

What is buried infrastructure?

Buried infrastructure is an extensive and complex underground infrastructure of pipes and cables that has been built over the last century and is valued in the billions of dollars. These buried facilities are below ground, and they collect, store, transmit, or distribute energy, goods and services that are essential to the functioning and operation of households, business and communities.

Examples are:

- Potable water and wastewater pipes
- Storm water
- Natural gas and oil pipelines
- Electric power lines
- Telecommunications cables and fibre optic lines
- Irrigation water
- Steam
- Chemicals and other substances

What are the hidden dangers when excavating?

Every time an excavator disturbs the ground, there is a risk of damage to buried facilities. The possible consequences of damaging a buried facility include:

- Loss of life
- Personal injury
- Environmental contamination
- Evacuation of residential areas
- Explosion, fire, flood or toxic gas escape
- Disruption of essential services
- Inconvenience to the public
- Third party property damage
- Damage to construction equipment
- Contractor down time and loss of production
- Loss of product and revenue
- Costs to rehabilitate injured workers
- Costs to repair damaged facility
- Costs to rehabilitate environment
- Costs to repair or replace construction equipment
- Police, fire and ambulance costs
- Lawsuits
- Medical costs
- Legal costs
- Administration costs
- Increased insurance premiums
- Reduced credibility with public
- Reduction in ground disturber's ability to be competitive
- Fines
- Jail terms

Who is an excavator?

The digging community comprises anyone who engages in, or is responsible for ground disturbance, including:

- Excavation contractors
- Equipment operators
- Drillers
- Landscapers
- Fencing contractors
- Hydrovac Operators
- Home builders
- Developers
- Operators of buried facilities
- Farmers
- Tile Drain installers
- Land surveyors
- Municipalities
- Provincial departments
- Railways
- Federal departments
- Homeowners

Different types of excavation include:

- Digging
- Excavation
- Plowing pipe or cable
- Tunnelling, boring or pipe pushing
- Vertical and horizontal directional drilling
- Vertical and horizontal augering
- Hydrovacating
- Driving fence and deck posts
- Driving sign posts
- Ditch shaping
- Grading and land contouring
- Trenching
- Topsoil stripping
- Land levelling
- Tree planting
- Subsoil aeration or stabilization
- Blasting
- Mechanical rock picking
- Cutting fire breaks
- Driving bars, rods, pins or anchors



What Is A Utility Locate?

Prior to excavation, Ontario law requires that all buried facilities be identified and marked before the excavation begins and/or facility location documentation, such as drawings, mapping, numeric descriptions or other written documentation be provided.

Why Are the Paint/Flags and Paperwork Necessary?

It is just as important for landscapers to obtain utility locates for fencing, tree planting or shallow excavation projects as it is for major contractors involved in deep excavation projects like sewer and watermain installations.

Also, in 2012, the Ontario Underground Infrastructure Notification System Act was passed, which stipulates that anyone in the province of Ontario must contact Ontario One Call before they dig. Under the same Act, infrastructure owners **must** provide a proper locate within 5 days of receipt of the request, unless a **mutually agreed** to later date is negotiated. A proper locate includes paint/flags/stakes **and** paperwork.

It's the law!

How Do I Get A Locate? When Should I Get A Locate?

If you are planning any project that requires you to dig, you must contact Ontario One Call at least 5 working days before excavation (excluding weekends and holidays).

Ontario One Call will notify buried infrastructure owners that you plan to dig. Utility representatives from each underground buried infrastructure owner will come out to locate and mark the location of buried underground lines and cables on your property so that you can dig safely.

Contacting Ontario One Call is free and will help protect your business and its reputation, workers, property, and the public.

The Damage Prevention Process and Dig Safe - How to Dig Safe in 4 steps:

- **Call or Click Before You Dig**
- **Wait for Utility Locates**
- **Respect the Utility Marks**
- **Dig with Care**

Call or Click Before You Dig

Contact Ontario One Call, which is a free service, a minimum of 5 business days before you plan to dig at 1-800-400-2255 or <http://OntarioOneCall.ca> .

