

**Land use planning for pipelines:
A guideline for local authorities,
developers, and pipeline
operators**



**CANADIAN STANDARDS
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CANADIAN STANDARDS
ASSOCIATION

CSA Special Publication

PLUS 663

***Land use planning for pipelines: A guideline
for local authorities, developers, and
pipeline operators***



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Preface

This is the first edition of CSA PLUS 663, *Land use planning for pipelines: A guideline for local authorities, developers, and pipeline operators*. This Guideline is not a consensus product: that is, it is not a Standard, and it has not been formally reviewed or approved by a CSA Technical Committee.

The purpose of this Guideline is to assist local authorities who must deal with the issues of land regulation and public safety near pipeline facilities and operations.

This document was initially developed by a work group of the Major Industrial Accidents Council of Canada (MIACC), a multi-stakeholder partnership that included federal, provincial, and municipal governments, industry, labour, emergency response groups, public interest groups, and academics. As part of its dissolution in 1999, MIACC transferred the ownership of this Guideline to the Pipeline Risk Assessment Steering Committee (PRASC), whose membership included the National Energy Board (NEB), the Alberta Energy and Utilities Board (EUB), the Transportation Safety Board of Canada (TSB), Canadian Standards Association (CSA) committee members, the Canadian Gas Association (CGA), the Canadian Association of Petroleum Producers (CAPP), and the Canadian Energy Pipeline Association (CEPA).

Under the auspices of PRASC, a multi-stakeholder task force was formed to continue the development of this Guideline. PRASC transferred the ownership of this Guideline to CEPA, and CEPA subsequently transferred it to CSA.

Throughout the development of this Guideline, input has been provided by representatives of the pipeline industry, government and regulatory agencies, municipalities, planners, developers, and academics. Their efforts and dedication are gratefully acknowledged.

August 2004

Notes:

- (1)** *Use of the singular does not exclude the plural (and vice versa) when the sense allows.*
- (2)** *Although the intended primary application of this Guideline is stated in its Scope, it is important to note that it remains the responsibility of the users of the Guideline to judge its suitability for their particular purpose.*
- (3)** *All enquiries regarding this Guideline should be addressed to Canadian Standards Association, 5060 Spectrum Way, Suite 100, Mississauga, Ontario, Canada L4W 5N6.*

PLUS 663

Land use planning for pipelines: A guideline for local authorities, developers, and pipeline operators

0 Introduction and purpose

0.1

Continual communication among local authorities, developers, and pipeline operators can help ensure that public safety and land uses are appropriately considered by these stakeholders. If initiated early in the land use planning process, this communication can reduce or minimize the potential for conflicts and costs for local authorities, developers, and pipeline operators. It also ensures that ready and available access is maintained along pipeline rights-of-way so that they can be constructed, maintained, and operated in a safe and efficient manner.

0.2

Land uses adjacent to the pipeline right-of-way should recognize the existence of a pipeline right-of-way. Concern about changes to land use indicates a need to integrate pipeline rights-of-way with land use development. All stakeholders in this process are concerned that there be minimal fragmentation of land within the right-of-way boundaries, and that development costs not be increased unnecessarily.

0.3

Development near to or surrounding pipelines does not represent a single problem or issue. Rather, it can lead to a range of concerns that can be limited or avoided if considered by stakeholders in a timely manner. Such concerns could, in a particular situation, include one or more of the following:

- (a) Companies may incur additional costs by having to increase routine surveillance or implement changes to the original pipeline design and emergency response plans to continue to meet required standards.
- (b) Developers may incur expenses by having to realign pipelines for more efficient subdivision design and service development around existing pipelines.
- (c) Local authorities may approve land use changes without due consideration for the implications of pipelines, and may not be aware of pipeline locations. This may lead to increased risks of third-party damage, obstructed access to pipeline rights-of-way for operations, maintenance, and emergency response purposes, construction on pipeline rights-of-way or within setbacks prescribed by pipeline regulators, or non-compliance with pipeline design requirements.

In addition to avoiding or limiting such concerns, increased awareness of pipeline considerations and consultation between local authorities, developers, and pipeline operators enhance opportunities for integrating pipeline rights-of-way with the local land use that have not always been recognized or used to the greatest benefit. Rights-of-way have the potential for multiple uses. They can, for example, serve as a separation for incompatible land uses or be developed as recreational areas.

Land use policies and bylaws that identify the potential problems and opportunities provide stakeholders with a process for addressing these issues at the earliest stages of development planning.

0.4

The entire issue of land use adjacent to pipelines has evolved over time. As the character of development changes, it is becoming increasingly important and increasingly complex. Consequently, this Guideline will be periodically reviewed by key stakeholders and modified accordingly. Indeed, it is hoped that this document will form the basis of further work on a risk-based approach to this issue. The latter can considerably enhance public safety and the effective use of resources.

1 Scope

1.1

The purpose of this Guideline is to increase awareness and encourage communication among key stakeholders when considering changes to existing land use or new land use developments near to or surrounding existing pipelines. For the purposes of this document, the key stakeholders are local authorities, developers, and pipeline operators. This document is not intended to preclude development adjacent to pipelines but only to ensure consultation in areas where changes in land use are proposed.

1.2

This Guideline proposes that, at a minimum, consultation take place if a proposed development is within 200 m of the centreline of a pipeline (see [Figure 1](#)). This Guideline also urges that such consultation take place for development beyond 200 m of the centreline of a pipeline to the extent that a proposed development is still within a setback or emergency response planning zone associated with a given pipeline (e.g., some high-vapour-pressure or sour natural gas pipelines).

1.3

This Guideline provides information on the following subjects:

- (a) roles and responsibilities for key stakeholders (see [Clause 4](#));
- (b) the pipeline industry (see [Annex A](#));
- (c) products transported in pipelines (see [Annex A](#));
- (d) land use planning issues with regard to pipelines (see [Annex B](#)); and
- (e) sources of additional information (See [Annex C](#)).

1.4

This Guideline is not intended to cover local natural gas distribution pipelines as defined in [Annex A](#). Distribution pipelines are an integral part of local development, as are other utilities that support development. This kind of development already involves consultation among developers, local authorities, and local distribution (pipeline) companies.

1.5

Risk management is a framework that uses an integrated approach for assessing whether a risk is acceptable. It considers the risk and benefits of the development and facilitates the agreement of stakeholders on the acceptability of the risk involved. This Guideline is not intended to cover risk management concepts.

2 Reference publications and definitions

2.1 Reference publications

This Guideline refers to the following publications, and where such reference is made, it is to the edition listed below, including all amendments published thereto.

Z662-03

Oil and Gas Pipeline Systems

CAN/CSA-Z731-03

Emergency Preparedness and Response

2.2 Definitions

The following definitions apply in this Guideline:

Adjacent — refers to developments that are within 200 m of the centreline of a pipeline.

API — American Petroleum Institute.

ASME — American Society of Mechanical Engineers.

Consultation zone — a zone that extends perpendicular to the centreline of a pipeline for a minimum distance of 200 m in each direction. The zone may in some instances be larger, given the setback or emergency response planning zone established for the pipeline. When a development is proposed within such a zone, consultation between the stakeholders should occur.

CSA — Canadian Standards Association.

Developer — the person or company proposing land development.

