomaly is detected.

Drilling must be done in such a way as to have a minimum required clearance with the underground infrastructure already in place. (see Table 2 - Clearances to Maintain for Some Owners of Underground Infrastructures and the notes in the locate reports).

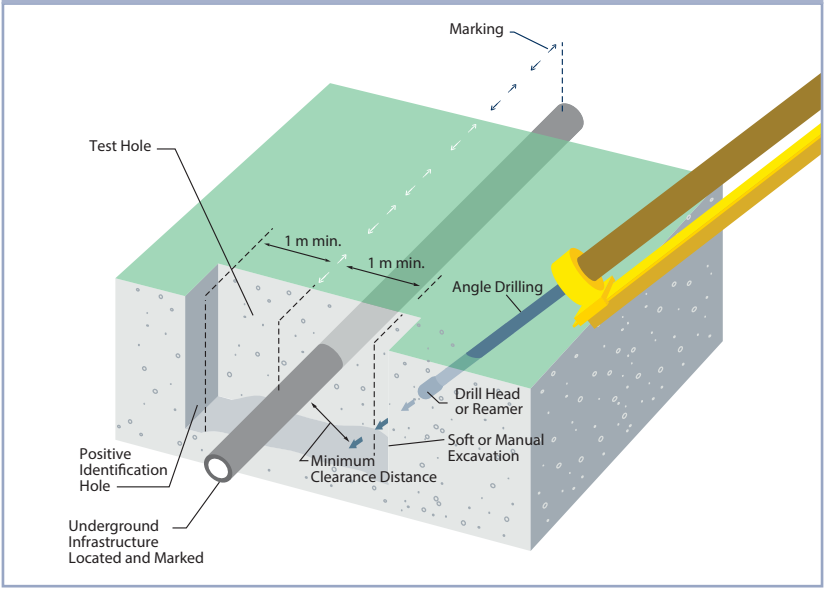
The exposed underground infrastructure must be adequately supported to maintain its original level throughout the drilling operation. This will ensure that the infrastructure is not damaged and cannot move horizontally or vertically at any time and at any point. Refer to Section 3.5 "Support" to ensure the protection of exposed underground infrastructures.

Figure 2 - Perpendicular Directional Drilling Over an Underground Infrastructure



1.2.3.3 Perpendicular Directional Drilling and Angle Drilling (cont'd)

Figure 3 - Angle Drilling



1.2.4 Installation of New Underground Infrastructure

Clearance instructions must be followed when installing any other infrastructure. When it is impossible to respect these distances, special measures can be considered. In such situations, it is your responsibility to communicate with the owner of the underground infrastructure (consult the List of network owners participating in this document) to propose an alternative solution, which is subject to its approval.

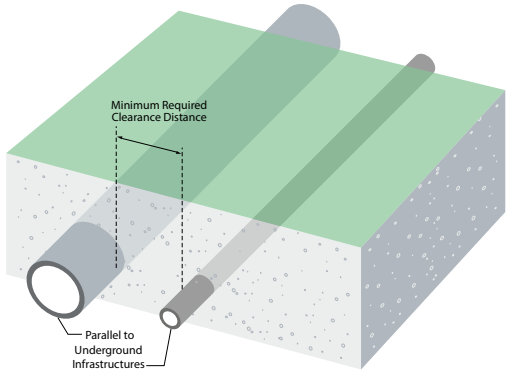
For important underground infrastructures (e.g., high-pressure natural gas pipelines, vital mains, etc.) identified by a specific reference in the locate report, the contractor must communicate with the infrastructure's owner to find out the required clearance distance.

1.2.4 Installation of New Underground Infrastructure (cont'd)

• Work Parallel to an Underground Infrastructure (see Figure 4)

Any structure installation parallel to an existing underground infrastructure must be at a distance corresponding to the minimum required clearance distance to facilitate any future intervention. This distance may vary depending on the underground infrastructure. Please refer to the Table 2 - Clearances to Maintain for Some Owners of Underground Infrastructures (Section 1.2.6).

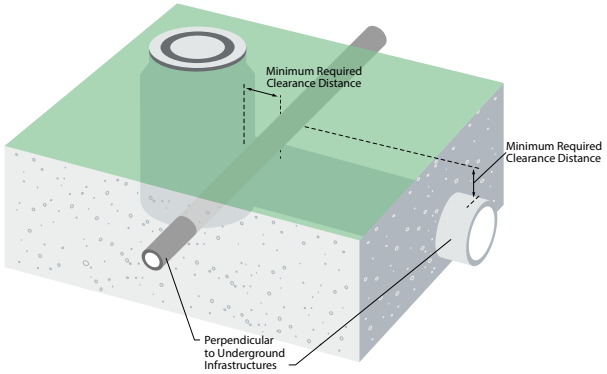
Figure 4 - Parallel Structures



• Crossing an Underground Infrastructure (see Figure 5)

Any structure installation that crosses existing underground infrastructures must be done at a distance corresponding to the minimum required clearance. It is preferable to maximize this distance. This distance may vary depending on the underground infrastructure. Please refer to Table 2 - Clearances to Maintain for Some Owners of Underground Infrastructures (Section 1.2.6).

Figure 5 - Perpendicular Structures



1.2.4 Installation of New Underground Infrastructure (cont'd)

- **Heat-Generating Infrastructure**

  For the installation of heat-generating infrastructure near existing underground infrastructures, the clearance distance may vary from one owner to the next. Please contact the owner to learn what guidelines must be followed.

For safety purposes related to potential gas migration during a leak, the natural gas pipeline must be kept above any other type of facility. Please contact the owner of the underground infrastructure if you cannot comply with this requirement.

1.2.5 Specific Requirements for Énergir and Enbridge Gaz Québec

If your project (e.g., excavation, heavy equipment, etc.) is within Énergir's easements or within 3.0 m of a Enbridge Gaz Québec vital main (VM), you must first obtain written authorization from the infrastructure owner. These specific requirements will be specified in locate reports.

Additional requirements specific to Enbridge Gaz Québec:

- A Enbridge Gaz Québec representative must be onsite when ground disturbance is done within 5 m or less from a vital main; and at 30 m or less when dynamic compaction or pile driving is performed.
- When directional drilling **below** the underground infrastructure, all sides of the infrastructure must be cleared to the width of the buffer zone by using a soft excavation method. When directional drilling **above** the underground infrastructure, all sides as well as the top will need to be exposed.
- During directional drilling, an additional positive identication hole will need to be conducted between 2.0 m and 4.0 m (6.6 ft to 13.1 ft) upstream and at the drill depth to verify the path of the drilling head and back reamer.

