Low-Carbon Energy Project

Purpose

Who we are

Enbridge provides safe and reliable delivery of natural gas to more than 3.7 million residential, commercial, and industrial customers across Ontario. Enbridge is committed to minimizing our impacts to the environment in a responsible manner.

Why are we here?

- To provide information about the Low-Carbon Energy Project.
- To involve the community, stakeholders and Indigenous groups and receive and consider your input.
- To present the Preliminary Preferred Route.
- To discuss construction and environmental mitigation.

Please sign in at the front desk and provide your input on the project by completing a questionnaire.

Commitment to Consultation

We are committed to a comprehensive consultation process and want to hear from you about this project.

Our consultation approach is:

Inclusive – reaching out to all who may be interested or affected and providing opportunities to become informed and get involved.

Transparent – providing access to information and clear explanations for decisions.

Accountable – explaining how your input will be used in the decision-making process.

As an important part of the consultation process, we will work with all stakeholders to identify and resolve project issues.

Enbridge’s Indigenous Peoples Policy

Enbridge recognizes the diversity of Indigenous Peoples who live where we work and operate. We understand that the history of Indigenous Peoples in both Canada and the United States has had destructive impacts on the social and economic wellbeing of Indigenous Peoples. Enbridge recognizes the importance of reconciliation between Indigenous communities and broader society. Positive relationships with Indigenous Peoples, based on mutual respect and focused on achieving common goals, will create constructive outcomes for Indigenous communities and for Enbridge.

Enbridge commits to pursuing sustainable relationships with Indigenous Nations and groups in proximity to where Enbridge conducts business. To achieve this, Enbridge will govern itself by the following principles:

- We recognize the legal and constitutional rights possessed by Indigenous Peoples in Canada and in the U.S., and the importance of the relationship between Indigenous Peoples and their traditional lands and resources. We commit to working with Indigenous communities in a manner that recognizes and respects those legal and constitutional rights and the traditional lands and resources to which they apply, and we commit to ensuring that our projects and operations are carried out in an environmentally responsible manner.
- We recognize the importance of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) within the context of existing Canadian and U.S. law and the commitments that governments in both countries have made to protecting the rights of Indigenous Peoples.
- We engage in forthright and sincere consultation with Indigenous Peoples about Enbridge’s projects and operations through processes that seek to achieve early and meaningful engagement so their input can help define our projects that may occur on lands traditionally used by Indigenous Peoples.
- We commit to working with Indigenous Peoples to achieve benefits for them resulting from Enbridge’s projects and operations, including opportunities in training and education, employment, procurement, business development, and community development.
- We foster understanding of the history and culture of Indigenous Peoples among Enbridge’s employees and contractors, in order to create better relationships between Enbridge and Indigenous communities.

This commitment is a shared responsibility involving Enbridge and its affiliates, employees and contractors, and we will conduct business in a manner that reflects the above principles. Enbridge will provide ongoing leadership and resources to ensure the effective implementation of the above principles, including the development of implementation strategies and specific action plans.

Enbridge commits to periodically reviewing this policy to ensure it remains relevant and meets changing expectations.

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Project Introduction

What is being proposed?

Enbridge is proposing to blend a low concentration of hydrogen into an isolated area of the gas distribution network in an effort to reduce greenhouse emissions.

This would require the installation of 6.8 km of pipeline and associated infrastructure.

How would this work?

- Currently, Ontario produces electricity but sometimes there is more electricity made than used.
- We take the surplus electricity and produce hydrogen gas through Hydrogenics electrolysis technology.
- The hydrogen gas is stored and can be converted back into electricity when needed, or blended with natural gas as a less carbon-intensive energy source.

Hydrogen Blending

Hydrogen blending is when small amounts of hydrogen are injected into the natural gas grid.

The benefit for the environment will be a more “green” gas mixture with fewer carbon emissions.

About 2% of the blended gas will be hydrogen (by volume). The blended gas would remain within pipeline specifications. There would be no changes to the reliability of the service in the blended gas areas.

With such a small amount of hydrogen being introduced, customers should see no impact to their existing service compared to pure natural gas.

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Hydrogen Compared to Natural Gas

Similar

- Both fuels are lighter than air and will rise and disperse when released into the atmosphere.
- Both fuel sources require proper handling for safe use, and are flammable and explosive under certain conditions.

Well-known

- Hydrogen is used today in many manufacturing processes, for example for pharmaceuticals and foods like vegetable oil.

