Technical Advisory Committee (TAC) Workshop Session #2

Longwood to Lakeshore Transmission Line Project

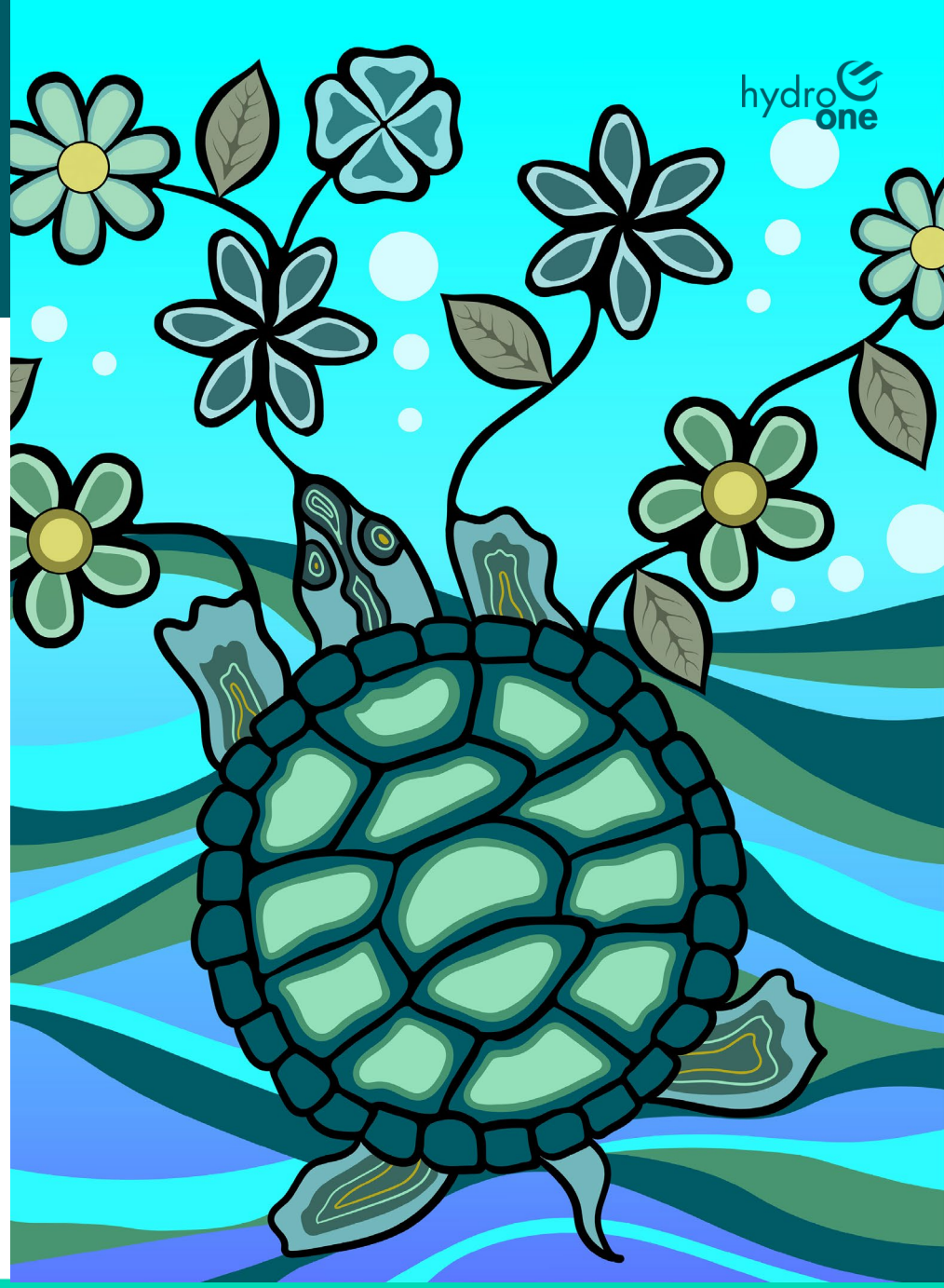
June 4, 2024

Land acknowledgement

Hydro One acknowledges that the Longwood to Lakeshore Project is proposed on the ancestral lands of the Anishinaabe and is now home to many diverse First Nations, Inuit and Métis people.