1.2.6 Guidance for Project Planning - January 2026 Version

No mechanical excavation permitted in the buffer zone

This table is a summary. Refer to the related sections of the document for details and specifications

Table 2 - Minimum Clearance Requirements for Some Underground Infrastructure Owners

Nature de l'infrastructure		Natural Gas				Tele-communications	Electricity			Other
Owners of Underground Infrastructures		Energir / Enbridge Gaz Québec (EGQ)				Bell TELUS Vidéotron	Hydro-Québec			CSEM
Type of Network		**Energir:** Distribution (700 kPa or less) **EGQ:** All IP pipes as well as Steel pipes <6 in. diameter[1]	**Energir:** High-Pressure (1000 to 2900 kPa) **EGQ:** High Risk pipelines (HP and XHP pipes 6 in. diameter and more)[2]	**Énergir:** Very High-Pressure Transmission Over 2900 kPa	**EGQ:** Vital Mains (VM)		Low and Medium Voltage Conduits	Low and Medium Voltage Electrical Structuress	High Voltage (44kV or more)	
Written authorization (10 business days are required)		No (Except Énergir for easement)	No (Except Énergir for easement)	Yes	Yes	No	No	No	No	N/A
Utility owner representative required during excavation work (requires a 48-hour notice)		No	Yes	Yes	Yes	No	No	No	No	Yes
Utility owner representative required during ditch grading and cleaning (requires a 48-hour notice)		Yes	Yes	Yes	Yes	No	No	No	No	N/A
Minimum Clearance Required										
1.2.1 Tree Planting[3]		1.5 m (5 ft)	1.5 m (5 ft)	Authorization request required	3.3 m (11 ft)	1.5 m (5 ft)	1.5 m (5 ft)	2 m (6 ft)[4]	1.5 m (5 ft)[4]	Access point / Transformer chamber: 3 m (10 ft)[4] Duct Bank: 1.5 m (5 ft)
1.2.1 Shrub Planting[3]		1.5 m (5 ft)	1.5 m (5 ft)	Authorization request required	3.3 m (11 ft)	1.5 m (5 ft)	0	Pole: 0 Other structure: 2 m (6 ft)[4]	1.5 m (5 ft)[4]	1 m (3 ft)[4]
1.2.3 Trenchless Excavation	Parallel[5]	1.2 m (4 ft)	1.2 m (4 ft)	Authorization request required	3 m (10 ft)	1.2 m (4 ft)	1.2 m (4 ft)	s.o.	1.5 m (5 ft)	1.5 m (5 ft)
	Perpendicular	300 mm (1 ft)	600 mm (2 ft)	Authorization request required	3 m (10 ft)	600 mm (2 ft)	300 mm (1 ft)	1.5 m (5 ft)	1.2 m (4 ft)	1.5 m (5 ft)
	Vertical	1.2 m (4 ft)	1.2 m (4 ft)	Authorization request required	3 m (10 ft)	1.2 m (4 ft)	1.2 m (4 ft)	1.5 m (5 ft)	1.5 m (5 ft)	1.5 m (5 ft)
1.2.4 Installation of New Underground Structures	Parallel	1 m (3 ft)	1 m (3 ft)	Authorization request required	1 m (3 ft)	1 m (3 ft)	300 mm (1 ft)	s.o.	1 m (3 ft)	1 m (3 ft)
	Perpendicular	300 mm (1 ft)	300 mm (1 ft)	Authorization request required	600 mm (2 ft)	600 mm (2 ft)	300 mm (1 ft)	Pole: 1 m (3 ft) Other structure: 300 mm (1 ft)	300 mm (1 ft)	1 m (3 ft)
3.4 Ground Disturbance Work in the Buffer Zone		1 m (3 ft)	1 m (3 ft)	3 m (10 ft) plus a written authorization	3 m (10 ft)	1 m (3 ft)	1 m (3 ft)	1 m (3 ft)	1.5 m (5 ft)	1 m (3 ft)
3.4 Reduced Clearance Permitted once the underground infrastructure is visible		300 mm (1 ft)	600 mm (2 ft)	1 m (3 ft)	1 m (3 ft)	600 mm (2 ft)	300 mm (1 ft)	300 mm (1 ft)	300 mm (1 ft)	600 mm (2 ft)
3.8 Blasting, Dynamic Compaction		30 m (100 ft)	30 m (100 ft)	60 m (200 ft)	30 m (100 ft)	30 m (100 ft)	30 m (100 ft)	30 m (100 ft)	30 m (100 ft)	30 m (100 ft)
3.8 Pile-Driving		10 m (33 ft)	10 m (33 ft)	30 m (100 ft)	10 m (33 ft)	10 m (33 ft)	1 m (3 ft)	1 m (3 ft)	30 m (100 ft)	1 m (3 ft)

1 - IP : Intermediate Pressure (35 to 64 PSI)
2 - HP : High Pressure (65 to 175 PSI)
XHP : Extra High Pressure (176 to 650 PSI)

3 - Distances must be measured from the center of the tree/shrub to the marking when the root ball has a diameter of 600 mm or less.
For root balls with a diameter greater than 600 mm, a prior agreement with the infrastructure owner is required.

4 - The clearance distance mentioned must be taken from the underground infrastructure's outer wall and the edge of the root ball (tree/shrub).

5 - For torpedo drilling refer to Table 1, Section 1.2.3.1

1.2.7 Above-ground structures

Some underground infrastructure provides service to above-ground equipment, such as electrical cabinets or electrical devices. To ensure access and safety during maintenance work, a clearance of 4 meters must be maintained along the door opening axis of these above-ground cabinets and devices. This clearance must remain unobstructed at all times, without any obstruction—fences, vegetation, vehicles, accumulation of snow or ice, etc. This requirement is intended to ensure adequate working space for the operation and maintenance of this equipment.

1.3 On-Site Observations of Future Work

At the planning stage, visit the future worksite to ensure that the answers received from the owners of underground infrastructures match what is observed onsite. Among other things, observe:

- Markers of underground infrastructures;
- Poles (electrical and telecommunication signs);
- Underground structures or boxes.