Advantage

- It is non-toxic and when used as a sole fuel it does not contribute to climate change.

Difference

- The hydrogen molecule is smaller than natural gas.
- Hydrogen burns more quickly.

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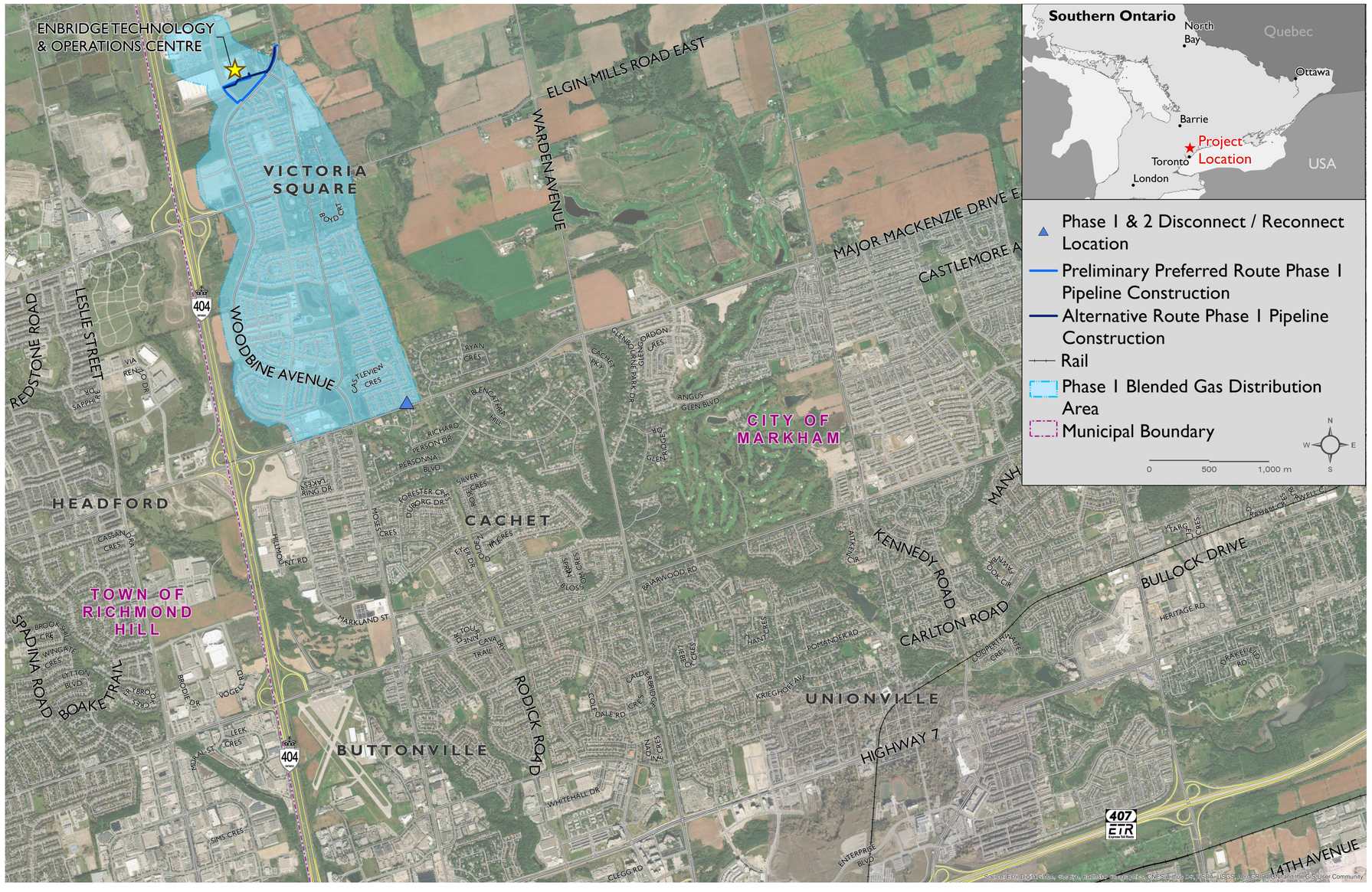
Project Location – Phase 1



Blended Gas Distribution Area

Hydrogen blending will be isolated to the area shown on the map. Blended gas will be added into the system from Enbridge's Markham-based Technology and Operations Centre.