Development — a change in land use with the objective of putting the land to a different use.

Easement — see **Right-of-way**.

Emergency — a present or imminent event that requires prompt coordination of action or special regulation of persons or property to protect the health, safety, or welfare of people or to limit damage to property.

Emergency response planning zone — a pre-defined area that would be affected by a reasonable “worst case” emergency involving a pipeline. The size of the area varies for each pipeline and depends on numerous factors including (but not limited to) pipe size, substance transported, ground conditions, and weather conditions.

High-vapour-pressure hydrocarbons — such products as propane, butane, and other natural gas liquids that can quickly convert to gaseous form at atmospheric pressure. Because they are more volatile, pipelines for these liquids require relatively high compression and other special engineering design.

Local authority — any municipal government agent or agency responsible for land development planning or approval, including the creation of related bylaws.

Low-vapour-pressure hydrocarbons — such products as oil, synthetic oil, and heavy oil, which flow through pipelines in liquid form.

Mitigation — actions taken to alleviate, reduce the severity of, or moderate the consequences of failure.

One-call system — a one-call telephone notification system, established to provide the ground disturbance community with the ability to inform multiple member owners of buried facilities of intended ground disturbances and to have those member owners locate their buried facilities prior to a ground disturbance.

Pipeline — a pipe used to convey a substance or combination of substances, including installations associated with the pipe. (See [Clause 1.4.](#))

Pipeline operator — the company responsible for the operation, maintenance, and management of the pipeline.

Planner — see **Local authority**.

Prevention — actions taken to prevent pipeline damage or failure.

Proponent — the person, company, or agency responsible for initiating a change in land use, subdivision, or development that may result in a change in risk to the public.

Right-of-way — the strip of land in which a legal right of passage is granted over another person's property, which is acquired for pipeline construction, operation, maintenance, and abandonment. This right can be acquired by means of an easement, by a right of entry order, or by a grant of right-of-way.

A pipeline operator acquires a right-of-way for the construction, operation, maintenance, protection, surveillance, and abandonment of the pipeline, supplemented as required with temporary working space. The landowner retains the right to use the right-of-way as long as such use does not interfere with activities associated with the pipeline or its integrity. For this reason, a typical right-of-way agreement requires the landowner to obtain the consent of the pipeline operator to disturb the ground or to erect a structure.

Risk — the potential for loss, injury, or damage to occur.

Risk assessment — the process of risk analysis and risk evaluation.

Setback — a minimum distance established through the combined efforts of local authorities and regulators to provide a buffer between buildings and pipelines.

Sour natural gas — gas that includes hydrogen sulphide, a highly toxic chemical that has a rotten-egg smell in trace amounts and is fatal if inhaled in amounts as low as 300 parts per million. Hydrogen sulphide is removed at gas plants.

Sweet natural gas — a hydrocarbon that consists primarily of methane. It exists as a gas, is colourless and odourless (local distribution companies add odourant to enable detection), and is lighter than air.

Temporary working space — an area of land within which certain activities are authorized for a specified purpose and period of time, typically of short duration.

3 Public safety

3.1 General

A significant component of a public safety program for pipelines is the prevention of incidents that result in damage to pipeline facilities.

Many factors affect public safety. These include route selection, engineering design, materials used in construction and operation, maintenance, land use, and communication. Pipeline operators' safety plans include continual inspections and monitoring programs for both the pipeline and the pipeline right-of-way. These factors are subject to a number of standards and government regulations developed on the basis of best science, engineering practices, and experience. These standards and practices contribute to the high level of safety associated with Canada's pipeline operations.

3.2 Standards and regulations

Oil and gas pipelines in Canada are subject to federal, provincial, or territorial regulations, depending on the jurisdiction under which they are operated. As part of these regulations, pipelines are generally required to comply with standards established by the Canadian Standards Association for their design, construction, and operation. Pipelines must also comply with the requirements of local municipalities, as applicable.

3.3 Safety planning and programs

Pipeline operators recognize that pipelines have the potential to pose risk to the public. Pipeline design, development of emergency response plans, public awareness and damage prevention programs, and continual monitoring of land uses near pipelines are some of the ways pipeline operators ensure public safety.

One of the key components of the pipeline industry's damage prevention initiatives is the "Call Before You Dig" or "One-Call" program. The program allows (and in some jurisdictions mandates) excavators to have underground facilities located by the operator before they begin work. The One-Call program enables contractors and others to request location information with a single telephone call (see [Annex C](#)). Further information on this type of program can be obtained from the local pipeline company or local authority.

4 Land use

4.1 General

From the perspective of local authorities, public safety and pipeline integrity are maintained in part through a consultative approach to development adjacent to pipelines. Land use is principally controlled by local authorities, who generally want to accommodate development. However, few standards or regulations exist to identify or deal with developments near or adjacent to pipelines. As such, consultation is key to ensuring the recognition of the pipeline right-of-way and maintaining a commitment to public safety and pipeline reliability.

4.2 Land use areas

4.2.1 Principal areas of concern

This Guideline principally considers two land use areas, illustrated in [Figure 1](#). The first is the pipeline right-of-way, in which the pipeline operator has a property interest and in which uses or activities that may interfere with the operation of a pipeline are prohibited. The basis for a pipeline operator's enforceable property interest varies, and can include fee simple ownership, a right-of-way agreement, an easement, a right of entry order, a surface lease, or other instrument.

The second area or zone is a class location defined in CSA Z662. This zone covers an area extending 200 m perpendicularly to either side of the centreline of a pipeline. Development proposed within this zone should be the subject of consultation as recommended by this Guideline. For certain high-vapour-pressure pipelines and pipelines carrying sour natural gas, a wider consultation zone may be appropriate.

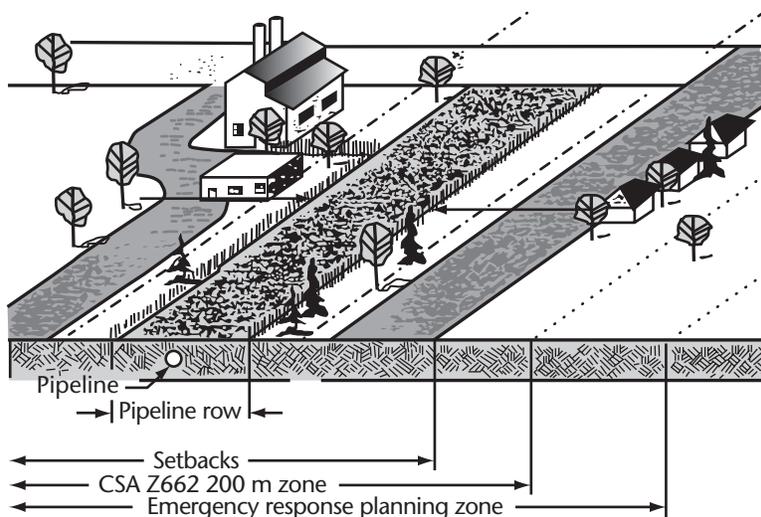


Figure 1
Land use areas
 (See [Clauses 1.2](#) and [4.2.1](#).)

4.2.2 Other land use areas

4.2.2.1 General

Three other areas adjacent to pipelines that are not covered in detail in this Guideline are setbacks, emergency response planning zones, and controlled areas.