In the event of any inconsistency, please contact Info-Excavation or the owner of the underground infrastructure.

Special requirement for Énergir and Enbridge Gas Québec: Safety item

In situations where work will be carried out near a foundation featuring a riser pipe for a natural gas service, check whether the base (near the ground) of the riser pipe is securely attached to the foundation with a support. If no support is visible, contact the gas provider as soon as possible to coordinate securing the riser pipe before your work begins.

1.4 Depth of Underground Infrastructures

Never assume that you know the depth of an underground infrastructure. The depth (also called cover or Z dimension) of underground infrastructures varies depending on the location, even over short distances. It may be determined by executing a positive identification hole (also called test hole or investigative digs) done using soft excavation methods. A locate request is required before doing a positive identification hole.

Depending on the nature of the work to be performed, it may be necessary to ascertain the depth in the planning stage in order to avoid any setbacks.

1.5 Consequences of Your Work on Existing Networks

From the earliest planning stages of a project, it's important to contact the owners of the underground infrastructures concerned if your work involves, for example, a change in the vocation or landscape profile of the property, or the installation or relocation of underground or above-ground infrastructures.

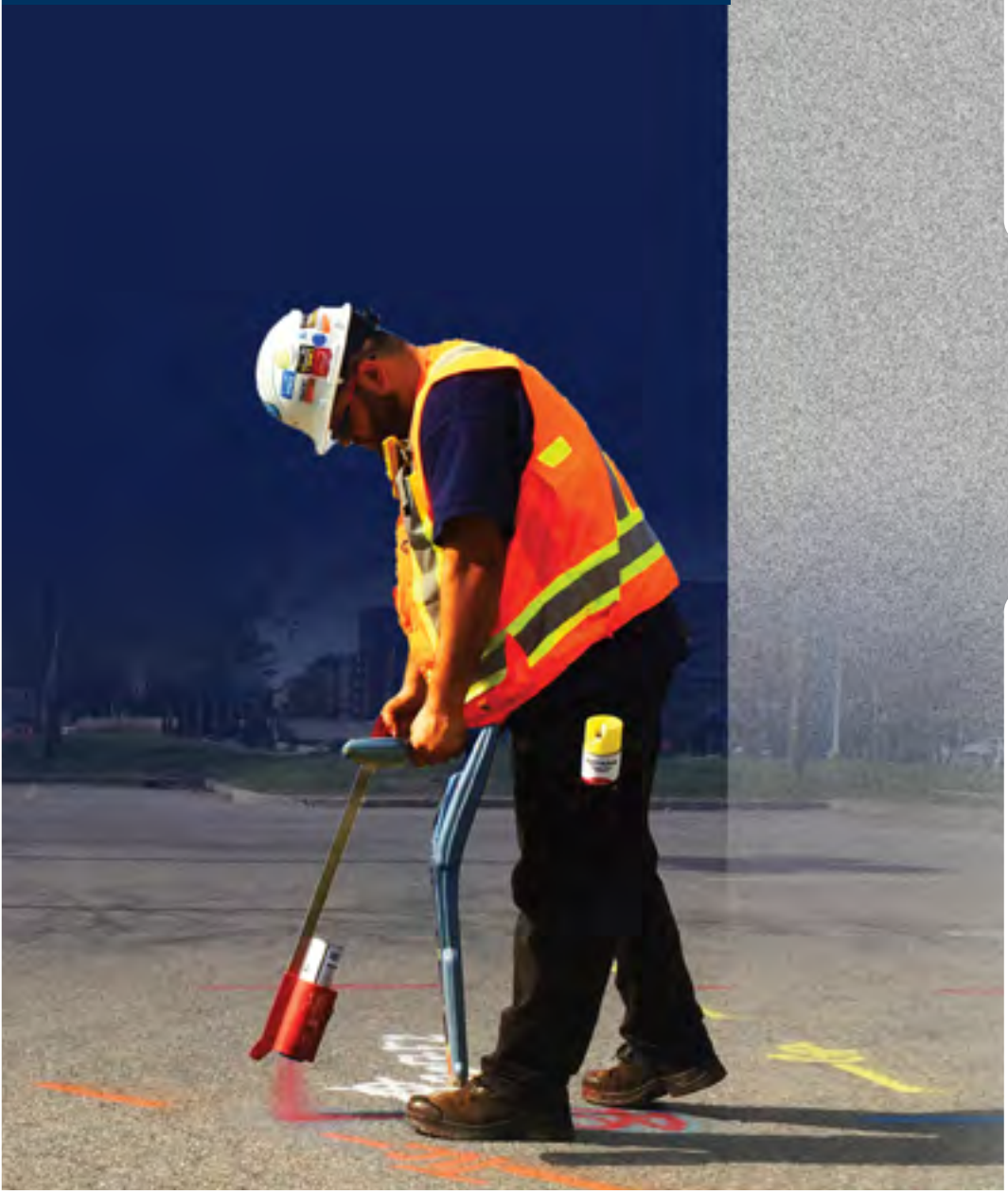
It's important to maintain access to underground infrastructures at all times and to comply with requirements of owners of underground infrastructures. Installation of permanent structures above underground infrastructures are prohibited.

The nature and scope of the planned work may require the implementation of specific safety measures and may sometimes require supporting, moving or replacing existing installations. Specific information is described under Section 1.2 "Clearance to Be Respected Depending on Type of Work". Please consult the List of network owners participating in this document.

1.6 Minimum Cover Requirements

The thickness and the nature of the final cover of underground infrastructures must always be restored to their original levels in accordance with the minimum requirements of the underground infrastructures owners. They must also comply with the requirements of the municipality or the ministère des Transports et de la Mobilité durable for properties they own or that fall under their jurisdiction when they are more demanding.

Prior to Work



2 - Prior to Work

2.1 Locate Request

Before undertaking any type of ground disturbance or excavation, regardless of depth, you must:

- Make a locate request to Info-Excavation (through info-ex.com or on their mobile application (IOS and Android) — Free service 24/7;
- At all times, await answers from owners of underground infrastructures.

