



Canadian Common Ground Alliance

**DAMAGE PREVENTION LEGISLATION ELEMENTS
REQUIRED FOR CANADA**

Ensuring the Highest Level of Public, Worker and Community Safety with Effective Legislation for Damage Prevention / Protection of Buried Infrastructure

Executive Summary

Background:

Uncontrolled excavation, or undertaking a digging project without the knowledge of where underground infrastructure are located (such as natural gas service lines, oil pipelines, electricity wires, and telecommunications wires) is the most frequent cause of damage to buried infrastructure. Following safe digging practices through accurately identifying, locating, and marking buried utilities by contacting a provincial One Call centre or line locating service before digging avoids delay of projects, disruption of essential services, property damage, environmental contamination, and serious injury.

In Canada, safe excavation requirements near buried infrastructure are governed by a host of municipal, provincial, and federal regulators, each with respective legislation and governance. This patch-work approach creates inconsistency across jurisdictions, is difficult to follow, and is difficult to enforce.

In order to minimize damages and ensure the highest level of productivity and public, worker, and community safety, the Canadian Common Ground Alliance (CCGA) argues that damage prevention legislation must be nationally consistent.

This white paper, developed by the CCGA, articulates a series of principles and specific elements for effective legislation that, along with other key elements like improved communication and the development of safe excavation best practices, would result in safer digging practices, greater protection of underground infrastructure, and community safety.

Key Components of Effective Damage Prevention of Buried Infrastructure Legislation:

The paper articulates 10 key components for effective and consistent damage prevention legislation and regulation across jurisdictions. These include:

- 1. Clarity:** Regulatory language should be clear and concise in defining the accountabilities, roles and responsibilities of all parties.
- 2. One Call Legislation:**
 - In order to simplify the damage prevention process, every province and territory must have access to a One Call System, via one national phone number, and an internet access point.
 - Every owner or operator of underground infrastructure must be a member of a One Call System. Prior to commencing their project, any party causing a ground disturbance must contact a One Call Centre to obtain the location of buried infrastructure.
 - Infrastructure owners and operators must promptly respond to a locate request by dispatching trained personnel to accurately locate and mark buried infrastructure. Ground disturbance must commence before the expiry of the locate's specified lifespan.
 - The American Public Works Association (APWA) uniform colour code for buried utility markings should be mandated.

3. **Mandatory Damage Reporting:** Excavators and owner/operators must report contact with or damage to buried infrastructure.
4. **Protection of Buried Infrastructure through Permitting, Irrespective of Location:** Risk-based provisions would allow for the appropriate safety permitting and/or agreement processes for ground disturbances near or across buried infrastructure whether or not the buried infrastructure is within a right-of-way.
5. **Excavation/Ground Disturbance:** In certain circumstances, manual or “soft excavation” must precede mechanical ground disturbance to positively identify buried infrastructure. Legislation should outline procedures for emergency excavations and the pre-identification of an excavation site.
6. **Public Awareness Programs:** Provisions should be included for the education of the digging community and general public on safe excavation and how to respond to an emergency by qualified individuals.
7. **Mobile Crossings:** Provisions should be included to manage heavy vehicle or mobile equipment crossings over buried infrastructure occurring outside the traveled portion of a highway or public road.
8. **Identification and Authority of Inspectors:** Provisions should ensure representatives are qualified and have the authority to inspect, locate, and authorize activities related to excavation near buried infrastructure.
9. **Enforcement and Penalties:** A formal enforcement authority and process should be defined to investigate and issue penalties for violations.
10. **Continuous Improvement:** Legislation should include a provision for periodic review of the effectiveness of the damage prevention legislation.

About the Canadian Common Ground Alliance (CCGA)

Through shared responsibility among all stakeholders, the CCGA works to reduce damages to underground infrastructure - ensuring public safety, environmental protection, and the integrity of services by promoting effective damage prevention practices. Stakeholders interested in improving damage prevention include excavators, locators, road builders, electricity, telecommunications, oil, gas, railroad, water, one-call centres, public works, equipment manufacturing, provincial and federal regulators, and insurance, emergency services and engineering and design companies.

For further information contact:

Mike Sullivan
Chair – [Canadian Common Ground Alliance](#)
Tel: (403) 531-3712
msullivan@canadiancga.com

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INTRODUCTION

In Canada, ground disturbance near buried infrastructure is governed by a host of municipal, provincial and federal regulators, each with their own legislation and governance. The majority of damage prevention legislative framework governing this infrastructure has been developed in a piecemeal fashion which has led to an inconsistent national patchwork. The legislative inconsistencies and variations across governing bodies at best provides for a difficult system to follow and enforce, particularly when ground disturbance occurs across legislative boundaries. In order to ensure the highest level of public, worker, and community safety, damage prevention legislation must be consistent and easy to navigate.

In this white paper, the CCGA proposes to outline the minimum framework of effective damage prevention legislation. The CCGA is confident that successful implementation across Canada of this minimum and consistent framework by all governing bodies would radically reduce the number of damages to buried infrastructure thereby enhancing the integrity of Canada's buried critical infrastructure and the safety of all Canadians.