4.2.2.2 Setbacks

When warranted by the risks associated with the pipeline operation and the potential impacts on the pipeline from the development, local authorities sometimes prescribe a setback. They can also be used when activities associated with the land use pose an unacceptable risk of damage to the pipeline, and therefore risk to nearby residents. In most cases, a minimum setback should be the edge of the right-of-way. Setbacks can be used to ensure that access to the pipeline right-of-way is not impeded. Local authorities should contact the pipeline operators for input into possible setback requirements.

4.2.2.3 Emergency response planning zones

Pipeline operating companies are required to have emergency response plans in place when there is a potential for injury or fatality from a significant pipeline rupture or failure. The area in which this acute potential exists is generally designated as the emergency response planning zone. For more information about the purpose of emergency response plans, consult the appropriate pipeline regulator (listed in [Annex C](#)). Alternatively, an interested party can refer to CAN/CSA-Z731.

4.2.2.4 Controlled areas

Pipeline regulators implement regulations in the interests of protection of the pipeline and the environment, and the safety of the public, contractors, and the pipeline company's employees. Within these regulations, the pipeline regulators have, in most jurisdictions, designated an area of 30 m on either side of a pipeline in which, subject to exceptions for such things as normal farming activities, anyone proposing to conduct a ground disturbance must

- (a) ascertain whether a pipeline exists;
- (b) notify the pipeline company of the nature and schedule of the ground disturbance; and
- (c) conduct the ground disturbance in accordance with such regulations.

4.3 The importance of land use planning

4.3.1 General

Land use planning is an integral part of development. Designated land uses include, but are not limited to, agricultural, residential, commercial, and industrial. Within these designations, design, construction, and operating restrictions and controls have been created to meet national and local needs such as institutional uses, recreational uses, etc. Land use planning involves the analysis of land uses and how they affect each other, and aims for the orderly development of land.

In agricultural areas, pipeline rights-of-way are typically neither a benefit nor an impediment to most agricultural operations. However, perennial crops, such as orchards and vineyards, may require the setting aside of designated space to permit routine pipeline operations and maintenance. In other situations, a pipeline right-of-way can be advantageously incorporated as an important spatial element, such as pathway or recreational space, or open “green space” separating one type of development from another. (See [Annex B](#) for additional details.)

In conjunction with current standards of pipeline design, construction, and operation, the regulation of activities and land uses on and adjacent to pipeline rights-of-way is essential for public safety. Proper land use planning that recognizes the pipeline right-of-way can help prevent damage to pipelines, enhance public safety, and ensure ready and available access for maintenance and emergency purposes.

Effective land use planning can reduce the chance of damage incidents to pipeline facilities in two ways:

- (a) managed use of land on the pipeline right-of-way by the pipeline operator and the landowner under the terms of the right-of-way agreement; and
- (b) designation of land use adjacent to the pipeline in a compatible manner, taking into consideration maintenance access, emergency response requirements, and damage prevention.

4.3.2 Right-of-way management

A typical right-of-way agreement between a pipeline operator and landowner can specify activities or developments that are prohibited or that cannot be undertaken without the prior consent of the pipeline operator. The principal purpose of these prohibitions or approval requirements, which may also be reflected in legislation governing pipelines, is twofold:

- (a) to restrict ground disturbances within pipeline rights-of-way; and
- (b) to keep the right-of-way clear of obstructions for maintenance and surveillance purposes.

Ensuring compliance with right-of-way requirements does not rest exclusively with the pipeline operator. Indeed, all stakeholders have a vested interest in ensuring pipeline rights-of-way are respected.

Pipeline operators monitor compliance by regular surveillance by air and ground patrols and, in some situations, by video. Surveillance is conducted to prevent damage to pipelines by looking for signs of third-party activity, unusual or abnormal surface conditions, excavations or dredging, unauthorized activity, unauthorized heavy equipment, encroachments, construction activity, debris or dumping, seismic activity, forestry operations, erosion, subsidence, ground disturbance, slope deterioration, missing marker signs, damage to company property, watercourse crossings, changes in land use, and any visible signs or indications of a pipeline leak. In some instances, the local authority may introduce bylaws that reinforce the monitoring of rights-of-way through air or foot patrols.

Pipeline markers help to clearly identify the presence of pipelines. During both planned maintenance and an emergency, the pipeline operator needs unobstructed access to the pipeline.

4.3.3 Development near to or surrounding a pipeline right-of-way

A consultative approach to development near to or surrounding a pipeline right-of-way can help to minimize the potential for incidents or mitigate the severity of potential consequences of an incident. The path to proper land use around pipelines involves communication between the stakeholders during initial planning of land use adjacent to planned or operating pipelines.

To ensure this consultative approach with respect to land use adjacent to pipelines, some authorities have put forward regulations, bylaws, or guidelines. For example, regulations may require minimum separation distances between certain types of buildings, such as hospitals or police and fire stations, and

pipelines. Such regulations may be based on the degree of difficulty involved in effecting a potential evacuation of the particular type of building or on the importance of a building's function in an emergency response plan.

A number of variables need to be considered in land use planning:

- (a) types of land use (e.g., hospitals, light, low-density industrial, residential, recreational uses);
- (b) local climate and topography;
- (c) product(s) being transported by the pipeline, size and operating pressure; and
- (d) type of hazard (e.g., toxic, explosive, fire, environmental contamination).

Land use planning in proximity to pipelines may be regulated by the agency charged with the regulatory responsibility for a pipeline (in some jurisdictions), the local authority having jurisdiction over development, or both. Local authorities that are creating or modifying land use regulations should consider asking pipeline industry associations to review them for comments on their implications for pipelines.

The pipeline operator must understand and comply with regulations when proposing a new pipeline or considering changes to an existing pipeline, including changes to licensed operating parameters such as pipeline pressures or the substance to be transported. Pipeline operators are, in such circumstances, typically required to comply with early public disclosure and consultation requirements, including personal consultation of potentially adversely affected landowners and local authorities, in advance of filing their applications with regulators. When it takes place in the early stages, this consultation allows for input and consideration of local land use plans, and of any bylaws that may affect the planned development.

Operators of existing pipelines, however, have in the past often not been notified or consulted as a matter of course by proponents of land developments in advance of their applications for changes in zoning, subdivision approval, or development, as the case may be. A pipeline operator will often not be specifically notified of an application to a local authority for a subdivision or development approval in proximity to its pipeline.

To ensure that pipeline operators have an adequate opportunity to have input to land use planning processes, local authorities should establish effective advance notification and consultation requirements that include operators of pipelines within 200 m of areas that are the subject of development approval applications.

Good communication among affected parties can minimize the impact of development.

5 Roles and responsibilities of local authorities, developers, and pipeline operators

5.1 General

The objectives of this Guideline necessarily require the various stakeholders to assume and contribute to the fulfillment of both collective and specific responsibilities. To enhance public safety, stakeholders need to work together. Their efforts need to include land use policy, bylaws, mediation and adjudication processes, information dissemination requirements, and other details.

5.2 Collective responsibilities

The collective responsibilities include

- (a) accessing reliable pipeline information, including pipeline location;
- (b) understanding land use planning issues and processes;
- (c) initiating and sustaining communication with other stakeholders early in any project; and
- (d) understanding and actively promoting appropriate land uses adjacent to pipelines.