2.2 Locate Report

All answers and locate reports must be received from owners of underground infrastructures located in the work area. It is particularly important to:

- Know the instructions and requierments specified on the locate reports by underground infrastructure owners;
- Ensure that the work zone identified in the locate request matches the locate reports received;
- Pay particular attention to the locating process (marking, staking, flagging, sketching or any other method). Note that some owners no longer perform on site ground markings (only a locate on sketch is provided);
- Ensure that the locate of the infrastructure and the work zone match the area where the work will be performed;
- Pay close attention to the details identified in locate reports and ensure it matches the markings, if applicable;

  In the event of any inconsistency, contact the affected owner of the underground infrastructure or Info-Excavation;
- Ensure that every worker at the work site understands the information provided in locate reports;
- Be sure to complete your work within the dates that you provided to Info-Excavation at the time of your locate request (start and end of the work). If you do not expect to finish your work on the specified end of wotk date, you must contact Info-Excavation to update it;
- Keep all documents (paper or electronic) on site for the duration of the work. **One copy must be present in the machinery (i.e., backhoe),**
- Submit a new locate request to Info-Excavation when an infrastructure owner is required to temporarily or permanently relocate its conduits or facilities, and the infrastructure layout no longer corresponds to the initial locate report**.**

2.3 Positive Identification Holes[3]

Positive identification holes allow to visualize an underground infrastructure located within the work area. They must be done using recognized soft excavation methods, and executed within the buffer zone to determine the location, depth and size of the underground infrastructure. Verify the requirements for each owner of underground infrastructures under the "3.2 Soft Excavation" section

2.4 Confined Space (Manhole or Shaft)

- Confined spaces covers must not be removed except for the special instructions given below.
- Confined Space Entry Request: An access request must be made to the owners of underground infrastructures. Except for the specific requirements related to sidewalk repairs, please consult the List of network owners participating in this document.

Specific Requirements for the Following Underground Infrastructure Owners:

CSEM:

Special instructions related to sidewalk rehabilitation. When rehabilitating a sidewalk, only trained and specialized in confined space personnel are authorized to open access shafts without an authorization request.

Without entering them, they can visually determine the distance between the sidewalk slab and the roof of the access shaft. They must perform all appropriate inspections, checks and take all necessary precautions to prevent personal injury or damage linked to gas accumulation in these confined spaces. This visual inspection is mandatory before sawing sidewalk slabs as some access shaft roofs serve as a sidewalk.

TELUS and Vidéotron:

Specific guidelines for all confined spaces. Only trained and specialized in confined space personnel are authorized to open access shafts without an authorization request.

Without entering them, they must perform all appropriate inspections, checks and take all necessary precautions to prevent personal injury or damage linked to gas accumulation in these confined spaces.

3 - Positive identification holes, exploratory excavations or test cuts — consult the videos on these methods (info-ex.com/dvd).

2.5 Overload Vehicle, Traffic and Installation of Structures Above the Buffer Zone

Working methods must ensure the integrity of underground infrastructures. The passage and frequent use of heavy equipment can compromise the integrity of the infrastructure and even lead to a damage. When using heavy equipment, a locate request must be made prior to its use to determine the location of underground infrastructures.

Specific Requirements for the Following Underground Infrastructures Owners:

Bell, CSEM, TELUS, Vidéotron and Hydro-Québec:

An authorization request must be sent to underground infrastructures owners in all cases of overload.

It is prohibited to:

- Place an overload on existing underground structures;
- Use vibrating equipment (e.g., jackhammer) near these structures;
- Use heavy equipment above infrastructures.

Énergir and Enbridge Gaz Québec:

For any heavy equipment crossing where no pavement exists or where grading operations are carried out, an authorisation request (including, but not limited to, details of work, drawings, planning and equipment data sheets that will cross the existing underground infrastructure) should be sent to the infrastructure owner.

Parking heavy equipment within the buffer zone is forbidden (e.g., a crane including its stabilizers).

No structure (temporary or permanent) or any storage (materials, containers, trailers, etc.) is authorized within the buffer zone.

Specific requirements for Enbridge Gaz Québec:

No structure or storage is authorized within 7.0 m of vital mains. An authorization request must be sent to Enbridge Gaz Québec.

During Ground Disturbance Work

3 - During Ground Disturbance Work

When working near underground infrastructures, preventive measures are necessary to ensure their integrity and protect them from all possible forms of deterioration (e.g., infrastructure support, vandalism, falling materials, road accidents, etc.). Infrastructures and related equipment must never be used as a step, weight-bearing or anchorage point.

Employees of underground infrastructures owners are the only ones authorized to inspect the condition of damaged infrastructures and perform the required repairs.

The integrity of the ground on which infrastructures rests must be maintained throughout the work. They must not end up in the zone of slope instability, which depends in particular on the nature and level of soil saturation as well as traffic loads nearby. When required, it is necessary to use shoring structures or an engineering design study.

The presence of caution tape should not be relied upon, as it is not always present (this varies according to the region and the underground infrastructures original installation method).

3.1 Marking Preservation

Every effort must be made to maintain the marking of underground infrastructure. In situations where there is a risk that the markings will disappear in the course of the work (e.g. during the removal of the paved surface), sketchs provided in the locates by the infrastructure owners are used to redo the markings.

The markings must comply with the North American standardized colour code used to identify the different types of underground infrastructures.

RED	BLUE	YELLOW	PINK
Electricity	Waterworks	Natural gas & Hydrocarbon	Survey
ORANGE	WHITE	GREEN	PURPLE
Telecommunication & Cables	Pre-marking	Sewers	Irrigation

Once the work is complete, it is recommended to soften markings and remove stakes and flags used for locating the underground infrastructures.

3.2 Soft Excavation

Soft excavation methods include manual digging, vacuum excavation techniques, aero excavation and hydro excavation. The excavation method must be adapted to maintain the structural integrity of the underground infrastructure.

Only soft excavation is authorized within the buffer zone until the exact location of the underground infrastructure is verified visually.

- Before commencing any excavation using the soft excavation method, verify that the locates have been obtained as specified in sections 2.1 and 2.2 of this document.
- Only a competent, qualified and trained worker must operate the hydro-excavation equipment.
- A spinning tip nozzle is the preferred equipment used for hydro-excavation. However, its use is mandatory for Énergir and Enbridge Gaz Québec.

  The maximum water pressure to be used during the excavation differs from one owner to the next. When many underground infrastructures are located within the work area, the strictest instructions must be respected.

Specific Requirements for the Following Owners of Underground Infrastructures:
Bell, CSEM, TELUS and Vidéotron: 10 350 kPa (1,500 lb/in^2).
Énergir, Enbridge Gaz Québec and Hydro-Québec: 17 250 kPa (2,500 lb/in^2).