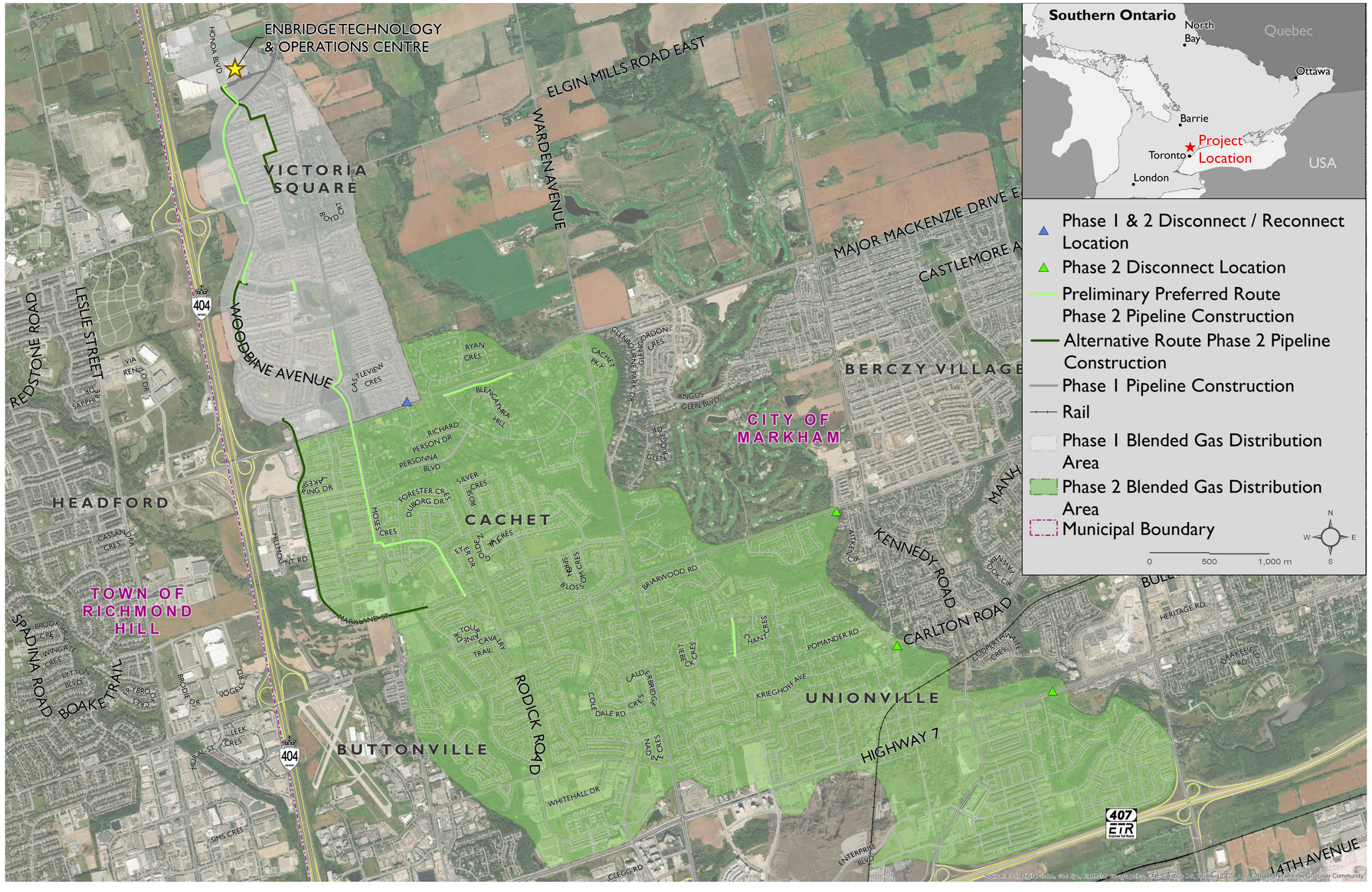
Pipeline Installation

Phase 1: approximately 1.3 km of pipe.

Disconnect Locations

In order to isolate the hydrogen blended system from the rest of the Enbridge network, various disconnects will be required.

Project Location – Phase 2



Blended Gas Distribution Area

Hydrogen blending will be isolated to the area shown on the map. Blended gas will be added into the system from Enbridge's Markham-based Technology and Operations Centre.