With regard to communication, the proponent is responsible for initiating contact with the other key stakeholders. Pipeline companies and local authorities are listed in area phone books, and there are other contact sources in this Guideline. Pipeline operators should ensure that they are included in planning authority notification processes regarding development where those processes exist. Pipeline operators must also ensure that they include local authorities as part of their ongoing awareness programs.

Specific information related to land use is located in [Annex B](#). This Annex is not definitive; see [Annex C](#) for more sources of information.

5.3 Specific responsibilities

5.3.1 Local authorities

Local authorities have the following specific responsibilities:

- (a) implementing land use controls that recognize and preserve the right-of-way; and
- (b) accommodating the addition of pipeline facilities, where needed.

5.3.2 Developers

For developers, the following responsibilities apply:

- (a) laying out land development plans consistent with good land use planning adjacent to pipelines; and
- (b) after initial development, managing the developed land consistent with these considerations.

5.3.3 Pipeline operators

Pipeline operators have the following responsibilities:

- (a) in conjunction with increasing development adjacent to existing pipeline rights-of-way, continuing to deliver its products in a safe and reliable manner;
- (b) taking into account existing and planned land uses when designing new pipelines or modifying existing pipelines or operations;
- (c) developing emergency response plans; and
- (d) providing information including maps to local authorities.

6 The consultation/communication process

6.1 General

Consultation must be part of the formal land use planning and application process, and must occur early in the process to be meaningful. This recognizes, among other things, that public safety is enhanced by taking pipeline safety into consideration in development planning and design. This also seeks to ensure that bottlenecks do not develop in the approval process because stakeholders were not made aware of the pipeline safety considerations early in the process.

During consultation, both developers and pipeline operators may need to consider changing their plans or operations to accommodate one another and to address public safety concerns.

It stands to reason that, to ensure appropriate consultation occurs among stakeholders, the proponent of change to the status quo is the stakeholder who bears the principal responsibility for initiating consultation. In practice, this means that local authorities wanting to revise existing regulations or change land use plans are responsible for beginning the consultation process. Similarly, developers wishing to undertake development within the consultation zone around pipelines are responsible for initiating consultation. Likewise, pipeline operators proposing new pipelines or changes to existing pipelines must initiate consultation with other stakeholders.

6.2 Information sharing

6.2.1 General

Communication among stakeholders is largely a sharing of relevant information. This enables the stakeholders to determine whether the proposed change will have an impact on existing or proposed land use or the pipeline. This information would then be used to establish acceptable land uses.

6.2.2 Information requirements

6.2.2.1 Pipeline operators

Information required from pipeline operators includes

- (a) name and address of company;
- (b) contact name and number for company;
- (c) plan showing location of pipeline(s) and right(s)-of-way;
- (d) description of product in the pipeline;
- (e) size and operating pressure of the pipeline;
- (f) type of product and its associated characteristics; and
- (g) emergency response plan and zone, if applicable.

6.2.2.2 Developers

Information required from the developer includes

- (a) name and address of developer;
- (b) contact name and number for developer;
- (c) plan of proposed development;
- (d) type of development;
- (e) density of development;
- (f) access roads to and within development;
- (g) utility access to development; and
- (h) identification of any proposed crossings and use of the pipeline right-of-way.

6.2.2.3 Local authorities

Information required from the local authority includes

- (a) contact name and number for local authority;
- (b) related land use bylaws;
- (c) emergency response plan and zone, if applicable; and
- (d) land use plan.

Contact name means the person responsible or with authority to address issues and questions raised.

6.3 Defining the process

An effective approach to defining a mandatory consultation/communication process, as well as the roles, responsibilities, and relationships among local authorities, major developers, and pipeline operators, is to implement a memorandum of understanding or protocol agreement. This could include how the developer and pipeline operator would interact with the local authority on policy and bylaw development, defining the consultation/communication process, and expectations of stakeholders within the process (see [Figure 2](#)).

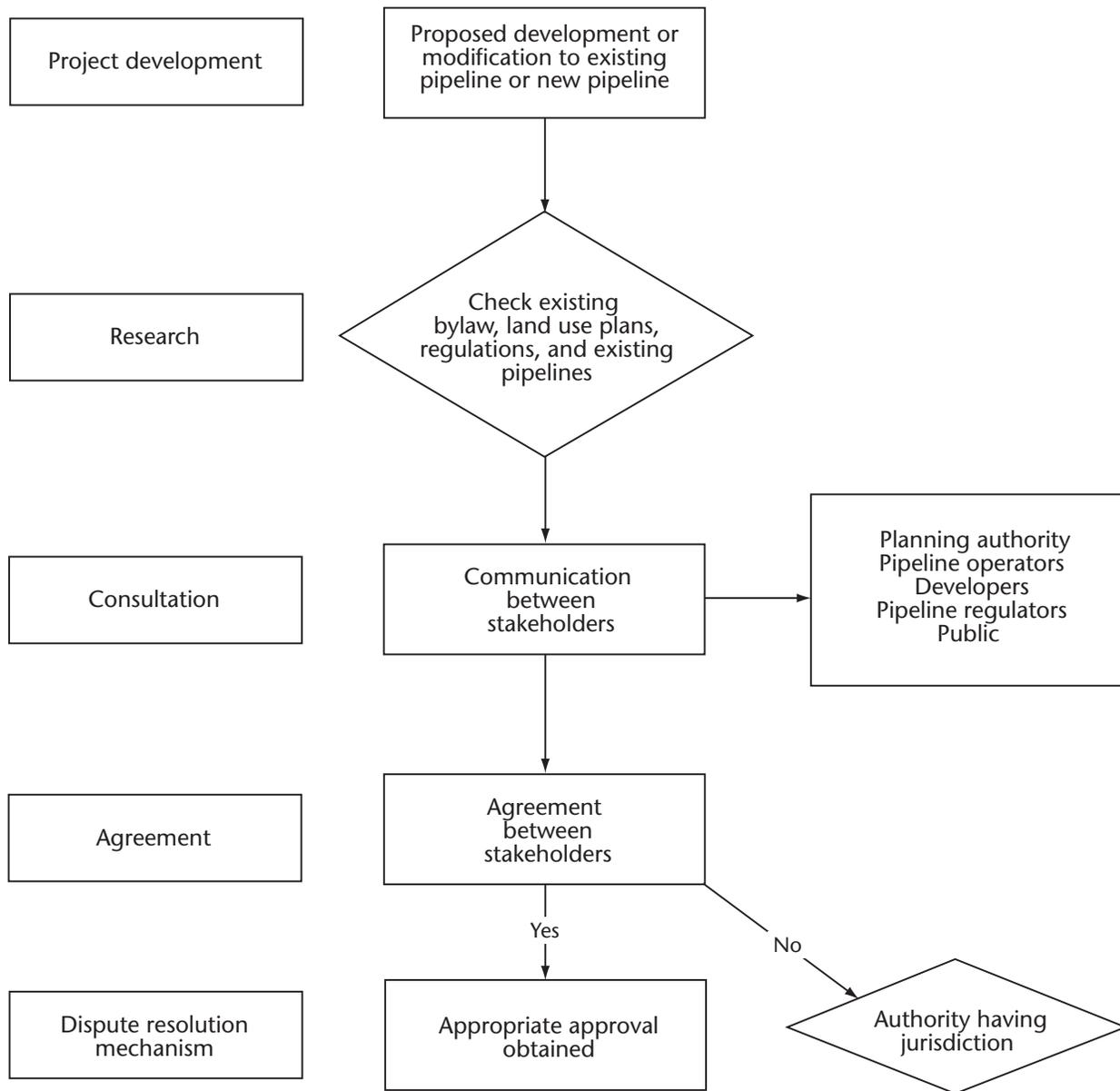


Figure 2
Consultation/communication process schematic
(See [Clause 6.3.](#))

6.4 Expediting the process

6.4.1 General

In most cases, as-built pipeline drawings — which would provide such information as the exact location of a pipeline within the right-of-way and depth of cover — are not available to local authorities. Early consultation between the developer and the pipeline operator can expedite the process by, for example, identifying the exact location of a pipeline, developing crossing agreements, and initiating alignment changes to pipelines should relocation be appropriate.