- Pressure measurements must be constantly monitored and adjusted using a gauge mounted on the hydro-excavator (truck, pump) or on the wand in order to avoid damaging the underground infrastructure.
- The wand must never remain motionless during an excavation. Always avoid aiming directly at the underground infrastructure.
- As long as the location of the infrastructure has not been visually identified, excavation must be carried out gradually toward the center of the buffer zone, maintaining a minimum distance of 20 cm (8 in) between the end of the nozzle and the bottom of the excavation. Never insert the nozzle into the bottom of the excavation when excavating above an underground infrastructure.
- The end fitting of the suction hose must be made of a non-metallic, supple material that will not damage the underground infrastructure.
- The wand must be fitted with a device capable of stopping the equipment on demand, such as an automatic trigger or a safety valve.
- The water temperature must never exceed 45 °C (115 °F).

3.3 Use of a Concrete Saw (Surface Sawing)

Pay close attention to markings located above underground infrastructures, since the depth of underground infrastructures may vary, even over short distances.

The depth cut must be adjusted according to the type of ground covering so as not to exceed its thickness during the cut.

Specific Requirements for the Following Owners of Underground Infrastructures:
CSEM: Structures may be used as sidewalk slabs or pavement. Make sure you know their thickness before sawing. To verify the structure's thickness, please consult the "Confined Areas" section and the CSEM's specific requirements..
Bell, Vidéotron and TELUS: Saw cuts must be done outside the buffer zone. Using soft excavation methods, the contractor may then excavate toward the markings made within the work area to determine the location and depth of underground infrastructures.

3.4 Ground Disturbance work in the Buffer Zone

3.4.1 Requirements in the Buffer Zone

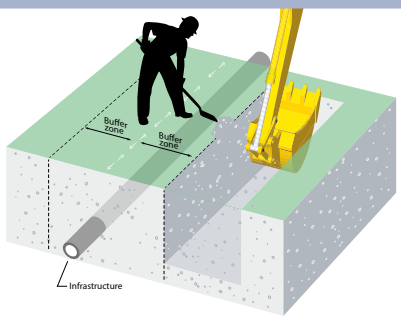
Mechanical excavation is not allowed within the buffer zone until the exact location of the underground infrastructure is located visually using soft excavation methods (see section 2.3 Positive Holes). A clearance table is available for some infrastructure owners in section 1.2.6.

Mechanical excavation is only permitted directly above the pipeline for removing the solid ground surface portion (e.g., asphalt, concrete, sidewalk, etc.).

Once the underground infrastructure is visually located, the contractor is authorized to use mechanical equipment closer to the infrastructure depending on the particularities of each infrastructure owner and the nature of the underground infrastructure. Refer to the Reduced Clearance Permitted (once the underground infrastructure is visible) in the table 1.2.6. for each underground infrastructures.

Only a soft excavation method is authorized near the infrastructure so as to maintain the structural integrity of the infrastructure.

Figure 6 - Mechanical Excavation Prohibited Within the Buffer Zone



3.4.2 Requirements for Unshrinkable Fill

In the presence of unshrinkable fill, dried clay, frozen ground, and rock in the buffer zone, tools complementary to soft excavation methods may be used with care, to visually locate the underground infrastructure. This type of tool, such as a jackhammer or demolition hammer, can be used if the following conditions are met: the tool is compact and lightweight (less than 10 kg), and is fitted with a wide edge (more than 75 mm / 3 ft) or clay spade chisel.

Specific Requirements for the Following Underground Infrastructure Owners:

Enbridge Gaz Québec:
When using the tools described in section 3.4.2 in the buffer zone, a request must be sent to Enbridge Gaz Québec, written approval must be obtained and a Enbridge Gaz Québec representative must be present on site.

3.5 Infrastructure Support

The underground infrastructure must be **adequately supported to maintain its original level** throughout the project in order to avoid damaging it and to keep it from shifting either horizontally or vertically at any point or at any time. (The use of chains is not permitted as a supporting method.)

Even if made of concrete, **no infrastructure is self-supporting.**

Underground infrastructures must be supported by a smooth support as shown in Figure 7. The underground infrastructure may also rest directly on the supports (as shown in Figure 8), provided that they do not damage the underground infrastructure or its coating. To achieve this, materials such as rubber or wood are required.

When the structure is a concrete duct bank, the load calculation must be made in connection with the supporting plan submitted to the underground infrastructure owner. The strength specification of the strap used must comply with the supporting plan based on the weight of the structure. Wooden planks must be installed under the structure's corners to distribute the tensile force and avoid damaging the concrete duct bank's.

Where underground infrastructures are inserted in a cast iron, steel or plastic casing, special precautions may be necessary. If necessary, communicate with the owner of the underground infrastructure.

When excavation is carried out within 2.5 m of poles, an assessment of soil stability must be performed based on the soil type and its cohesion. This assessment is intended to determine whether pole support is required to ensure the safety of the installation and of workers.

Specific Requirements for the Following Owners of Underground Infrastructures:

Bell, CSEM, Hydro-Québec, TELUS and Vidéotron:
The support method and plans must be signed and sealed by an engineer in good standing with the OIQ. This is the responsibility of the contractor.

If you have any questions, please contact the owner of the underground infrastructure.

3.5 Infrastructure Support (cont'd)

Specific Requirements for the Following Owners of Underground Infrastructures (cont'd):

CSEM:

For concrete infrastructure and pipes, the standards set out in the CSEM's general specifications, in particular standard 406, must be complied with. The method and plans for supporting the infrastructure must be approved in advance.

Énergir:

The maximum distance between supports must meet the following requirements (see exemple in Figure 7 and 8):

Diameter of Natural Gas Pipeline	Maximum Distance Between 2 Supports
168 mm (6 in) or less	3 m (10 ft)
More than 168 mm (6 in)	5 m (16 ft)

The natural gas pipe must be supported by a smooth support having a width equal to at least half the diameter of the pipeline and bearing on one third of its circumference, as shown in Figure 7.