Pipeline Installation

Phase 2: approximately 5.5 km of various pipe sizes in multiple locations.

Disconnect Locations

In order to isolate the hydrogen blended system from the rest of the Enbridge network, various disconnects will be required.

Hydrogen Blending Safety

- Safety is Enbridge’s top priority and one of its core values.
- We have applied rigorous safety standards to planning, design, development and construction.
- As we do with natural gas, using proper safety procedures and handling is just as important with hydrogen gas.
- This is not a new technology. Several facilities successfully operate in Europe, some for over a decade.
- We require approval from our regulators, the Ontario Energy Board and the Technical Standards and Safety Authority, before we can move ahead with this project.
- The smell of blended gas will maintain the distinct "rotten egg" smell like natural gas.

How We Chose the Route

Environmental Data

- Identified the location of protected habitat, natural corridors, watercourses, wetlands, and Species at Risk to avoid or flag potential impacts.
- Reviewed the potential for archaeological resources and built heritage

Experience

- Our previous experience in pipeline development, including technical and financial experience, helps us develop a practical, constructible, and cost-effective project.

Planning Documents

- Reviewed municipal Official Plans, environmental management plans, secondary plans, and development applications to identify potential conflicts

Utilities & Infrastructure

- Reviewed existing and proposed plans for water, wastewater, roads and transit services to avoid or flag potential impacts or conflicts.

Preliminary Preferred Route

Socio-Economic data

- Reviewed population and demographic data such as recreation features, institutional buildings and businesses to identify potentially impacted stakeholders.

Field Studies

- We drove and walked the study area in order to collect vegetation, ecological land classification and aquatic habitat assessment data to identify potential constraints and/or permitting requirements which may result in the need for additional surveys with respect to Species at Risk, wetlands, and wildlife habitat.

<u>Your input</u> will help to inform this decision and confirm this as our Preferred Route.

Completed Baseline Studies

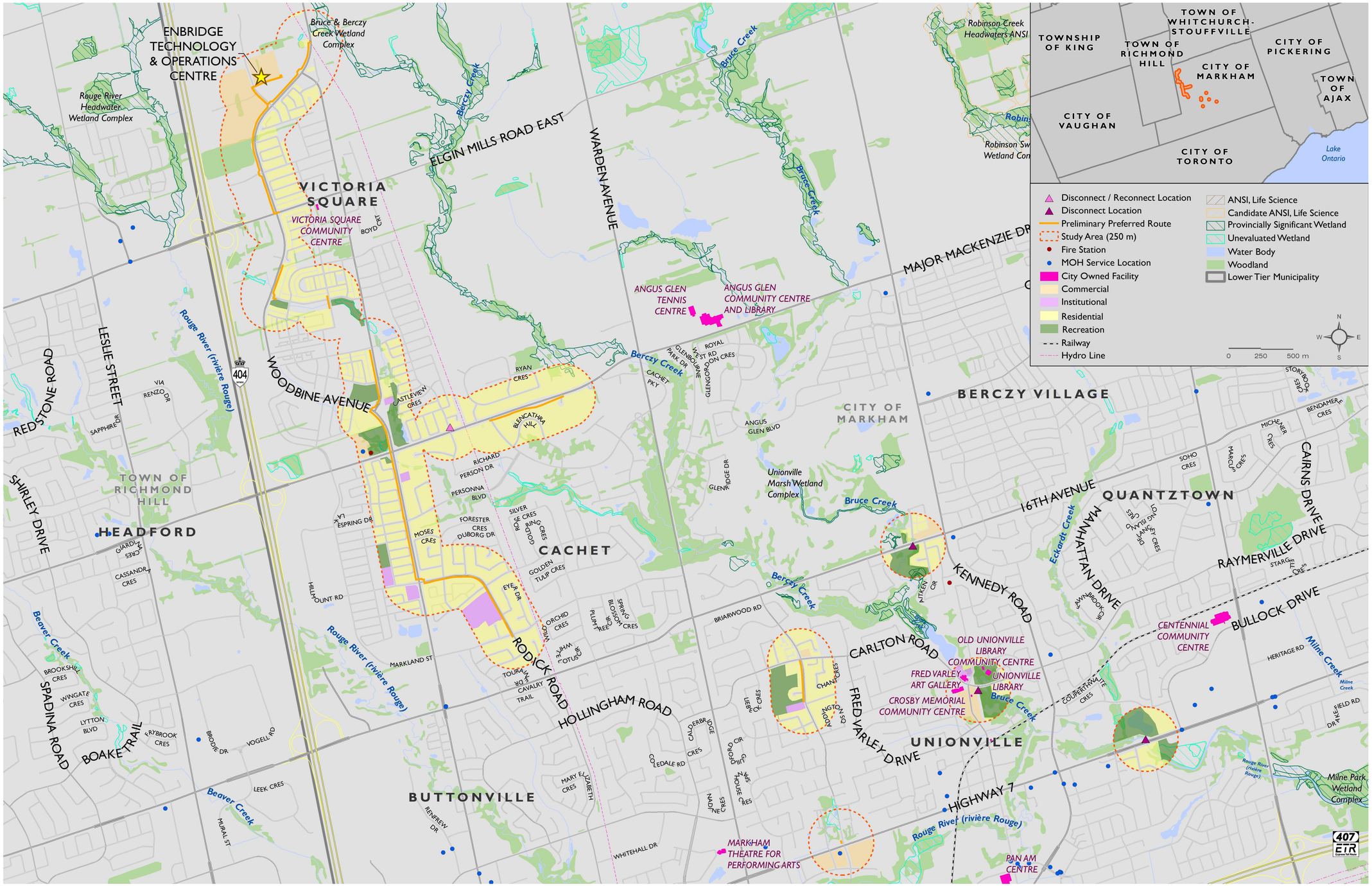
Desktop and Field Studies:

- Vegetation species identification during the winter season
- High-level Ecological Land Classification (ELC)
- Significant Wildlife Habitat for Species at Risk and Species of Conservation Concern
- Aquatic habitat assessment
- Incidental wildlife observations
- Archaeology and built heritage

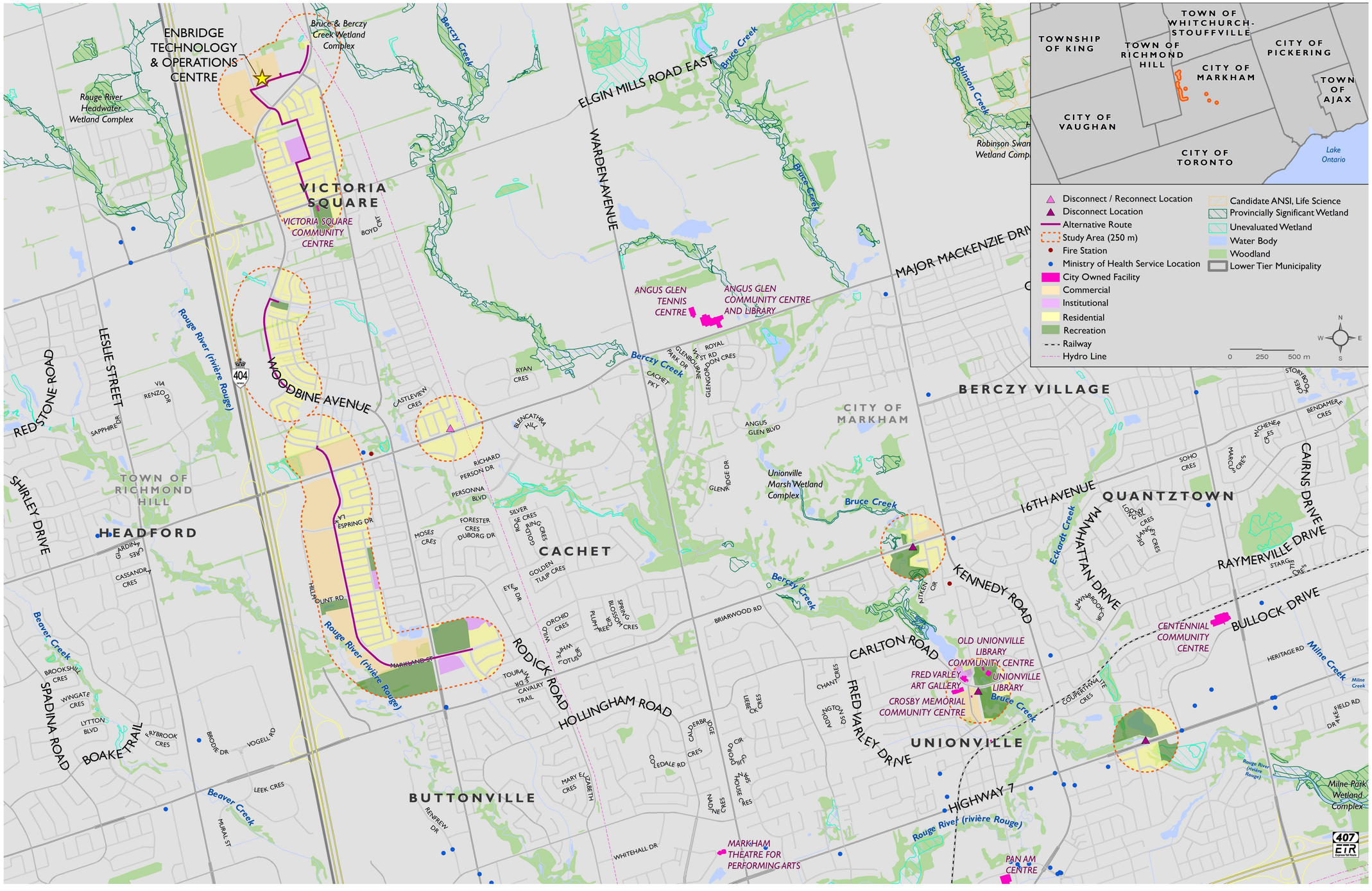
Species at Risk:

- The Ministry of Natural Resources and Forestry (MNRF) has been contacted to provide information pertaining to the potential for occurrences and habitat for several provincially-protected species in the study area
- MNRF-approved mitigation strategies will be carried out throughout the construction program

Preliminary Preferred Route



Alternative Route



Pipeline Design and Safety

Pipeline Design

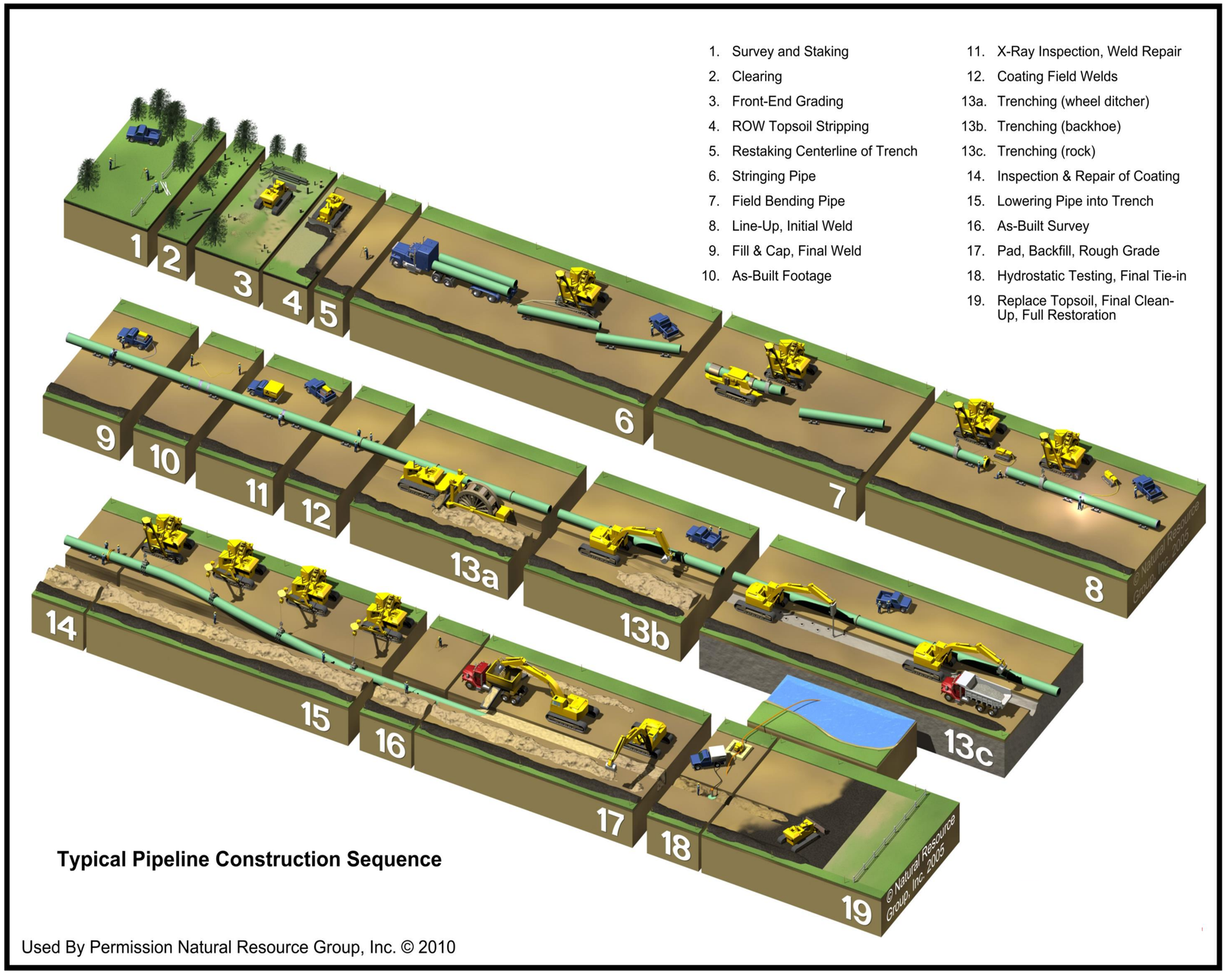
Our pipelines are designed to meet and/or exceed the regulations of the Canadian Standards Association (Z662 Oil and Gas Pipeline Systems) and the applicable regulations of the Technical Standards & Safety Association (TSSA).