A bottleneck in any of these matters could unduly extend the time for development approvals. In due course, consultation between the local authority and the pipeline operator would provide for an opportunity to integrate the pipeline right-of-way into future development. In the meantime, and as part of the continuing development application process, tools such as the “Checklist for developers” described in [Clause 6.4.2](#) should be incorporated into the development process. This would promote consultation and communication among the parties.

6.4.2 Checklist for developers

Review the following questions:

- (a) Have you checked your proposed development area for pipelines?
- (b) If yes, have you reviewed your proposal with the pipeline operator?
- (c) Does the pipeline operator have any outstanding concerns with the development proposal?
- (d) Does the pipeline operator agree with your development proposal?
- (e) Have you identified the pipeline operator contact (person, company, phone number)?

6.5 Starting the process

6.5.1

The construction of new pipelines or development near to or surrounding existing pipelines potentially creates land use issues. The local authority, along with developers and pipeline operators, must communicate early in the planning process to work co-operatively and find effective solutions. The overriding obligation to public safety makes this absolutely essential.

Local authorities should develop land use policies that include a consultation process for developers and pipeline operators when public safety becomes an issue. Ideally, this comes after consultation among stakeholders.

A number of local authorities across Canada have already developed contact lists of pipeline companies operating within their jurisdiction. They have found it useful to develop a baseline of information for a range of matters, including setback distances, emergency response plans, acceptable surface uses for the right-of-way, and whether changes to product transmission have occurred.

6.5.2

The initiating action in most development approval processes is the application to the appropriate local authority. Through consultation with pipeline operators, local authorities will be able to gather current information on pipeline products and operating parameters. For their part, pipeline operators should help facilitate the process by responding quickly to requests for information and participation in policy, bylaw development, and consultation/communication processes. In time, this pipeline-related information should be marked on land-use planning maps, making it possible for the local authority and developer to easily identify and locate pipelines, as well as any pertinent information.

6.5.3

Maps are one of the simplest ways for developers to start the process and answer the questions in the “Checklist for developers” described in [Clause 6.4.2](#). These maps will identify relevant pipelines, delineating the consultation/communication zone and, if applicable, the emergency response planning zone, regulated setbacks, and buffer zones.

This Guideline suggests the consultation zone extend a minimum of 200 m on either side of the centreline of a pipeline. The suggested 200 m distance is based on the class location design criteria found in CSA Z662. This Standard covers the design, construction, operation, maintenance, and abandonment of oil and gas industry pipeline systems in Canada.

CSA class locations are determined by dwelling density and other location development, such as industrial installations, within the area extending 200 m perpendicularly to either side of the centreline of a pipeline. Pipeline operators monitor for changes in class location in these areas, along existing pipelines, in accordance with CSA Z662.

6.5.4

In all cases, the developer who is seeking a development permit is responsible for starting the process. The first step is to assess whether the proposed development falls within the minimum 200 m consultation zone. This 200 m zone, which extends outward perpendicular to the pipeline, is subject to the proviso that it may be greater if a high-vapour-pressure pipeline or a sour gas pipeline has an associated setback or emergency response planning zone that extends beyond 200 m from the pipeline.

If the development is inside the prescribed consultation zone, there should be consultation between the developer and the pipeline operator to address potential concerns relating to the layout and design of the proposed development. This consultation will assist the local authority in making an informed decision.

The form of the consultation could range from simply providing basic information to conducting detailed site- and situation-specific risk assessments, including public involvement.

7 Contacts and information sources

7.1 General

Effective communication among developers, local authorities, and pipeline operators requires easy access to information. There are numerous sources of information on pipelines and pipeline operators. These include the pipeline operator, regulators, pipeline associations, pipeline signage, and land title offices.

The role of the regulator is to ensure safe, sound, and environmentally responsible development of resources. The regulator speaks for the public interest. A list of regulators is provided in [Annex C](#).

Companies that share common interests form trade associations (listed in [Annex C](#)). Their focus is communication, and to promote regional and national policies that encourage technically, environmentally, and socially sound development.

7.2 Signage

Signage that contains the name of the pipeline operator and a contact phone number is posted along pipeline rights-of-way. Pipeline warning signs are normally posted at each side of a highway, road, railway, or watercourse that a pipeline crosses.

A walk through the proposed development area, plus a zone of a minimum of 200 m surrounding the area, can provide information about a pipeline. It should be considered a primary source of information.

Further sources of information (on regulators and others) are included in [Annex C](#).

8 Summary conclusions and recommendations

8.1

One of the main purposes of this Guideline is to increase awareness of the need for consultation. When development and pipeline operation are likely to be neighbours, public safety requires that the proponents of these activities work within an arrangement of compatible land use. Effective regulation combined with close co-operation among local authorities, pipeline operators, and developers can enable business and development goals to be achieved without compromising public safety. These stakeholders (and the process itself) will benefit by keeping their employees aware of the need for consultation.

8.2

The stakeholders are local authorities, developers, and pipeline operators; each has specific responsibilities in the consultation process. When land development near to or surrounding a pipeline right-of-way is being considered, the developer must take the initiative. When local authorities are considering changing a land use plan, they must begin discussions with the other stakeholders. There are two principles at play here: first, the proponent of change is responsible for initiating dialogue; second, the sooner consultation begins, the better.

8.3

This Guideline suggests that consultation take place for activity that will occur within 200 m of the centreline of the pipeline. This Guideline suggests that the consultation zone can be expanded if setbacks or emergency response planning zones associated with high-vapour-pressure or sour gas pipelines extend beyond 200 m. In addition, consultation should take place before an application is submitted to the appropriate authority.

8.4

Effective land use planning with respect to pipelines requires information. This Guideline suggests information requirements for the proponents of change and offers sources of information. In consultation with pipeline operators, on a regular basis, local authorities should utilize and/or develop databases of information regarding pipeline operations within their boundaries.

8.5

Planning authorities and municipal agencies should develop bylaws and land use policies based on the guidelines included in this document. Local authorities should review land use bylaws and general land use plans to ensure effective consultation between developers and pipeline operators.

8.6

This document is dynamic. Key stakeholders will update it in response to new information, ideas, and experience.

Annex A

The pipeline industry

A.1 General

The oil and gas industry has two main sectors: an upstream (oil and gas producing) sector and a downstream (refining, petrochemical manufacturing, marketing, and gas distribution) sector. Pipelines play a key role in and connect the two sectors.

