



# Pipeline safety and emergency information

for our neighbours.

## About Enbridge

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Enbridge is a global energy infrastructure leader. Our assets are diversified and balanced between natural gas and oil, and we provide integrated services and first-and-last-mile connectivity to key supply basins and demand markets.

We transport energy, operating the world's longest, most sophisticated crude oil and liquids transportation system, with 17,018 miles (27,388 km) of active pipe.

We deliver an average of 2.8 million barrels of crude oil each day through our Mainline and Express pipelines, and we transport 28% of the crude oil produced in North America.

We distribute energy and are Canada's largest natural gas distribution provider, with approximately 3.7 million retail customers in Ontario, Quebec, New Brunswick and New York State.

We generate energy with a portfolio that includes nearly 3,000 megawatts (MW), net, of wind, solar and geothermal projects.

### Call or Click Before You Dig

Before performing any ground disturbance activity on, along, across or under a pipeline, please contact your local one-call centre.

### Northwest Territories

Enbridge Pipelines (NW) Inc.  
1-867-597-7000 (collect)

### Alberta

Alberta One Call  
1-800-242-3447 (toll-free)

**Click  
Before  
You Dig.com**

### In case of emergency:

Please find a safe place to call your local emergency service or 911, if it's available. Then call Enbridge at:

**1-877-420-8800**

### How to reach us:

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Public Awareness Hotline  
(Non-Emergency Calls Only)

Phone  
**1-877-640-8665**

Email  
**CdnPublicAwareness@enbridge.com**

Mail  
**Box 280  
Norman Wells, NT  
X0E 0V0**

Website  
**Enbridge.com/publicawareness**

Facebook  
**facebook.com/enbridge**

As the owner and operator of thousands of kilometres of pipelines transporting oil and natural gas, our highest priority is operating our assets safely and reliably to protect the people, communities and environment located nearby.

## Public Awareness Program

Our Public Awareness Program is dedicated to informing and educating our neighbours about the presence of pipelines in their community. As part of this Program, representatives from Enbridge regularly visits governments, local communities, Aboriginal groups and other stakeholders to provide them with important information about safety, maintenance programs, damage prevention, and emergency preparedness and response procedures.

Keeping in touch with you is very important to us. That's why we contact those who live and work near our systems on an ongoing basis.

## Your Role

As a resident, business owner or community member along Enbridge's pipeline right-of-way (ROW), you also have an important role to play. That's why we've created this brochure to provide you with the important information needed to help keep you safe.

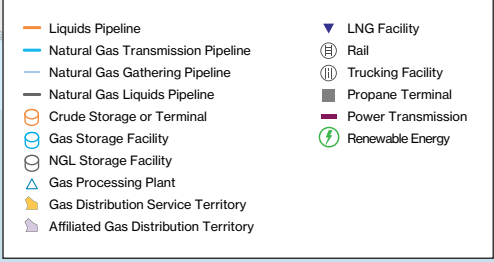
After reading this brochure, you should know how to:

- Excavate safely, using the Click or Call Before You Dig program (AB) or contacting Enbridge (NT);
- Identify where pipelines may be located in proximity to your home or business;
- Recognize the signs of a pipeline leak;
- Respond in an emergency situation, and
- Contact Enbridge.

## Open lines of communication

We always appreciate hearing from you and have included at the front and the back of this brochure, numbers that you can use to call us, both in an emergency situation and in non-emergency situations.

**We ask that you please take a few minutes to review the brochure and then store it in a convenient place.**



The Norman Wells pipeline was the first in the world to be buried completely in permafrost, and we are proud to have earned a safety and environmental record that lives up to the high standards expected by our neighbours here in the North.

### The crude oil journey

The Norman Wells oil deposits lie beneath the Mackenzie River (Deh Cho) in Canada's Northwest Territories.

