R.O.W. Management Conference

Partnering with TransCanada while working on the Right-of-Way

Mitch Gregoire, P. Eng. Director, Eastern Region

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Agenda

- About Us
- Pipeline Safety
- Ground Disturbances
- Crossings
- Urban Development
- Emergency Preparedness

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TransCanada Corporation (TSX/NYSE: TRP)

One of North America's Largest Natural Gas Pipeline Networks

- Operating 90,300 kms (56,100 miles) of pipelines
- Transports more than 25 per cent of continental demand

North America's Largest Natural Gas Storage Operator

- More than 664 Bcf of capacity

Canada's Largest Private Sector Power Generator

- 17 power facilities, 10,500 MW
- Diversified portfolio, including wind, hydro, nuclear, solar and natural gas

Premier Liquids Pipeline System

- Keystone Pipeline System: 4,300 km (2,700 miles), 545,000 bbl/d contracted capacity
- Safely delivered more than 1.3 billion barrels of Canadian oil to U.S. markets since 2010

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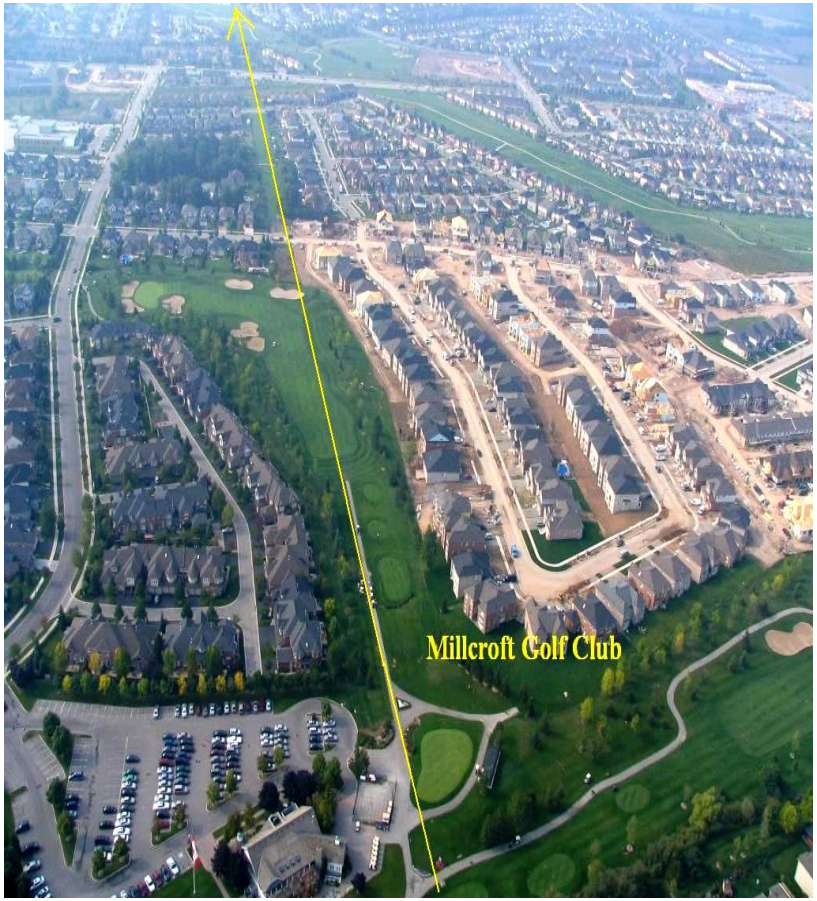
TransCanada's Pipeline System



- Pipe diameters range from 8 to 42 inches
  - Most are 20 inches in diameter or more
- In Southern Ontario, 1 to 3 pipelines are buried within the right-of-way
- TransCanada does not own the land where the pipeline is located but has a legal right-of-way registered on the land
- Right-of-way widths vary depending on the number of pipelines within them
- Pipelines operate at high pressures (approximately 1,000 psi)

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Pipeline Location

Most pipelines are buried underground in an area of cleared land often referred to as the “right-of-way”.