Canada has more than 700 000 km of buried pipelines within its borders that transport products from the oil or gas wellhead to industrial complexes and end-use customers.

There are several types of pipelines:

- (a) flowlines and gathering pipelines;
- (b) feeder and transmission pipelines;
- (c) distribution pipelines;
- (d) product pipelines; and
- (e) chemical pipelines.

Each of these lines has a different function (see [Clauses A.2.1 to A.2.5](#)).

A.2 Types of pipelines

A.2.1 Flowlines and gathering pipelines

Pipelines are referred to as “flowlines” and “gathering lines” when they connect wells or other facilities such as batteries or gas processing facilities. Flowlines typically range in size from 60.3 mm to 114.3 mm (2 in to 4 in) in diameter, whereas gathering pipelines range from 114.3 mm to 323.8 mm (4 in to 12 in) in diameter. Flowlines and gathering pipelines transport natural gas, crude oil, produced water, and a variety of hydrocarbon product mixtures. There are approximately 300 000 km of upstream pipelines in the producing areas of western Canada.

A.2.2 Feeder and transmission pipelines

Pipelines connecting oil and gas fields with transmission pipelines are called “feeder pipelines”. Feeder pipelines normally carry liquid hydrocarbons such as crude oil, natural gas liquids, and high-vapour products such as propane and butane. Typically, feeder pipelines range in size from 168.3 mm to 508.0 mm (6 in to 20 in) in diameter. There are more than 25 000 km of feeder pipelines in western Canada.

Transmission pipelines typically range in size from 508.0 mm to 1219.2 mm (20 in to 48 in) in diameter. Transmission pipelines carry oil, natural gas, and natural gas liquids from the producing regions of the country to the marketplace. In Canada, there are approximately 70 000 km of natural gas transmission pipelines and 20 000 km of transmission pipelines for oil and other hydrocarbon liquids.

A.2.3 Distribution pipelines

Pipelines delivering natural gas from transmission pipelines to homes and businesses are called “distribution pipeline” systems. Distribution pipelines can be as large as 914.4 mm (36 in) in diameter. However, most are much smaller, ranging in size from 33.4 mm to 168.3 mm (1 in to 6 in) in diameter. These pipelines generally operate at lower pressures than the transmission pipelines and are owned and operated by local distribution companies (LDCs). Distribution pipelines are not specifically addressed in this Guideline.

A.2.4 Product pipelines

Pipelines carrying refined products from refineries to distribution centres such as bulk-loading terminals are referred to as “product pipelines”. Product pipelines typically carry such refined petroleum products as gasoline, diesel, heating oil, or jet fuel. These pipelines range from 168.3 mm to 323.8 mm (6 in to 12 in) in diameter and normally operate at lower pressure than natural gas pipelines.

A.2.5 Chemical product pipelines

Most pipelines in Canada have been developed for the transportation of oil and gas. However, a number of pipelines are also used for the transportation of chemical products, which can be liquids or gases. Chemical products transported by pipeline include oxygen, nitrogen, ammonia, and ethylene, each with its own hazard potential. While these product pipelines are not specifically addressed in this Guideline, land use planning requirements related to these pipelines are essentially the same.

Annex B

Possible land use planning solutions

B.1 General

The purpose of this Annex is to expand upon the ideas mentioned in [Clause 4](#) of this Guideline. It is intended to illustrate land uses, not to preclude development or set out a definitive or all-inclusive list of solutions. Each development will contain its own set of considerations that must be explored by the proponent and other stakeholders to arrive at the appropriate land use strategies.

Unless otherwise noted, the information presented in [Clause B.2](#) is applicable to all types of pipelines covered by this Guideline.

The initial consultation between stakeholders will largely consist of sharing relevant information in order for the stakeholders to determine if the proposed change will have an impact on existing or proposed land use or the pipeline. The proposed change should be evaluated with regard to the impact on the existing level of risk in the same manner that the risk level of a new project is evaluated. This information would then be utilized to evaluate or determine acceptable land uses.

B.2 Developments adjacent to existing rights-of-way

The pipeline right-of-way can be described as a controlled activity area that includes the surface area directly above the pipeline and some specified distance on either side of the pipeline. The right-of-way is wide enough to permit the pipeline operator reasonable access to maintain the pipeline and to signal to others the existence of the pipeline. Pipeline rights-of-way vary in width and can contain more than one pipeline. Accordingly, the pipeline operator must always be contacted for this information.

The right-of-way agreement between the pipeline operator and the landowner specifies activities or developments that are explicitly prohibited on the right-of-way without prior approval from the pipeline operator or that may not be allowed at all — for example, buildings and other structures. The pipeline operator must be consulted to ensure that development is compatible with pipeline operations. This provision exists for two reasons:

- (a) to restrict ground disturbance within the right-of-way; and
- (b) to keep the right-of-way clear of obstructions for operations, maintenance, and surveillance purposes.

Surface land uses on the pipeline right-of-way should be safely, functionally, and visually integrated with adjacent development (see [Figure B.1](#)). This is less complicated to do in open agricultural areas, as once the pipeline is in the ground, normal agricultural operations may continue unimpeded by the presence of the pipeline. Generally, uses of the right-of-way that do not impede the pipeline operator's access to the right-of-way for maintenance, surveillance, or emergency access purposes are encouraged. Pathways, small playing fields, park areas, and golf courses are generally acceptable. Roadway and other crossings, when appropriately designed and approved by the pipeline operator, are also acceptable.

The pipeline right-of-way may be landscaped to fit in with adjacent developments. Trees and shrubs should be located at a distance from the centreline of the pipeline right-of-way, since they could impede access. Deep-rooting vegetation should be avoided, since it could cause damage to the pipeline.

Encouraging the development of small pocket parks along its length could enhance the visual appeal of the pipeline right-of-way. Also, appropriately designed fences can improve the appearance of the right-of-way within a residential subdivision. Similar treatment of rights-of-way in commercial and industrial subdivisions may be provided if there is potential for the rights-of-way to form part of a larger park system.

Paved surfaces may be considered, depending on the specifications of the pipeline and the extent of the proposed paved area. Outdoor storage uses may be considered acceptable in some circumstances, particularly in industrial and commercial subdivisions, depending on the nature of the substance stored (e.g., ability to move easily, weight, flammable nature of stored product) and length of storage.