Enbridge Gaz Québec:

For the maximum span without a supporting beam, the instructions to be followed are detailed in this table (see exemple in Figure 7 and 8):

Nominal Pipe Size (NPS)	Steel m (ft)	Polyethylene m (ft)
½	2 m (6.6 ft)	1 m (3.3 ft)
¾ to 1¼	2.5 m (8.2 ft)	1.25 m (4.1 ft)
2	3 m (10 ft)	1.5 m (5 ft)
3 to 4	4.5 m (15 ft)	1.75 m (6 ft)
6	6 m (20 ft)	2 m (7 ft)
8	7 m (23 ft)	2 m (7 ft)
10	8.5 m (28 ft)	-
12	10 m (33 ft)	-
16	11.5 m (38 ft)	-
20	13 m (43 ft)	-
24	15 m (49.2 ft)	-

Dimensions of Supporting Beam and Maximum Span Between Supporting Beams

Nominal Pipe Size (NPS)	Steel	Polyethylene	
	≤ 4.5	≤ 2	≤ 4.5
½ to 2	4 × 6	4 × 6	6 × 8
3 to 12	-	6 × 6	8 × 8

3.5 Infrastructure Support (cont'd)

Enbridge Gaz Québec (cont'd):

The beam must be category 1 S-P-F (spruce, pine, fir) or equivalent. If the beam's span exceeds 4.5 m (15 ft), a continuous wooden beam may not be available; if so, I-steel beams (or their equivalent) may be used. The chosen steel beams must be certified by a professional engineer (see exemple in Figure 7 and 8). Should your situation differ from the supporting methods shown in this section, a plan signed and sealed by an engineer must be sent to Enbridge Gaz Québec. Once authorized by Enbridge Gaz Québec, the plan must be implemented on site.

Figure 7 - Overhead Support (Exemple for Énergir et Enbridge Gaz Québec).

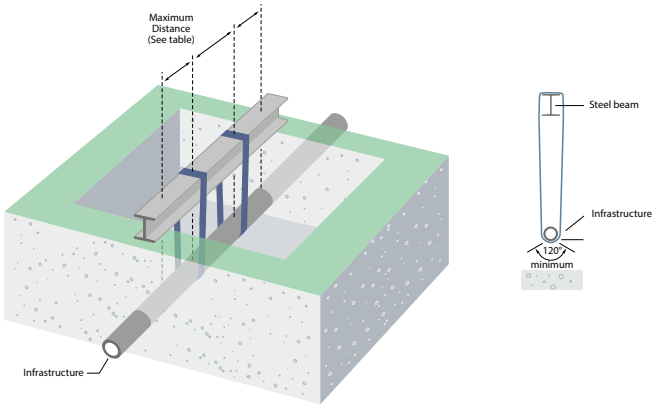
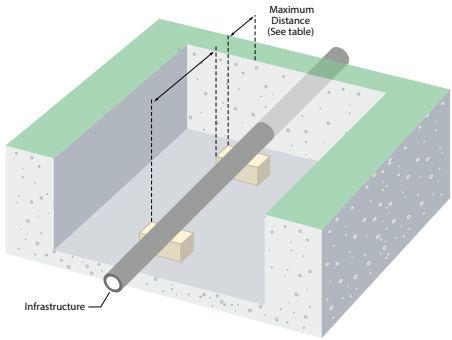


Figure 8 - Underlying Support (Exemple for Énergir et Enbridge Gaz Québec).



3.6 Backfilling

Backfilling must be done carefully and avoiding, among other things, the use of sharp objects, compacted or frozen soil, and not to bury pieces of pipe or other waste.

If conditions permit, the reuse of excavated soils or material should be preferred when backfilling to minimize the impact of winter frost (trench heaving or trench depression). Mineral and compactible materials must be used. Organic soils (branches, stumps, etc.), contaminated materials, rocks and clumps of frozen earth whose diameter exceeds 150 mm as well as materials used to support the underground infrastructure must be removed.

For the padding and bedding material, the excavation must be backfilled with clean or new granular material from a sand pit or quarry meeting the requirements of the following two tables:

Table 3 - Granulometric Requirements of Bedding* and Padding Material**

	Sieve		
	20 mm	5 mm	80 µm
% PASSING	100	90 - 100	0 -10

Table 4 - Approved Granulates

Type of Granulates	Classification	Note
Bedding and Padding Materials	BC 80 µm - 5 mm	NQ 2560-114
	Concrete sand 0 - 5 mm	
	Manufactured sand 0 - 5 mm	
	Crushed gravel 0 - 5 mm	
	Granitic sand 0 - 5 mm	
	Other granulates approved by the laboratory	

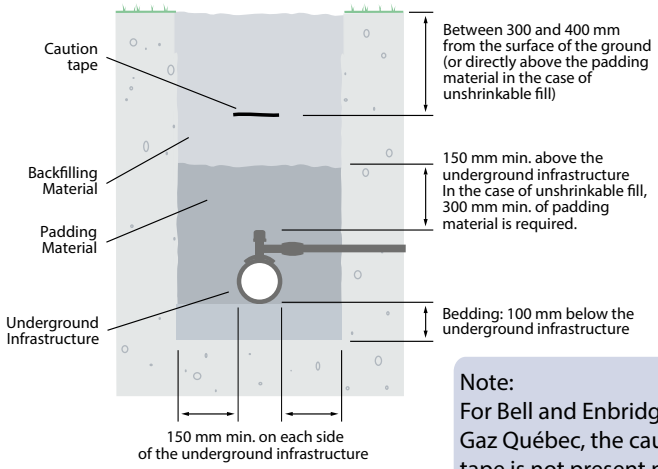
*Bedding: Backfilling must provide support under the underground infrastructure when excavation work is deeper than the underground infrastructure. Always use unshrinkable fill as bedding material under concrete duct banks.

**Padding: To avoid damaging the coating of underground infrastructures when they are not made of concrete, the padding material (granulates placed around the infrastructure) must meet the granulometric requirements shown in Tables 3 and 4.

3.6 Backfilling (cont'd)

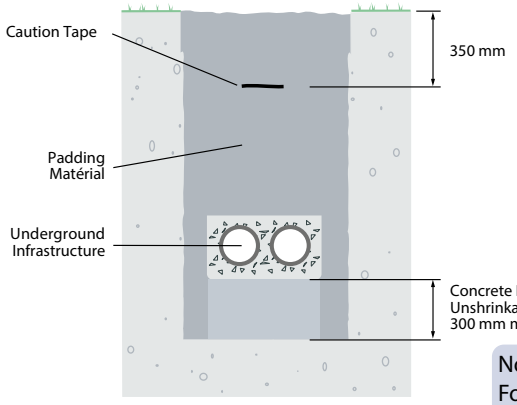
Backfilling must comply with the following figures:

Figure 9 - Non-Concrete Underground Infrastructure



Note:
For Bell and Enbridge Gaz Québec, the caution tape is not present nor required.