Hydro One understands that Indigenous Nations have been here since time immemorial and are stewards of what many refer to as Turtle Island.

We are all Treaty People and with a commitment to friendship and our pursuit of reconciliation, we are thankful to be welcomed on these lands as partners in our shared future so we can improve on our past and energize our combined futures.



TAC Input

- All information collected during the TAC meeting and feedback survey will form part of the record of consultation and be summarized in report format.

- Identifying information will be redacted, but comments will be made available to other TAC members, for posting on the project website, as well as in EA documentation for the project.

Agenda

- Introduction / Safety Moment
- Project Recap & Class Environmental Assessment
- Comparative Evaluation Process Outline
- Comparative Evaluation Criteria & Measures
- Weighting Exercise
- Next Steps

Project recap & Class Environmental Assessment

Longwood to Lakeshore Project

Fall 2021

The IESO identified the need for one single-circuit 500 kilovolt transmission line between Longwood Transformer Station (TS) in the Municipality of Strathroy-Caradoc and Lakeshore TS in the Municipality of Lakeshore to be in-service by 2030 or sooner.

Spring 2022

With significant growth underway across the region, the Government of Ontario advised Hydro One to conduct early development work on a second Longwood-to-Lakeshore transmission line. This allows for more efficient planning, as well as more meaningful and transparent consultations with Indigenous Communities, residents, municipalities, and stakeholders, while the IESO further assesses the future energy needs of the region.

Early 2023

Hydro One began planning activities for the Longwood to Lakeshore project, including issuing a Notice of Commencement of a Comprehensive EA, information gathering and engagement.