The 12-inch diameter pipeline travels approximately 750 km (466 miles) through the Northwest Territories, with a design capacity of 50,000 barrels per day. Our pipeline assets in the Northwest Territories include pump stations and related facilities at Norman Wells, Wrigley, and Mackenzie.

The pipeline stretches 870 kilometers (540 miles) from Norman Wells, in the Northwest Territories, to Zama, Alberta where it enters a third-party pipeline system and is sent to Edmonton. At Edmonton, the line connects to the Enbridge mainline which moves crude oil and other liquid hydrocarbons to refinery customers in central and eastern Canada and the U.S. Midwest.

### Norman Wells Pipeline Overview

Construction start:	January 1983
Originates at:	Norman Wells, Northwest Territories
Terminates at:	Zama, Alberta
Official opening:	May 16, 1985
Pipeline design capacity:	50,000 barrels/day
Pipeline length:	869 kilometres (540 miles)
Pipeline diameter:	323 millimetres (12 inches)

### Above ground facilities

While most of our pipelines are buried underground, our systems also include many above ground facilities along the crude oil pipeline route.

Pump stations maintain flow in the pipeline and are monitored 24/7 by Enbridge's control centre. Valve sites are located along the pipeline ROW and may be used to control the flow of products in the pipeline(s).



Our pipelines meet or exceed government standards, and over a half-century of experience has proven that pipelines are the single safest method of transporting petroleum products and natural gas.



Enbridge takes seriously its responsibility for safe pipeline operation.

Being responsible for pipeline integrity, however, does not mean working alone. We work year-round to provide safe, reliable operations, and we regularly communicate important information to local governments, Aboriginal groups, fire and police services, business owners and neighbours.

### **From the ground up**

While our pipelines are buried out of sight beneath the ground in the ROW, we never lose sight of the bigger picture of our potential impact on the air, water and land around us, and our responsibility to preserve all elements of our environment.

In fact, our activities—everything from pipeline design, construction, testing, maintenance, operation and safety

practices—are subject to government regulations, which we meet or exceed.

When we do disturb the ground, we strive to restore the land to its original condition and to protect the quality of the air and water that sustain us.

### **Protecting your community**

Enbridge has a wide range of programs that help maintain the safety of the pipeline(s) that run near your community.

We invest heavily in the tools, technologies, people and strategies we need to make sure our pipeline networks have the strength and fitness needed to do the job safely and reliably.

### **Processes and technologies**

From the purchase of high quality steel pipe, manufactured to meet stringent criteria, to the cathodic protection system we employ to prevent corrosion once the pipe is installed, Enbridge makes the safety of the system a priority before and during operation.

The processes and technologies we use to prevent and detect leaks include:

- The careful selection and testing of pipe prior to and during the manufacturing process;
- X-ray or ultrasonic testing of all welds during construction;
- Sophisticated monitoring and control systems that operate around the clock, 365 days a year;
- Tests to confirm pipeline integrity on new pipelines/systems, and
- The use of durable coating systems and cathodic protection (use of low voltage electric current) to protect pipe from external corrosion.

## People and practices

In addition to developing and putting the right processes and technologies into place, the right people and practices also drive our efforts to keep the pipeline safe

Our initiatives include:

- Regular pipeline ROW patrols by aircraft, and in some areas by land;
- Investigative dig programs to support pipeline integrity;
- Meeting and exceeding industry standards and regulations;
- Public awareness education; and
- The stationing of emergency response staff and equipment at strategic locations along the pipeline route.

## Right-of-way

Protection of the northern environment has always been one of Enbridge's top priorities. During construction, Enbridge used existing linear disturbances for the ROW wherever possible. Where necessary, the ROW was hand cleared and after construction restored to as close as possible to original condition. The work included drainage and erosion control measures, restoration of all grading cuts and protection of the slopes and/or riverbanks. Marketable timber was marked, cut, trimmed and stacked for subsequent removal as part of the hand clearing process.