Figure 10 - Concrete Underground Infrastructure



Note:
For Bell, the caution tape is not always present nor required.

3.6 Backfilling (cont'd)

- When excavating under a concrete duct banks by less than 300 mm, the use of unshrinkable fill material should be given priority to ensure adequate compaction of the underground infrastructure (see Figure 10). When this is impossible, appropriate granulates must be used.
- Never leave sharp or pointy materials near underground infrastructures, as it could potentially damage the coating or outer layer of the conduits and impact the integrity of the infrastructures.
- Backfilling must be done without using tamping equipment directly on exposed installations.
- Water found at the bottom of a trench hinders backfilling and compaction operations. Water must be pumped out of the excavation.
- A geotextile[4] must be laid at the bottom of the excavation when its bottom is easily liquefiable and reworkable. If a geotextile is already present, it must be repaired or replaced.
- For important underground infrastructures (e.g., high and very high pressure natural gas pipelines, vital mains) identified by a notice on the the locate report, an authorization request must be submitted as the required backfill material must be specifically validated in each case.

3.6.1 Unshrinkable Fill

This self-compacting material is mainly used in areas where compaction is difficult. This material is not recommended for thicknesses of less than 300 mm.

The unshrinkable fill must come from a certified BNQ supplier as set out in protocol NQ 2621 9001 12. Fine and coarse granulates must comply with the CAN/CSA-A23.1/A23.2 13 standard. No air-entraining admixture must be used in unshrinkable backfill.

4 - This guideline must comply with the 13101 standard, Tome VII — ministère des Transports et de la Mobilité durable Material..

Characteristics of unshrinkable fill are as follows:

Table 5 - Characteristics of Unshrinkable Fill:	
Resistance 28 days (MPa)	0.4 to 0.8
Quantity of Cement (kg/m^3)	25
Type of Cement	GU and/or GUb
Maximum Diameter for Coarse Granulates (mm)	20
Quantity of Fine Granulates, Including Cement (% Passing 80 µm)	≤ 3,5

3.6.2 Compaction

Compaction of the trench's filling material is critical to limit residual compaction.

Compaction of fill material must be done in successive layers with a maximum thickness of 300 mm and the compaction method varies depending on the thickness of the fill material and equipment used. The compaction rate must comply with the standard specifications.

Specific Requirements for the Following Owners of Underground Infrastructures:

Énergir and Enbridge Gaz Québec :

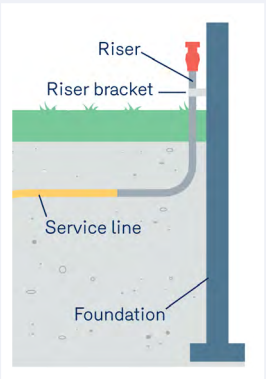
No compaction equipment must be used until the backfill layer above the natural gas pipeline and connections (e.g., service tee) has reached 300 mm (12 in) of thickness.

Only portable and lightweight equipment (e.g., manual vibrating plate, handheld tamper) may be used for depths between 300 mm and 600 mm (12 in and 24 in). Also, refrain from driving over the pipeline to avoid subjecting it to excessive stress.

Over 600 mm (24 in) of compacted material, heavy compaction equipment (e.g., roller) may be used to the final grade.

1. Soil compaction
Always compact the soil properly under the riser and around the exposed pipe. This prevents the pipes from moving or breaking due to freezing, thawing, or soil settlement.

2. Tracer wire (polyethylene pipe)
The tracer wire must follow the pipe to the riser. It must exit the ground near the riser so that it remains easily accessible for future work.



3.7 Unlocated, Imprecise or Inaccurate Underground Infrastructures Locate

Never assume an unlocated infrastructure is abandoned and harmless.

Should you come across an unlocated infrastructure, cease work immediately and contact Info-Excavation without delay. When necessary, the underground infrastructure owner's locator will be dispatched to the excavation site.

An imprecise or inaccurate locate must also be reported to Info-Excavation or directly to the underground infrastructure owner.

3.8 Blasting, Dynamic Compaction and Pile-Driving

The use of one of these techniques in the vicinity of underground infrastructures must be done with great care since they generate vibrations that could compromise its integrity.

Underground infrastructures must not be exposed prior to blasting. If exposing the infrastructure is unavoidable, the contractor must take all necessary precautions to protect the exposed underground infrastructure against projections. Blasting mats (anti-shrapnel) must be used to minimize the risk of flying debris.

The contractor must comply with Québec's standardized specifications[5] in addition to the blasting requirements of the owner of the underground infrastructure.

Specific Requirements for the Following Owners of Underground Infrastructures:

Bell, CSEM, Hydro-Québec, TELUS and Vidéotron:

An authorization request, prepared and signed by a specialist must be transmitted for review to the concerned owner of the underground infrastructure at least thirty (30) business days before work begins to comment on vibration waves that may reach underground infrastructure.

Underground and surrounding aerial infrastructures must be identified and protected.

Refer to the List of network owners participating in this document for their contact information (contact the Engineering Department). For the purposes of the analysis, the authorization request must include:

- Name of the contractor and general contractor (worksite manager);
- Expected work date;
- Construction plan showing the worksite location and the underground infrastructures locate (Info-Excavation);
- Description of the blasting, dynamic compaction or pile-driving techniques to be used, including safety measures for the general public and workers;
- Calculations of vibrations (anticipated speed and amplitude on underground telecommunication infrastructures based on their construction specifications) sealed by an engineer;

5 - Safety Code for the Construction Industry S-2.1, r.4,
Act Respecting Explosives, RLRQ, c. E-22,
Regulation Under the Act Respecting Explosives (LRQ, c. E-22, r. 1).

3.8 Blasting, Dynamic Compaction and Pile-Driving (cont'd)

Specific Requirements for the Following Owners of Underground Infrastructures:

Énergir and Enbridge Gaz Québec:

An authorization request, prepared and signed by a specialist must be transmitted to the owner of the underground infrastructure for review at least ten (10) business days before work begins for all blasting, dynamic compaction or pile-driving work in connection with the table below.