Although this white paper focuses on the legislative requirements, it is understood that other elements such as comprehensive public outreach, education, and safe excavation practices are integral to a complete damage prevention system. However, these will not be discussed in detail here.

1. CLARITY

Regulatory language should be clear and concise. It should be specific in defining the accountabilities, roles, and responsibilities of all parties.

2. ONE CALL LEGISLATION

Legislation should include:

2.1. Access to a One Call System for every province and territory

While access to a One Call System is required by all owners and operators of buried infrastructure, it is not necessary for a One Call Centre to be present in every province or territory. Where a One Call Centre does not exist, access to the nearest centre is provided via telephone system or internet.

2.2. Mandatory membership and registration in a One Call System for buried infrastructure owners and operators

Every person or entity that owns or operates underground infrastructure that is within a public right of way or that crosses a public right of way or that is in the vicinity of a public right of way must be a member of a One Call System. This includes, but is not limited to, utilities, transmission, and telecommunication companies, municipalities (e.g. water, gas, sewer, cable, etc.), provincial, territorial, and federal agencies, and private or public institutions that operate their own infrastructure (e.g. railroads, hospitals, manufacturing plants, underground propane distribution companies, gathering, distribution, production, and transmission pipelines, and any hazardous material lines, etc.). This is not necessarily meant to include private landowners and other entities who may operate buried infrastructure which does not cross a public right of way (e.g. a homeowner who owns a propane gas line on his own property).

Inclusion of all buried infrastructure increases the likelihood that all infrastructure is located, leading to safer excavation and reducing the likelihood of damage.

2.3. Mandatory “Call Before You Dig” system (no exemptions)

Step 1: Any party that will cause a ground disturbance must contact the One Call Centre to obtain a locate of buried infrastructure within the specified timeframe prior to commencing their project. (*“ground disturbance” selected to capture “both excavation and disturbances of the soil which would impact nearby buried infrastructure in order to truly create a damage prevention culture”*).

Step 2: Buried infrastructure owners and operators must positively respond to a locate request (e.g. locate and mark, and / or, provide an “all-clear” and / or establish an

alternate locate agreement with the person undertaking ground disturbance) within a specified timeframe.

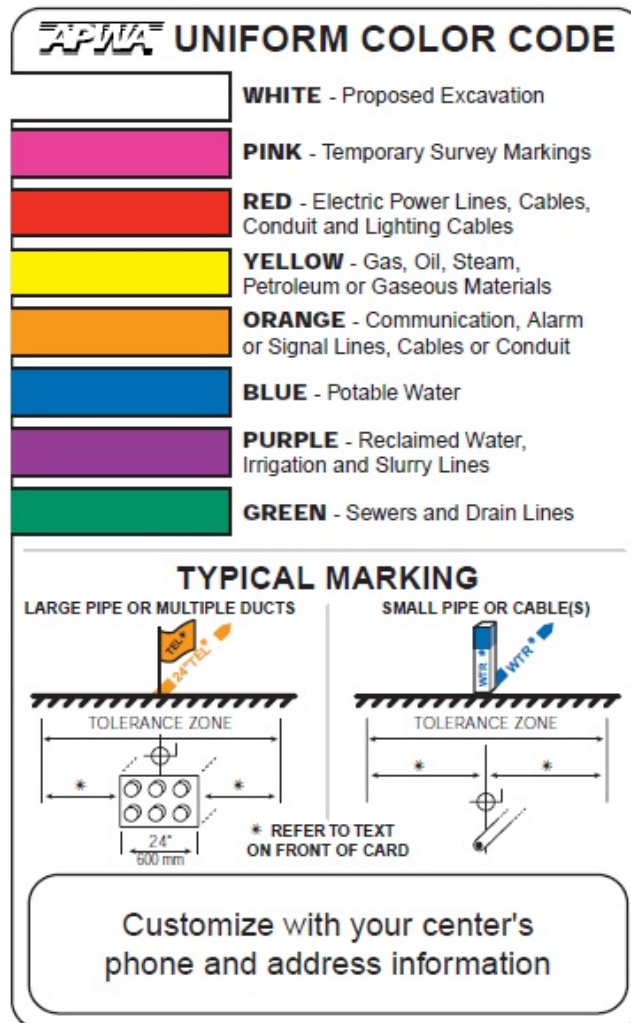
Step 3: A locate has a specified lifespan. If this expires prior to commencement of work, a new locate is required before any ground disturbance commences.

2.4. Locator qualification and documentation

- Minimum training and practices should be adopted for locator training.
- Documentation of all training should be maintained to ensure infrastructure locators are properly trained.

Proper locator training provides additional safety for the excavators who are following all the appropriate processes.

2.5. The APWA uniform colour for buried infrastructure markings should be mandated



2.6. Simplified access to One Call Centres and the damage prevention process

Establishing one national phone number, internet access point, and mobile device application will simplify access to One Call Centres thereby increasing the likelihood that the telephone number and / or internet access point will be contacted prior to digging.