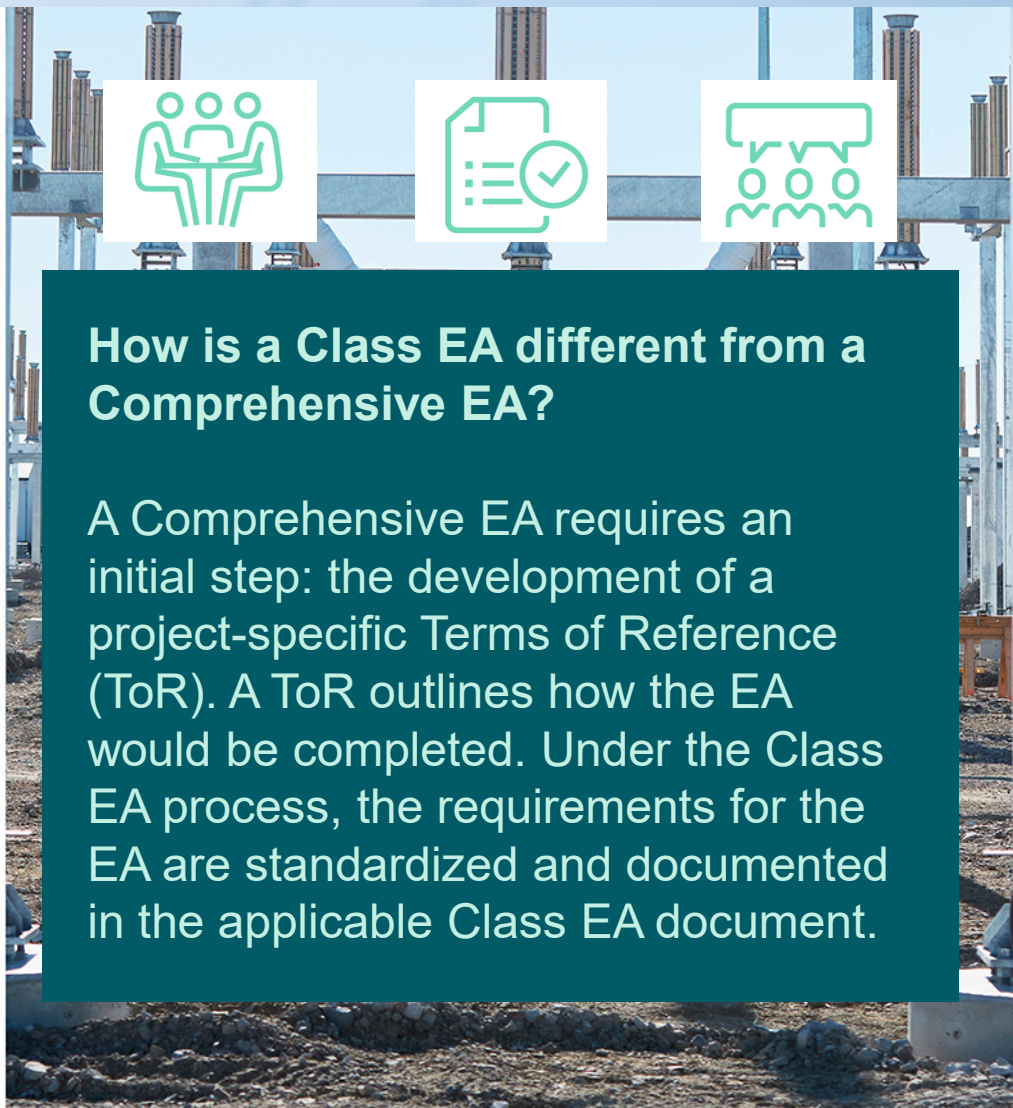
Early 2024

The Government of Ontario announced changes to modernize environmental assessments for certain types of projects, including transmission projects. As a result, the Longwood to Lakeshore project is moving forward as a Class Environmental Assessment (EA).

What is a Class Environmental Assessment?

Steps of a Class EA

- Engage with Indigenous communities, the public, municipalities, interest groups and government agencies (continues throughout the process)
- Collect environmental information
- Identify and evaluate route alternatives
- Select a preferred route
- Identify potential environmental effects and mitigation measures
- Prepare a draft Environmental Study Report (ESR) that will be made available for a 30-day public review and comment period
- Submit the Final ESR