An authorization request is required in these situations:

	Owner	Infrastructure	Distance
Blasting or Dynamic Compaction	Énergir	Very High Pressure Transmission Over 2 900 kPa	< 60 m
		Natural Gas Distribution and High-Pressure Infeed of 2 900 kPa and less	< 30 m
	Enbridge Gaz Québec	All Conduits	< 30 m
Pile Driving	Énergir	Very High Pressure Transmission Over 2 900 kPa	< 30 m
		Natural Gas Distribution and High-Pressure Infeed of 2 900 kPa and less	< 10 m
	Enbridge Gaz Québec	All Conduits	< 10 m

The following items must be included in your authorization request:

- Name of the contractor and general contractor (worksite manager);
- Expected work start date;
- A construction plan showing the worksite location and the locates for the natural gas infrastructures (Info-Excavation);
- Description of the blasting, dynamic compaction or pile-driving techniques to be used, including safety measures for the general public and workers;
- Vibration calculations (anticipated peak particle velocity and maximum amplitude on natural gas pipelines) sealed by an engineer;
- Method for measuring vibrations during the work (e.g., location of seismographs to confirm the calculations);
- Declaration stating that the daily seismographic results will be sent to the concerned technical personnel within 24 hours following the work;
- A statement that any seismographic result exceeding the vibration limits described below will result in the immediate interruption of work, which may not be resumed until authorized by the distributor.

3.8 Blasting, Dynamic Compaction and Pile-Driving (cont'd)

For blasting, dynamic compacting and pile-diving, the maximum limits of peak particle velocity and maximum amplitude are as follows:

Type of Work	Maximum Peak Particle Velocity	Maximum Amplitude Vibration
Blasting	50 mm/s	0.15 mm
Dynamic Compaction and Pile-Driving	50 mm/s	0.4 mm

3.9 Points of Thrust

Specific Requirements for the Following Owners of Underground Infrastructures:

Enbridge Gaz Québec:

Additional precautions may need to be taken when working in the vicinity of points of thrust. Points of thrust occur at pipeline fittings such as elbows (45° or 90°), end caps, weld tees, reducers, closed valves, and reduced port valves. If a point of thrust is identified through the locate process, Enbridge Gaz Québec may require additional time to review the proposed work area.

In the event that the excavation involves exposing a point of thrust or exposing an area near a point of thrust, Enbridge Gaz Québec may provide written specific instructions that are to be followed.

Failure to follow these instructions can result in significant harm to persons, property, or the environment.

References

Regulations

- Natural Gas:
  All applicable legislation related to work done near gas networks, such as those mentioned in Chapter II, (Gas) of the Construction Code LRQ., c. B-1.1, r. 2), in Chapter III (Gas) of the Safety Code (LRQ., c. B-1.1, r. 3) and in the Safety Code for the Construction Industry (LRQ., c. S-2.1, r. 4) takes precedence.
- Electricity:
  All legislation and applicable standards related to work done near electrical networks, including those in the *Safety Code for the Construction Industry* (LRQ, c S-2.1, r 4) take precedence.
- Act Respecting Occupational Health and Safety (LRQ., c. S -2.1)
- Safety Code for the Construction Industry (c. S -2.1, r. 4)

Guides and Useful Links

- "*Protection of Underground Infrastructures. Best Practices*" 5.0 March 2024, from the CCGA (Canadian Common Ground Alliance).
- "*Guide des bonnes pratiques pour la réalisation de tranchées*" from the CERIU (Centre d'expertise et de recherche en infrastructures urbaines) in French only.
- "*Guide sur le prolongement de lignes souterraines en milieu urbain*" from the CERIU in French only.
- *Underground systems* - C.22.3 No.7:F25, CSA
- *Other relevant guides available on the Info-Excavation website*

Glossary:

Buffer Zone:
An area defined by the owner of the underground infrastructure within which excavation work using mechanical equipment cannot be carried out until the underground infrastructure is exposed by safe methods such as soft excavation like manual digging or vacuum excavation.

Confined Space:
A confined space is a totally or partially enclosed space that has limited or restricted means for entry or exit and is not designed for continuous occupancy, but may be occupied occasionally for the performance of work. It may present risks to the health and safety or physical integrity of anyone entering it.
(Reference: Act Respecting Occupational Health and Safety (RSST, art. 1)

Contractor*:
A person who carries out construction work or has construction work carried out, or makes or submits a bid for someone else (either personally or by an intermediary) for the purpose of carrying out such work or having it carried out for financial gain.

Enbridge Gaz Québec's Vital Mains (VM):
- Vital Mains are pipelines that are considered critical to the operation of the distribution system as well as to the supply of natural gas to several key customers. Vital Mains are the responsibility of CER or of the Integrity Management Program (IMP).
- A damage or interruption of supply of these pipelines could adversely affect Enbridge Gaz Québec's operations as well as the safety of the public and workers.

Low- and medium-voltage structures for Hydro-Québec:
Installations intended for electrical distribution (< 44 kV), excluding conduits. These include buried junctions, connection chambers, transformer chambers, and switch chambers, as well as bases for above-ground equipment and electrical poles.

Overload:
The term overload in this document refers to heavy vehicles (e.g. dump trucks, backhoes, excavators, quarry or forestry trucks, crawler drills, cranes, etc.) and any vehicle that the Ministère des Transports et de la Mobilité durable considers to be non-standard (MTMD CI-625).

Riser:
Transition section between the air and ground in a service pipe used to supply a building with natural gas, including its support.

* This definition does not, in any way, exclude any person who carries out ground disturbance work as described in the Introduction section of these guidelines

Tamping:
Action of filling the trench and compacting the material at once, by tapping the material using the bucket. The correct way is to place the material in the trench and compact it in successive layers.

For other questions related to definitions, please consult the Guide to Best Practices under Annex A Glossary, available on Info-Excavation's website at info-ex.com/damage prevention/guides and tools.

In Case of an Emergency or Damage:

- ➔ Stop working.
- ➔ Leave the equipment in place, shut off heavy machinery engines and turn off all other motorized or electrical equipment.
- ➔ Do not attempt to repair, backfill or seal off the damage.
- ➔ **In an emergency, call 911.**

This document was developed by the owners of underground infrastructures listed on the cover page and in collaboration with Info-Excavation.

The updated digital version is available on Info-Excavation's website at info-ex.com.

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