Pipeline Safety and Integrity

We take many steps to ensure the safe, reliable operation of our network of natural gas pipelines, such as:

- Design, construct, and test our pipelines to meet or exceed requirements set by industry standards and regulatory authorities;
- Continuously monitor the entire network; and
- Perform regular field surveys to detect leaks and confirm corrosion prevention methods are working as intended.

Pipeline Construction Sequence



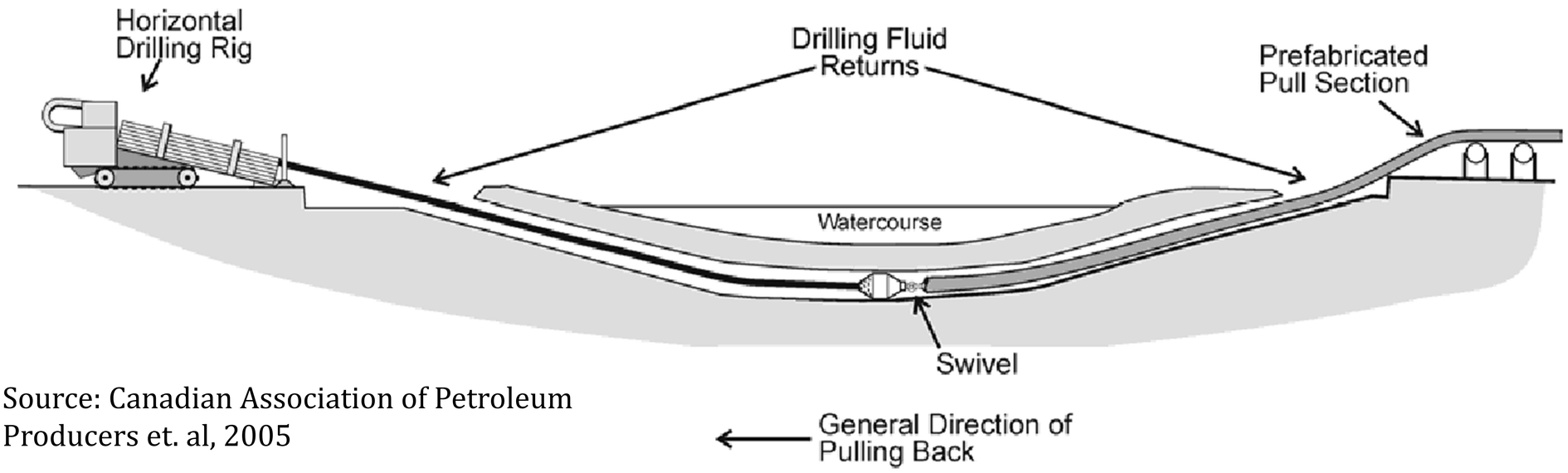
Typical Pipeline Construction Sequence

Working Around Natural Features

The pipeline may cross watercourses and/or wetlands.

As many crossings as possible would be completed by using trenchless technology, such as horizontal directional drilling (seen below) to achieve minimal environmental disturbance.