## Respecting the environment

Whether it's plant life, wildlife, soil, fresh water or historical artifacts, in every aspect of our business we work hard to preserve the natural balance of your land. To do that, we plan very carefully from start to finish on any project, making sure our people

know what's expected, talking to you, and implementing programs in place that will help to protect the environment.

The Norman Wells pipeline performs to environmental standards that are second to none in our industry.

Ongoing monitoring and inspection ensures the line continues to safely transport thousands of barrels of crude oil every day through one of the world's most challenging ecosystems.

In addition to a computerized leak detection system, Enbridge regularly conducts in-line monitoring inspections to detect even minute changes in pipeline wall geometry.

Sensitive areas along the pipeline route are equipped with slope monitoring equipment and watercourse crossings are also continuously monitored.

Every five years, a bathymetric survey is conducted to determine depth of cover at the Great Bear and Mackenzie Rivers. The pipeline ROW is regularly surveyed from the air to identify potential leaks as well as to spot any unauthorized activities.

## Protecting the northern environment and culture

Wildlife and cultural concerns were addressed during the Norman Wells regulatory approvals process and continue to feature in discussions with governments, local communities, Aboriginal groups and other stakeholders.

Prior to construction, Enbridge also developed an archeological protection program to ensure protection and preservation of historic sites.

During construction, a wildlife harvesting protection plan was developed and implemented in consultation with local trappers. With their input, key habitats and nesting sites were avoided. Surveys have shown little interference with wildlife distribution along the pipeline corridor.

Ongoing studies of the area were initiated in relation to waste disposal, hazardous substances, increased access and habitat alteration, with ongoing environmental monitoring throughout and after completion of the project.

On steep riverbanks and other areas where the objective is to reduce permafrost degradation, the ground is insulated with a blanket of wood chips, mimicking the natural insulating properties of peat.

### **The way we do business**

At Enbridge, we hold ourselves to high standards of corporate social responsibility, which for us, means conducting business in a socially responsible and ethical manner, protecting the environment and the safety of people; and, engaging, learning from, respecting and supporting the community and cultures with which we work.

Our commitment to sustainability underpins our long-term vision: to be the leading energy infrastructure company in North America. To us, that means we're delivering the energy people need and want: putting safety first, protecting our environment and making the transition with society to a lower carbon energy future. To find out about our performance in these areas, visit [enbridge.com/sustainability](https://enbridge.com/sustainability).



Good working relationships between Enbridge and neighbours along our systems are essential to pipeline safety.



## Understanding the Right-of-Way (ROW)

A right-of-way (ROW) is a strip of land of varying widths that may contain one or more pipelines. The ROW:

- Allows our workers access for inspection, maintenance, testing or emergencies; and
- Identifies an area that restricts certain activities to protect public safety

While permanent pipeline markers are located at roads, railways and other intervals along the ROW, these show only the approximate location of the buried pipelines. The depth and location of the pipelines vary within the ROW and there is no distinct look to the ROW. As such, only

an Enbridge representative can precisely pinpoint the location and depth of our pipeline in a specific location.

It's important to always call Alberta One Call, or Enbridge NW, in advance of any planned ground disturbance activity. If underground utilities do exist, they will be located and identified using temporary colour coded markings.

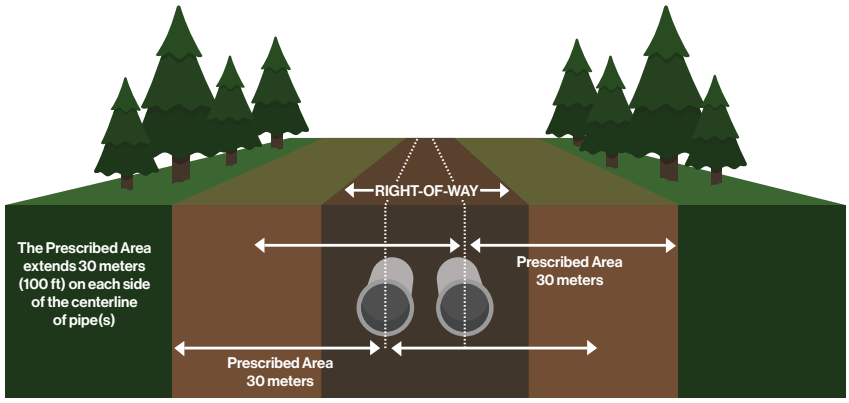
## The National Energy Board (NEB) requirements