3. MANDATORY DAMAGE REPORTING

Legislation should include provisions for:

- Excavators / Digging Community to report contact with a buried infrastructure to the owner / operator;
- Owner / operators of buried infrastructure to report excavation damage to buried infrastructure to appropriate agency;
- Participation in anonymous incident tracking program by owner / operators and excavators / digging community; and
- Immunity from prosecution or penalties for reporting damages to buried infrastructure into an anonymous incident tracking program, except in the cases of willful misconduct or negligence.

Mandatory reporting of damages would provide more accurate and comprehensive data to measure damage prevention progress. The data could help drive improvements in processes, training, education, advertising or possible legislative changes.

4. PROTECTION OF BURIED INFRASTRUCTURE THROUGH PERMITTING, IRRESPECTIVE OF LOCATION (e.g. *within public rights of way, easements, public road allowances, etc.*)

Legislation should include risk-based provisions that allow for the appropriate permitting and / or agreement processes for ground disturbances near or across buried infrastructure (including crossing / proximity agreements, permitting process, etc.) wherever buried infrastructure are located.

The protection of buried infrastructure is significantly enhanced when the “Call Before You Dig / One Call” process is accompanied by municipal / provincial / federal permitting processes, crossing permits, agreements or contractual language identifying the terms and conditions relative to the crossing (*separation between facilities, nature of excavation, backfill requirements, etc.*).

5. EXCAVATION / GROUND DISTURBANCE

Legislation should include provisions for:

5.1. Excavation within identified tolerance zone(s)

No mechanical ground disturbance is allowed within a defined tolerance zone until sufficient earth has been removed via soft excavation (e.g. the use of vacuum excavation techniques [*air or water*] and manual / hand digging) so the buried infrastructure can be positively identified and the direction and course of the existing buried infrastructure determined. Once direction and course is determined, mechanical ground disturbance must follow provisions as specified by owner / operator for working in close proximity of that buried infrastructure. Mechanical ground disturbance is the use of powered equipment that has a high likelihood of damaging buried infrastructure, such as backhoes, boring machines, drilling machines, augers, etc.

5.2. Emergency Excavation

In the event of the need for emergency excavation for situations that involve danger to life, health or property, or that require immediate correction in order to continue the operation of or to assure the continuity of public utility service or public transportation, the excavator must place an emergency one-call prior to excavation.

The One Call Center must be able to receive and process emergency one-calls 24 hours per day, 7 days per week and shall notify all affected buried infrastructure owner / operators immediately on receipt of the emergency one-call. The owner / operator shall respond within a reasonable time period.

5.3. Pre-identification of Excavation site

If the location of the excavation cannot be clearly identified on the locate ticket, then the excavator must identify the excavation site by white-lining it prior to the arrival of the locator or, if this is not possible (e.g. the excavation site is too large to white-line or weather conditions such as snow cover preclude white-lining, etc.) conduct a pre-excavation meeting with the facility locator.

6. PUBLIC AWARENESS PROGRAM

Legislation should include provisions for:

- Education and awareness targeting the digging community and the general public; and
- Qualification of those providing education and awareness.

“Education and awareness” includes guidelines on how to respond to emergency situations.

7. MOBILE CROSSINGS

Legislation should include provisions for:

- Managing mobile crossings over buried infrastructure where the mobile equipment is operated outside the travel portion of a highway or public road.

8. IDENTIFICATION AND AUTHORITY OF INSPECTORS

Buried infrastructure owners and operators routinely employ authorized representatives to oversee and inspect ground disturbances near or across their respective infrastructure relative to the terms and conditions of a crossing, proximity agreement or permit. In order to be effective and clear, legislation must include provisions to:

- identify, qualify, and authorize regulatory inspectors;
- identify, and authorize buried infrastructure owner / operator Representatives or Inspectors; and
- authorize buried infrastructure owner / operator Representatives or Inspectors to stop dangerous work near buried infrastructure.

9. ENFORCEMENT AND PENALTIES

An active enforcement authority (the agency) receives and investigates reports of violations of the applicable damage prevention law(s). The regulatory agency has enforcement authority to issue civil penalties on the spot for non-compliance with the damage prevention process by buried infrastructure owners and operators, locators / locating contractors, and digging community. Non-compliance includes, but may not be limited to, failure to conform to damage prevention governance, failure to accurately locate buried infrastructure, and disturbing the ground without proof of a valid one call ticket or permit (where applicable).

Legislation should include:

- an escalating penalty scale with provisions for meaningful enforcement of non-compliance with damage prevention process;
- larger penalties for repeat offenders and violations of increased risk and consequence;
- provisions for public awareness and education imposed at every level of enforcement;
- the ability for legislation to allow for creative penalties that would increase public awareness and education;

- consideration of a graduated Administrative Monetary Penalty System (AMPS);
- provisions for regulatory authorities to invoice for attendance at incidents for emergency response and investigative purposes and to bill a party for punitive purposes; and
- annual statistics on investigations, enforcement actions, and proposed and collected penalties to be made available by the agency to interested parties.

Evidence shows that damages to buried infrastructure have decreased where a formal enforcement process is in place.

10. CONTINUOUS IMPROVEMENT

Legislation should include provisions for:

- Continuous improvement, assessment and effectiveness of the damage prevention legislative elements described herein.