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Pipeline Markers

Pipeline locations will be marked at all areas deemed necessary, and at a minimum at:

- Road crossings
- Railroad crossings
- Watercourse crossings

Warning Sign

Line Marker

Pipeline markers contain:

- Emergency contact details for the Pipeline Operator
- Product being transported
- Company information

Vent Marker

Aerial Marker

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Maintaining Pipeline Safety

- The pipeline facilities are constantly monitored to ensure safety and integrity of the entire system 24/7. These include:
  - Smart PIGs (Pipeline Inspection Gauges)
  - Pipeline cathodic protection
  - 24/7 Natural Gas Control Centre
  - Aerial helicopter gas sensor and security patrols
  - Cover surveys
  - Hydrostatic testing
  - Investigative digs
  - Valve checks
  - Brushing

Our Public Awareness Program

Click Before You Dig

TransCanada has identified six key stakeholders with whom we share pipeline safety information:

- **Homeowners, Tenants and Businesses**
- **Excavators and Contractors**
- **Emergency Responders**
- **Public Officials**
- **Youth**
- **Farmers**

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Ground Disturbances

- Before conducting any excavation or ground disturbance, either by hand or with machinery, contact the Ontario One-Call Centre to request a locate.
- Locate requests can also be made online at: **www.clickbeforeyoudig.com.**
- The One-Call Centre will notify owners of buried facilities in your area, who will send representatives to mark these facilities with flags, paint or other marks, helping you avoid damaging them.
- The service is free and could prevent accidents and injuries.

ONTARIO ONECALL

Click Before You Dig.com

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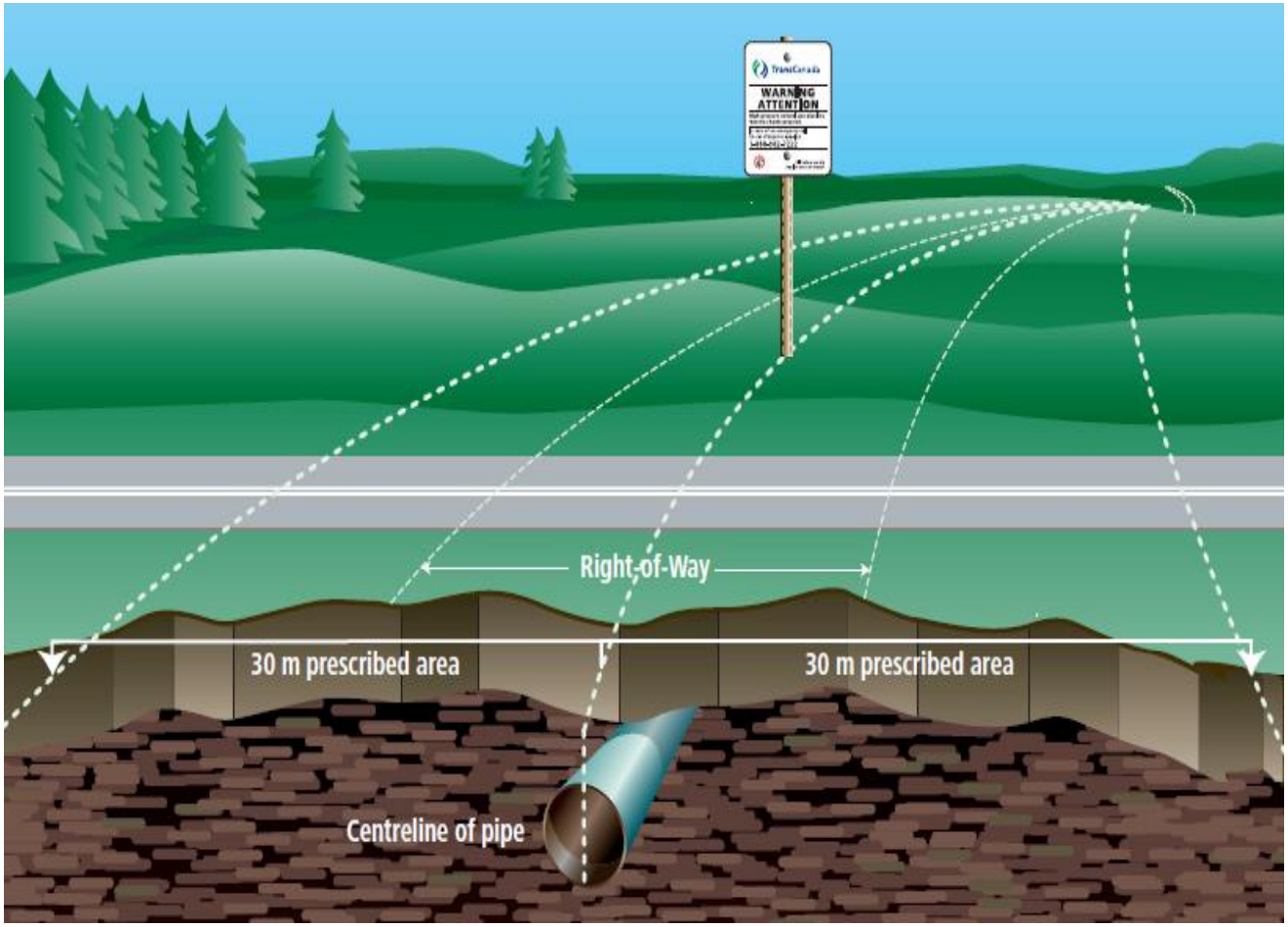
NEB Regulations – Obtaining Consent

Consent from the pipeline company is required for:

- Construction of a facility across, on, along, or under a pipeline (including the right of way);
- Ground disturbance activities in the prescribed area, which extends 30 metres (100 feet) from each side of the centreline of the pipe; and
- Operation of a vehicle or mobile equipment across a right of way, outside the travelled portion of a highway or public road.