Excavation and construction activities in the vicinity of the Enbridge pipeline(s) are subject to the legal requirements of the *National Energy Board Act (NEB Act)* and the *NEB Pipeline Damage Prevention Regulations— Authorizations, and Pipeline Damage Prevention Regulations— Obligations of Pipeline Companies* (together, the DPRs).

The DPRs apply to any person or company planning or undertaking an activity near an NEB-regulated pipeline. However, the general requirements of the DPRs don't apply to:

- An excavation caused by the pipeline company or its agents, or
- Activities, other than the construction or installation of a facility, that disturb less than 0.3 meters (1 foot) of ground below the initial grade and that do not reduce the total cover over the pipe.

*NEB Pipeline Damage Prevention Regulations— Authorizations* sets out in more detail the conditions under which excavation and construction activities in the prescribed area can be conducted safely. *NEB Pipeline Damage Prevention Regulations— Obligations of Pipeline Companies* establishes the responsibilities of the pipeline company to the person proposing or conducting the activity and to the NEB.



➤ Enbridge's Norman Wells pipeline system is regulated by the NEB and must comply with specific pipeline standards and regulations. In addition to the ROW where the pipeline is located, the NEB has established a 30 meter (100-foot) prescribed area, measured from the centreline of the pipe, to protect the pipeline, the environment and you.

### The NEB prescribed area

The DPRs require that a locate request is made before construction of a facility, across, on, along or under a pipeline; and, before any ground disturbance activity within the 30 meter (100-foot) the prescribed area. The locate request must be made at least three working days before the day on which the construction or planned ground disturbance activity is to start.

If work involves activity within the ROW—including ground disturbance or construction on, along, across or under the pipeline—written permission from Enbridge is required.

### Call or Click Before You Dig

We know that sometimes work needs to be done on or near the pipeline. That's why we are a member of Call or Click Before You Dig, a free underground infrastructure location service that notifies member companies of proposed activities so that the member companies can locate buried facilities in the vicinity before work begins.

Before beginning a proposed project, visit [ClickBeforeYouDig.com](http://ClickBeforeYouDig.com) and within three working days of your request, an Enbridge representative will be at your job site ready to mark the exact location of the pipeline(s).

In the Northwest Territories, your call will be collect to our Norman Wells office.

In Alberta, your call will be toll-free to Alberta One Call. Please see the last page for the number in your area. Alternatively in Alberta, a locate request can be placed by visiting [clickbeforeyoudig.com](http://clickbeforeyoudig.com).

This will help you avoid problems or delays by:

- Acquainting you with the 30 meters (100 foot) prescribed area on either side of the pipeline and providing guidelines for excavation and blasting;
- Locating and marking our pipelines;
- Where possible, helping you obtain written permission for excavation on, along, across or under, or within 30 meters of our pipeline; and
- Ensuring an Enbridge field representative is on site when the work is being performed.

For installations across the ROW, written permission is required. Once a request for construction is received, we will contact you within 10 days.

### Ground disturbance

Activities causing ground disturbance can include, but are not limited to, the following:

- Excavating, digging, trenching or ditching;
- Plowing to install underground infrastructure;
- Tunneling, boring, drilling, pushing or augering;
- Topsoil stripping, subsoiling, land-leveling and grading;
- Tree planting, clearing and removing stumps;
- Quarrying or blasting/using explosives;
- Grinding or milling of asphalt/concrete;
- Seismic exploration;
- Driving fence posts, bars, rods, pins, anchors or pilings; and
- Crossing buried pipelines or other underground infrastructure with any vehicle or equipment off the travelled portion of a public roadway.