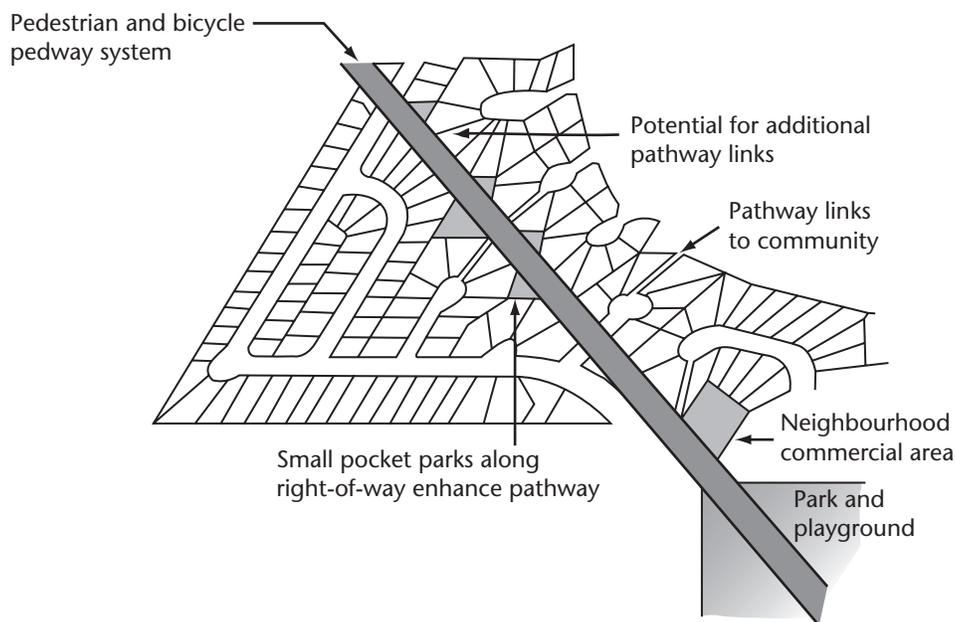


Figure B.1
Land uses

Before a development is approved, the local authority should ensure that the developer has addressed the presence of any pipelines within the development by consulting with the pipeline operator.

A wide range of land uses and densities may be permitted adjacent to pipelines. Lower-density developments can often make better use of the open space provided by the right-of-way, as there is greater flexibility in specific site designs and in the location of buildings.

Access to the pipeline right-of-way must not be obstructed. At designated intervals, the site design and the layout of buildings adjacent to pipeline rights-of-way should provide unobstructed access to the right-of-way, unless adequate access can be provided at road crossings.

Consideration should be given to placing services such as police, fire, and hospitals away from pipeline rights-of-way and even outside of emergency response zones. Some local authorities have established a minimum setback for all pipelines to further reduce the risk of third-party disturbance of a pipeline.

Setback distances are only one of a number of measures that can be implemented to control risks. Similarly, land use controls are a way to reduce risk. Additional technical requirements (for example, added depth of pipeline, reduced operating pressure, increased wall thickness, or the installation of more isolation valves) are imposed by pipeline regulators for pipelines classified as hazardous traversing areas of higher population density.

B.3 New pipelines adjacent to developments

B.3.1

When new pipelines are planned, the routes are proposed, where possible, based on existing rights-of-way, utility corridors, and open space that is not currently under development or other than used for agricultural purposes. The pipeline operator is responsible for contacting the local authority to determine if there are land use bylaws or development restrictions in place.

In replying to a pipeline company's proposed route, the local authority should review existing land use, prevailing development trends, and projections in order to identify lands with future development

potential and assess the timing of the development. The local authority should identify sections of the proposed pipeline route that would, depending on the growth scenarios, pose future land use concerns. The local authority should be aware of landowners' planned or future uses of the land.

Local authorities may facilitate routing of pipelines in appropriate areas based on land use bylaws that establish utility or transportation corridors or other controlling mechanisms.

Local authorities should include provisions in their general land use plan that would provide guidance (e.g., procedures and criteria) on how to deal with pipeline application referrals to the local authority.

B.3.2

Should a local authority decide to suggest a preferred route, the following broad planning considerations should be used:

- (a) compatibility with general land use plans and land use designations, and the anticipated direction of growth;
- (b) minimal conflict with development and a suitable distance from existing and planned land uses; and
- (c) the level of land fragmentation.

B.3.3

There may be no alternative to constructing the proposed pipeline through areas subject to development. In such cases, the local authority should work with the pipeline company to minimize potential conflicts. As a first step, the local authority should assess whether the pipeline right-of-way

- (a) can be combined with existing or planned utility or transportation corridors, or incorporated with or next to an existing pipeline right-of-way;
- (b) could form a functional component of an open space system or buffer between incompatible uses; and
- (c) would limit adjacent land uses, or alternatively complement or enhance adjacent land uses.

B.3.4

Pipeline regulators in Canada generally require the pipeline operator to contact the local authority to determine whether or not the local authority has any objections to a proposed pipeline within a specified distance (e.g., 1.5 km in many provinces) of the local authority boundary. If a local authority objects to a routing of a pipeline, the regulator will generally provide assistance in determining a route that would accommodate local authority concerns. Local authorities are encouraged to have, and to provide pipeline operators with, a position regarding future development in order to prevent land fragmentation and other problems for future growth.

Annex C

Sources of information on pipelines in Canada

C.1 Regulators

C.1.1 General

Federal, provincial, and territorial governments regulate pipelines within their respective jurisdictions.

Clauses C.1.2 to C.1.14 set out the primary government departments and agencies that exercise authority over pipelines in the federal, provincial, and territorial jurisdictions.

Note: Some local authorities — e.g., counties and townships — have jurisdiction over local gas co-operatives. Information on these pipelines is available from local government offices.

C.1.2 Federal

National Energy Board
444–7th Avenue SW
Calgary, Alberta
T2P 0X8
Telephone: (403) 292-4800
Web site: <http://www.neb-one.ga.ca/>

Transportation Safety Board of Canada
200 Promenade du Portage
Place du Centre
4th Floor
Gatineau, Québec
K1A 1K8
Telephone: (819) 994-3741
Fax: (819) 997-2239
Web site: <http://www.tsb.gc.ca/>

C.1.3 Alberta

Alberta Energy and Utilities Board
640–5th Avenue SW
Calgary, Alberta
T2P 3G4
Telephone: (403) 297-8311
Web site: <http://www.eub.gov.ab.ca/bbs/default.htm>

C.1.4 British Columbia

Oil and Gas Commission
Suite 200, 10003–110th Ave.
Fort St. John, British Columbia
V1J 6M7
Telephone: (250) 261-5700
Fax: (250) 261-5750
Web site: <http://www.ogc.gov.bc.ca>

C.1.5 Saskatchewan

Saskatchewan Industry and Resources
2103–11th Avenue
Regina, Saskatchewan
S4P 3V7

Telephone: (306) 787-2232

Fax: (306) 787-2159

Web site: <http://www.ir.gov.sk.ca>

C.1.6 Manitoba

Manitoba Department of Industry, Economic Development and Mines
1395 Ellice Ave., Suite 360
Winnipeg, Manitoba
R3G 3P2

Telephone: (204) 945-4154

Fax: (204) 945-1406

Web site: <http://www.gov.mb.ca/itm/index.html>

Petroleum and Energy Branch

Telephone: (204) 945-6573

C.1.7 Ontario

Ontario Energy Board
2300 Yonge Street, Suite 2601
P.O. Box 2319
Toronto, Ontario
M4P 1E4

Telephone: (416) 481-1967

Fax: (416) 440-7656

Web site: <http://www.eb.gov.on.ca/>

Technical Standards and Safety Authority
Fuels Safety Division
3300 Bloor Street West
Toronto, Ontario
M8X 2X4