Other crossings would be constructed by methods subject to construction best practices, permits and guidelines from the Toronto Regional Conservation Authority and the Ministry of Natural Resources and Forestry.



Source: Canadian Association of Petroleum Producers et. al, 2005

Construction and Enbridge

Our construction work is temporary and transitory – once the pipe is laid, we restore the area to as close to pre-construction condition as possible.

We are committed to being respectful of community activities, regulations, and bylaws.

We have completed many similar pipeline construction projects.

We take great care when working in the community to minimize impacts, address concerns and achieve the highest standards of safety.

Pipeline construction projects strive to leave the smallest footprint possible.

1

2

3

4

Mitigation and Monitoring

We are committed to working with the community on construction planning, mitigation, and post-construction monitoring. Enbridge is responsible for conducting post-construction monitoring to ensure impacted areas are restored as close to pre-construction condition as possible.

Enbridge recognizes that the construction of the pipeline will result in short term potential impacts and commits to applying mitigation measures to prevent these impacts and working with the municipality and residents to resolve issues in a timely manner.

Regulatory Framework

For the project to proceed, approval by the Ontario Energy Board (OEB) is required. The OEB requires that Enbridge complete an environmental assessment and route selection study.

Role of the Ontario Energy Board:

- Ensures a proposed pipeline is in the public interest.
- Reviews the Environmental Report (including details of consultation) as part of the application, known as the Leave to Construct Application.
- Once the Leave to Construct Application is submitted to the OEB, any party with an interest in the project may apply to the OEB to become intervenors or interested parties.
- Provides a public forum during the review of the Leave to Construct Application for people to participate in the decision-making process.

Permits and Approvals

Enbridge must obtain approval from the Ontario Energy Board to move forward with construction. In addition, other permits and approvals that may be required are:

Agency	Permit/Approval
Toronto Region Conservation Authority	Permit to work within a Conservation Authority Regulated Area
Ministry of Natural Resources and Forestry and/or the Ministry of Environment, Conservation and Parks	Endangered Species Act (2007) Permit
Fisheries and Oceans Canada	Species at Risk Act (2002) Permit
Ministry of Tourism, Culture and Sport	Comment/Acceptance letter for archaeological and cultural heritage assessments
Municipal Permits	• Noise By-Law Exemption • Road Occupancy Permit • Permit to Injure or Destroy Trees

Continuous Stakeholder Engagement

Enbridge is committed to open dialogue throughout the environmental assessment and the Leave to Construct Application process. Stakeholders will have the opportunity to remain engaged in the process after the environmental assessment is completed through:

- Participation in the Ontario Energy Board hearing as an intervenor or interested party
- Details regarding the hearing and how to become an intervenor can be found at www.oeb.ca/participate
- Contacting Enbridge or Dillon project team members

Project updates can be found at the website:

www.enbridgegas.com/LowCarbonEnergyProject

Environmental Assessment Process and Project Schedule

CONSULTATION THROUGHOUT	Task	Proposed Timing
	Routing study: identify study areas and assess alternative routes	January 2019
	Select Preliminary Preferred Route	January 2019
	Baseline data collection	January 2019
	Notice of Commencement and Public Open House	February 2019
	We are here → **Public Open Houses**	March 2019
	Confirm preferred route	March 2019
	Conduct effects and mitigation assessment on preferred route	March 2019
	Assessment of residual effects and cumulative effects assessment	March 2019
	Documentation: Environmental Report	April 2019
	Ontario Energy Board Submission	Summer 2019
	Phase 1 Construction (Tentative)* *pending OEB approval	April 2020 – September 2020
	Phase 2 Construction(Tentative)* *pending OEB approval	September 2020 – March 2021
	Post-construction monitoring	2020-2021

Stay Informed!

- Visit our project website: enbridgegas.com/LowCarbonEnergyProject
- Get project updates by providing us with your email or mailing address
- Sign in, **complete the questionnaire** and drop it in the box at the door or give it to one of our Project Team Members
- For comments, questions or for more information, please contact:

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Under the *Freedom of Information and Protection of Privacy Act*, **all comments and questions submitted regarding this project will be used for the purposes of creating an environmental assessment report** that will be a part of the public record and will be made available to individuals or organizations with an interest in this project. **Personal information such as name, address, and telephone number will not be included in the environmental assessment report** but will be released, if requested, to any person as part of the review of the environmental assessment report.