### Activities in the prescribed area

Before planning any activities in the prescribed area, you must consult with Enbridge first. Plan ahead, as approvals for some facilities may take longer than others. This includes contacting us in advance when you need to:

- Conduct a ground disturbance as defined above;
- Construct roads, paving, parking areas, driveways, ditches, railways, overhead or underground facilities or other facilities;
- Install services or other facilities;
- Build a berm;
- Stockpile materials;
- Drainage improvements;
- Install an overhead powerline; and
- Use of explosives/blasting.

### Six step safety checklist

If you are planning to conduct work in the prescribed area, please follow this six step safety checklist:

- 1 Plan your activity—Identify the location of your work, making sure to look for pipeline warning signs or pipeline marker posts.
- 2 Contact Alberta One Call or Enbridge Norman Wells, at least three working days before the day on which the activity is set to start.
- 3 Be on-site when the pipeline is being located and ensure all other buried utilities are located.
- 4 Contact Enbridge and make sure to obtain all necessary written permissions if conducting work within the ROW.
- 5 Immediately notify Enbridge if you come into contact with the pipe or its coating by calling, **1-877-420-8800**.
- 6 Always follow the instructions of an Enbridge representative.

Protecting the people, communities and environment near our operations is an important part of our job.

### In an emergency

Pipelines have been proven as the safest transportation mode for energy commodities. Pipeline leaks are rare but can happen for a number of different reasons. Studies show that third party damage is one of the most common reasons for pipeline leaks or ruptures, which underscores the importance of Call or Click Before You Dig programs and services.

The liquid hydrocarbons in Enbridge's pipeline system are under pressure, hazardous, highly flammable and can be potentially explosive under certain conditions. Crude oil can also cause environmental damage when released in large volumes, so it's important to always have underground lines located and marked before any work begins.

In addition to third party damage, pipelines can also leak as a result of a defect or some other type of pipewall damage. Internal inspection tools are used to detect potential pipe problems in advance, which enable companies to perform investigative digs and repair the damage. Since some commodities are more flammable than others, a pipeline leak or rupture will have different consequences depending on the commodity being transported.

Given our thorough maintenance, testing, training, monitoring and safety programs, a pipeline leak is unlikely; however, if one were to occur, it's important that you know the warning signs and how to respond in the event of an emergency, or if you suspect pipeline operations have been disrupted in any way.

We constantly monitor all of our activities and take steps to protect the environment.

### Know the warning signs

The Enbridge system carries many kinds of liquid hydrocarbons, and each product has individual characteristics. This means that the warning signs can vary, depending on the product involved.



#### You might see...

- A moist patch or pool of black liquid...it may be crude oil
- Continuous bubbling in a wet area...it might be a pipeline leak



#### You might hear...

- A roaring, blowing or hissing sound...it may be a pipeline leak



#### You might smell...

- An odour similar to gasoline or diesel fuel...it may be a refined oil product

### What to do in an emergency

If you see, smell or hear any of the warning signs, please immediately do the following:

- 1 If you can do so safely, turn off any mechanized equipment. Move as far away from the leak as possible in an upwind direction, avoiding contact with escaping liquids and gases.**
- 2 Call your local emergency service or 911, if it's available,**
- 3 Call the toll-free, 24-hour Enbridge emergency number for your area: 1-877-420-8800.**
- 4 Follow instructions provided to you by Enbridge and local emergency responders.**

## What NOT to do in an emergency

- Do not touch any liquid or vapour that may have come from the pipeline.
- Do not start your car or any equipment that could be an ignition source. Do not drive into the area.
- Do not smoke or light a match.
- Do not turn on or off anything that may create a spark, including cell phones, telephones, light switches, vehicle alarms, keyless entry remotes and flashlights, until you are in a safe location.
- **Do not operate pipeline valves.**
- Do not remain in a building if the smell is stronger inside than outside.