Provide required information: who, when, where, maximum depth, type of work and excavation method (machine or hand).

Wait for Utility Locates

Wait for utility and buried infrastructure company representatives to mark (locate) or clear your digging area. Confirm all buried infrastructure companies have responded to your request and have marked the dig area properly.



Respect the Utility Marks

These marks will be colour-coded and each buried infrastructure company will provide instructions that relate to your locate.

Dig with Care

When digging, make sure to always dig around the marks, not on them.

Remember you must carefully hand dig to the depth of your excavation within one meter of locate markings, unless instructed differently by the facility owner.

What is a Public Locate?

Ontario One Call handles the notification for almost all of the buried infrastructure on public property (exceptions could include some first nations, provincial and federal entities.) This infrastructure is owned and maintained by organizations including public utility companies and runs through the public right of way and on to some private property up to a demarcation point, that varies from each utility owner. Public property lines differ per municipality.

What is a Private Locate?

All other buried infrastructure, infrastructure beyond the demarcation point, on private property is the responsibility of the property owner to have marked.

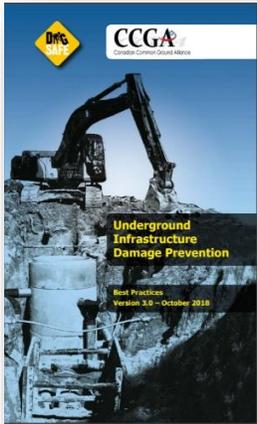
Residential private lines and infrastructure include, but are not limited to:

- Gas lines that go beyond the meter from a house to a BBQ
- Pool heater lines
- Well water piping
- Lights or signs on the property
- Electrical lines going out to sheds or a detached garage
- Sewer and septic tanks, systems and piping
- Tile drains
- Security cameras

Other privately owned underground infrastructure can belong to farmers, ranchers, schools, colleges, universities, shopping centres, office parks, trailer parks, condominium and townhouse complexes, hospitals, military bases, exhibition parks, commercial or manufacturing complexes and other privately owned developments. This group may have their own internal sewer, water, telecommunication, communication, electric and gas distribution systems.

This private infrastructure would not be covered under an Ontario One Call request to dig. Any contractor planning to excavate on private property should make special provisions for identifying and locating privately owned and customer owned buried facilities. To have private lines marked, a competent private locator must be hired to find these pipes and cables.

Are there any publications that describe how to perform safe excavations?



The Canadian Common Ground Alliance (CCGA) has published the Underground Infrastructure Damage Prevention Best Practices, available here: <https://orcga.com/publications/best-practices/>

These practices represent a dynamic statement of the type of activities that CCGA believes would provide optimum levels of diligence towards preventing damage to underground infrastructure.

Are underground infrastructure damages tracked in Ontario?

Despite all efforts made to increase awareness on the importance of exercising vigilance during excavation work, damages occur too often. This has an impact on the environment and on the integrity of services, but more importantly, it puts the safety of workers and citizens at risk.

Did You Know?

There were 4940 reported damages in 2019?



Ontario Regional Common Ground Alliance (2020) 2019 DIRT Report, Version 13.0
 For more information, please visit <https://orcga.com/publications/dirt-report/>

Did You Know?



There were **20** damages per working day in Ontario?

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Did You Know?

The cost of damages is estimated to be over **\$1B** per year in Ontario?



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 For more information, please visit <https://orcga.com/publications/dirt-report/>

The Ontario Regional Common Ground Alliance (<https://orcga.com/>) gathers meaningful data regarding the occurrence of facility events and performs analysis of the root causes of damage to underground infrastructure.

This analysis forms the content of the Damage Information Reporting Tool, or “DIRT Report” which identifies the root causes of events, the type of equipment used, when they occurred, and the type of work performed.