Prescribed Area



The prescribed area, also referred to as the safety zone, extends 30 meters on either side of the pipeline centerline.

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Ground Disturbance

Types of ground disturbance activities

Any activity resulting in a disturbance or displacement of soil or ground cover can be a ground disturbance under the NEB Act if they do not fall within the above-referenced exclusions. Activities causing ground disturbance can include, but are not limited to, the following:

- digging
- excavation
- trenching
- ditching
- tunnelling
- boring/drilling/pushing
- augering
- topsoil stripping
- land levelling/grading
- plowing to install underground infrastructure
- tree planting
- clearing and stump removal
- subsoiling
- blasting/use of explosives
- quarrying
- grinding and milling of asphalt/concrete
- seismic exploration
- driving fence posts, bars, rods, pins, anchors, or pilings
- crossing of buried pipelines or other underground infrastructure by heavy loads off the travelled portion of a public roadway

Crossings

The operation of a vehicle or mobile equipment across a TransCanada right-of-way requires TransCanada's written consent, **except** in the following circumstances:

- Vehicle or mobile equipment is operating within the travelled portion of a highway or public road across the right-of-way
- Vehicle or mobile equipment is being used to perform an agricultural activity and the following conditions are being met:
  - The loaded axle weight and tire pressures of the vehicle is operated within the manufacturer's approved limits and operating guidelines; and
  - The point of crossing has not been identified by TransCanada as a location where a crossing could impair the pipeline's safety or security

Crossings

Heavy equipment can damage a pipeline

Unauthorized encroachment

Designated crossing reduce stress and protect the pipeline

A designated crossing

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Urban Development

- It is important for municipal authorities, developers and landowners to consult TransCanada early in the planning stage of a project.
- TransCanada requires significant advance notice for any development which increases the population density within 200 metres of a pipeline.
- The following must be taken into consideration:
  - Subdivisions
  - Roads and utilities
  - Blasting
  - Landscaping

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Urban Development

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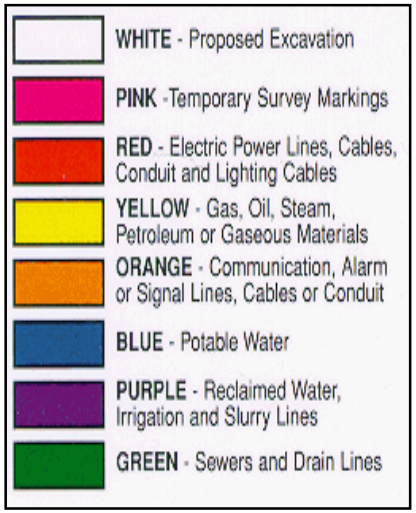
Safe Work Practices

Safe excavation and construction practices include:

- Identifying utility markers prior to planning any work
- Contacting Ontario One Call & other utilities at least 10 days before starting planned work to obtain any necessary approvals
- Once approvals obtained, contact Ontario One Call & other utilities at least 3 days prior to starting work
- Do not commence work until cleared by all utility companies
- On site pre-job meeting (emergency prep)
- Have locate on site (can be fined for not having)
- Understand the meaning of the locate marks
- Contact us again if your plans have changed
- Don’t bury your mistakes



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Signs of a leak

What you may smell

- Transmission lines that transport natural gas across Canada are rarely odourized, but may have a slight hydrocarbon smell. Distribution lines that transport natural gas to homes and businesses are odourized and could smell "skunk-like" or similar to rotten eggs.

What you may see

- Dead or dying vegetation on or near a pipeline in a normally green area
- Water bubbling or blowing into the air at a pond, creek or river
- Dirt being blown or appearing thrown into the air
- Stained or melted snow/ice over pipeline areas

What you may hear

- A hissing or roaring sound

Emergency Preparedness

- Stop activity
- Evacuate the area
- Do not attempt to repair the pipe or operate any valves
- Call ‘911’ as soon as you are in a safe location
- Call TransCanada’s 24-Hour Emergency Number (1-888-982-7222) – found on all marker signs
- Do not return to the site

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Most important of all…

Call Before You Dig

and

Call Before You Cross