### If you do not know the location of the pipeline leak, shelter-in-place:

- Immediately go indoors and close all windows and outside doors.
- Take shelter in the room with the least amount of windows and vents.
- Keep phone lines open so that you can be contacted by emergency response personnel.
- Stay tuned to local radio and television (battery-operated) for possible information updates.
- Turn off any appliances or equipment that circulate air such as exhaust fans, gas fireplaces, gas stoves, and heating ventilation and air conditioning (HVAC) systems.
- Turn down furnace thermostats to the minimum setting.
- Even if you see people outside, do not leave until told to do so.

Residents may be asked to evacuate if it is no longer safe to be in the area or to shelter-in-place if there is something unsafe in the environment.

## Immediate response

In the unlikely event of an incident, our emergency plan will immediately go into effect. Enbridge will work with local emergency responders to identify and resolve the issue.

Personnel from Enbridge's control centre have the ability to immediately shut down and isolate sections of the pipeline. Local emergency responders will be notified. They may secure the area and move residents to a safe location depending on the situation. Our trained emergency response crews will arrive to deal with any leaked material and repair the damaged pipe.

More information about our emergency management process can be found at [enbridge.com/emergencymanagement](https://enbridge.com/emergencymanagement).

## Restoring spill sites

Protecting the air, water and land in our communities is an important part of our job and part of our commitment to you and your neighbours. Enbridge personnel are trained to contain and clean up leaks using leading edge technologies.

Personnel with safety and environmental equipment are located at strategic intervals along the pipeline, to be close to your community.

## Enbridge response training

Employees across our organization participate in regular emergency response drills and simulations—both in classroom and field demonstrations—to test and improve procedures. Emergency response training exercises are a key part of our emergency and crisis preparedness plans as they help to minimize the impact of incidents and form part of our compliance with regulations.

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We appreciate your calls, any time of the year, any time of day.

This page contains important phone numbers you can use to contact an Enbridge representative.

If you suspect any suspicious activities along our systems, or have any comments or questions, please contact us.

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### Here's how:

**In case of an emergency, please find a safe place to call your local emergency service or 911 if it's available, and then call Enbridge at: 1-877-420-8800**

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For general information about Enbridge Pipelines (NW) Inc., please call collect:  
**1-867-587-7000**

Or write to us:

**Box 280  
Norman Wells, NT  
X0E 0V0**

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For general information about Enbridge:  
**1-877-640-8665 or  
CdnPublicAwareness@enbridge.com**

### Reporting suspicious activity

If you notice any suspicious or unusual activity on or near the pipeline ROW, please contact Enbridge immediately to safeguard public safety and security of the pipelines. Your call is always appreciated. Suspicious or unusual activities could include:

Inquiries or questions being asked about Enbridge pipelines, facilities or employees that do not relate to normal operations;

Threats being made or acts of vandalism against Enbridge pipelines, facilities or employees;

Surveillance by an individual or group which involves taking pictures, videos or monitoring facilities with binoculars, and

Abandoned packages, equipment or vehicles left near Enbridge pipelines or facilities.

If you need to plan construction, fencing, digging, drainage work or explosives use, please call collect:

1-780-420-5164 (Collect)

Or email: [crossingrequests@enbridge.com](mailto:crossingrequests@enbridge.com)



## Call or Click Before You Dig

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Before performing any ground disturbance activity, please, contact your local one-call center. Depending on where you live, your call will either be collect to Enbridge or toll-free to Alberta One Call.

**Click**  
**Before**  
**You Dig.com**

### **Northwest Territories**

Enbridge Pipelines (NW) Inc.  
1-867-587-7000 (Collect)

### **Alberta**

Alberta One Call  
1-800-242-3447 (Toll-Free)



**Know who to call in an emergency.**

Peel and place this cling sign on a flat surface like a window.