Telephone: (416) 734-3300

Fax: (416) 440-7656

Web site: <http://www.tssa.org>

C.1.8 Québec

Ministère des ressources naturelles, de la faune et des parcs

Web site: <http://www.mrn.gouv.qc.ca>

Direction du gaz et du pétrole

Telephone: (418) 627-6390

Direction des produits pétroliers

Telephone: (418) 627-6385

C.1.9 Nova Scotia

Nova Scotia Department of Energy
Bank of Montreal Building, Suite 400
5151 George Street
P.O. Box 2664
Halifax, Nova Scotia
B3J 3P7
Telephone: (902) 424-4575
Fax: (902) 424-0528
Web site: <http://www.gov.ns.ca/energy/default.asp>

Nova Scotia Utility and Review Board
P.O. Box 1692, Unit M
Suite 300, 1601 Lower Water Street
Halifax, Nova Scotia
B3J 3S3
Telephone: (902) 424-4448
Fax: (902) 424-3919
Web site: <http://www.nsuarb.ca/>

C.1.10 New Brunswick

New Brunswick Department of Energy
Carleton Place
Room: 830 & 860
520 King Street
P.O. Box 6000
Fredericton, New Brunswick
E3B 5H1
Telephone: (506) 444-5912
Fax: (506) 444-5405
Web site: <http://www.gnb.ca/0085/index-e.asp>

New Brunswick Department of Natural Resources
Hugh John Flemming Forestry Centre
1350 Regent Street
P.O. Box 6000
Fredericton, New Brunswick
E3B 5H1
Telephone: (506) 453-2207
Fax: (506) 444-5839
Web site: <http://www.gnb.ca/0078/index-e.asp>

C.1.11 Prince Edward Island

PEI Energy Corporation
Jones Building, 2nd Floor
11 Kent Street
P.O. Box 2000
Charlottetown, Prince Edward Island
C1A 7N8
Telephone: (902) 368-5180
Fax: (902) 368-5425
Web site: <http://www.gov.pe.ca/enveng/ec-info/index.php3>

C.1.12 Newfoundland and Labrador

Newfoundland and Labrador Department of Natural Resources
Natural Resources Building
50 Elizabeth Avenue
P.O. Box 8700
St. John's, Newfoundland and Labrador
A1A 1W5
Web site: <http://www.gov.nl.ca/nr/>

Energy Branch
Petroleum Resource Development Division
David Hawkins, Director
Telephone: (709) 729-2323
Fax: (709) 729-2508

Mines Branch
Mineral Development Division
Charles Bown, Director
Telephone: (709) 729-5847
Fax: (709) 729-5893

C.1.13 Yukon

Yukon Department of Economic Development
Suite 400, 211 Main Street
P.O. Box 2703
Whitehorse, Yukon
Y1A 2C6
Telephone: (867) 667-5466
Fax: (867) 667-8601
Web site: <http://www.economicdevelopment.gov.yk.ca/>

Energy Resources Branch
Telephone: (867) 667-5014

C.1.14 Northwest Territories

Northwest Territories Department of Resources, Wildlife and Economic Development
P.O. Box 1320
Yellowknife, Northwest Territories
X1A 2L9
Web site: <http://www.gov.nt.ca/RWED/Default.htm>

Minerals, Oil and Gas
Telephone: (867) 920-3222
Fax: (867) 873-0254

C.2 Industry associations

C.2.1 General

There are five main pipeline-related associations in Canada. They are the Canadian Association of Petroleum Producers, the Canadian Energy Pipeline Association, the Canadian Gas Association, the Small Explorers and Producers Association of Canada, and the Canadian Chemical Producers Association.

C.2.2 The Canadian Association of Petroleum Producers (CAPP)

CAPP represents the major companies whose activities focus on exploration, development, and production of natural gas, natural gas liquids, crude oil, synthetic crude oil, bitumen, and elemental sulphur.

Canadian Association of Petroleum Producers

2100, 350–7th Avenue SW
Calgary, Alberta
T2P 3N9
Telephone: (403) 267-1100
Fax: (403) 261-4622
Web site: <http://www.capp.ca>

C.2.3 The Canadian Energy Pipeline Association (CEPA)

CEPA is the national organization representing Canada's major oil and gas transmission pipeline companies. Its members operate 100 000 km of pipelines in eight provinces and three territories.

Canadian Energy Pipeline Association

1650, 801–6th Avenue SW
Calgary, Alberta
T2P 3W2
Telephone: (403) 221-8777
Fax: (403) 221-8760
Web site: <http://www.cepa.com>

C.2.4 The Canadian Gas Association (CGA)

CGA is the national trade organization for Canada's natural gas industry. Its members span the industry spectrum and include Canada's major natural gas transmission companies, gas distributors, energy service providers, and manufacturers of gas appliances and equipment.

Canadian Gas Association

350 Sparks Street
Suite 809
Ottawa, Ontario
K1R 7S8
Telephone: (613) 748-0057
Fax: (613) 748-9078
Web site: <http://www.cga.ca>

C.2.5 The Small Explorers and Producers Association of Canada (SEPAC)

SEPAC represents the small oil and gas producers and explorers.

Small Explorers and Producers Association of Canada

1060, 717–7th Avenue SW

Calgary, Alberta

T2P 0Z3

Telephone: (403) 269-3454

Fax: (403) 269-3636

Web site: <http://www.sepac.ca>

C.2.6 The Canadian Chemical Producers Association (CCPA)

CCPA members account for more than 90% of the chemical manufacturing operations in Canada. This output includes petrochemicals, inorganic chemicals, and a wide range of organic and specialty chemicals.

Canadian Chemical Producers Association

350 Sparks Street, Suite 805

Ottawa, Ontario

K1R 7S8

Telephone: (613) 237-6215

Fax: (613) 237-4061

Web site: <http://www.ccpa.ca>

C.3 Land title information

Land title information may be obtained through land title offices in the relevant jurisdiction or, in some provinces, through local registry offices.

Registries and land title offices contain information on most pipelines. Historically, however, not all interests in pipeline rights-of-way have been registered. In addition, company name changes, mergers, and amalgamations may not be up to date in land title records. While extremely useful, this source should, therefore, not be considered comprehensive and should not be the only source used.

C.4 Other sources of information

Other sources include “first responders” (fire and police authorities), gas co-operatives, local government offices (counties, municipalities, and improvement districts), and third-party service companies. A partial list of sources also includes the following:

Alberta One-Call Corporation

230, 6940 Fisher Road SE

Calgary, Alberta

T2H 0W3

Telephone: (800) 242-3447 or (403) 531-3700

Fax: (800) 940-3447

BC One-Call

222, 4259 Canada Way

Burnaby, British Columbia

V5G 1H1

Telephone: (800) 474-6886 or (604) 257-1940

Fax: (604) 451-0344

Edmonton Area Pipeline and Utility Operators' Committee

#1240 Sun Life Place
10123-99 Street
Edmonton, Alberta
T5J 3H1

Info-Excavation

Suite 340, 1600 Henri-Bourassa West
Montreal, Québec
H3M 3E2
Telephone: (800) 663-9228 or (514) 286-9228
Fax: (800) 441-3323 or (514) 287-3323

Oil and Gas Index

Oil and Gas Explorers and Producers of Western Canada
405-14th Avenue NE
Calgary, Alberta
T2E 1E6
Telephone: (403) 237-0318
Fax: (403) 264-1313

Waterloo Region BUD System

16, 2448 Lakeshore Rd. W.
Oakville, Ontario
L6L 1H7
Telephone: (800) 265-2288
Fax: (905) 827-6485



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