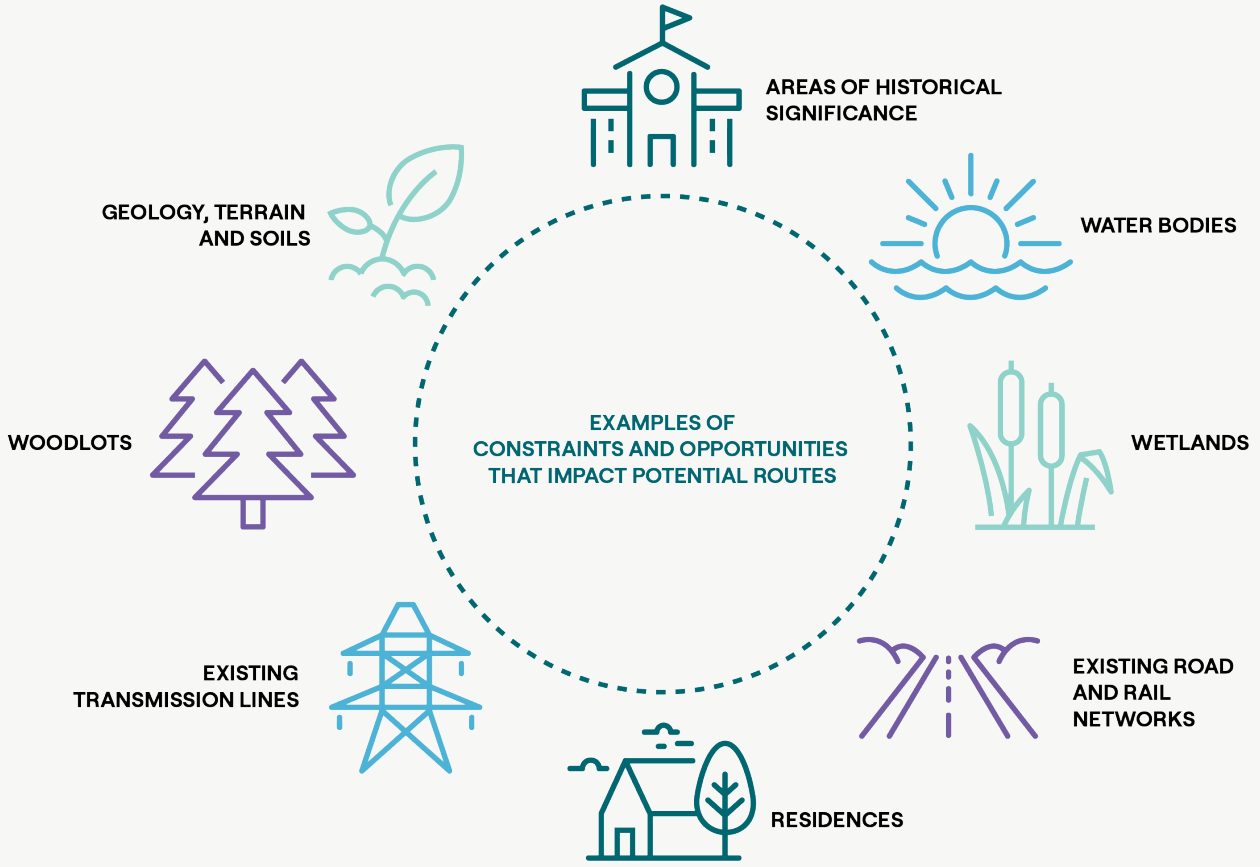


How is a Class EA different from a Comprehensive EA?

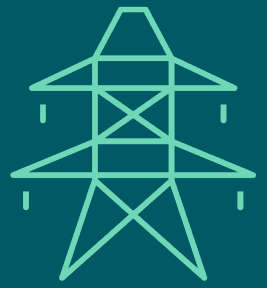
A Comprehensive EA requires an initial step: the development of a project-specific Terms of Reference (ToR). A ToR outlines how the EA would be completed. Under the Class EA process, the requirements for the EA are standardized and documented in the applicable Class EA document.

Developing the Route Alternatives

- Routing criteria were identified and prioritized with input from TAC Members (yourselves), Indigenous communities, government agencies, and interest groups with local knowledge.
- A GIS/computer model of preliminary route alternatives was developed using the routing criteria.
- Preliminary route alternatives were refined based on technical feasibility, stakeholder input and lessons learned from Hydro One's other projects in the area.



Developing the route alternatives



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Longwood to Lakeshore Project

Map Legend

- Transformer Station (TS)
- Route 1 (A/B Core Alignment)
  - Route 1A
  - Route 1B
- Route 2 (A/B Core Alignment)
  - Route 2A
  - Route 2B
- Route 3 (A/B/C Core Alignment)
  - Route 3A
  - Route 3B
  - Route 3C
- All Routes (1A/1B/2A/2B/3A/3B/3C)
- Local Study Area (500 m buffer on either side of the route alternatives)
- Existing Transmission Line
- Highway
- Municipal Boundary
- Waterbody
- First Nation
- Built Up Area

Note: With the exception of the section of Route 3 shown in inset 1, each route represents two transmission lines with parallel alignments. Each line has an assumed 60m right of way, pending detailed engineering.

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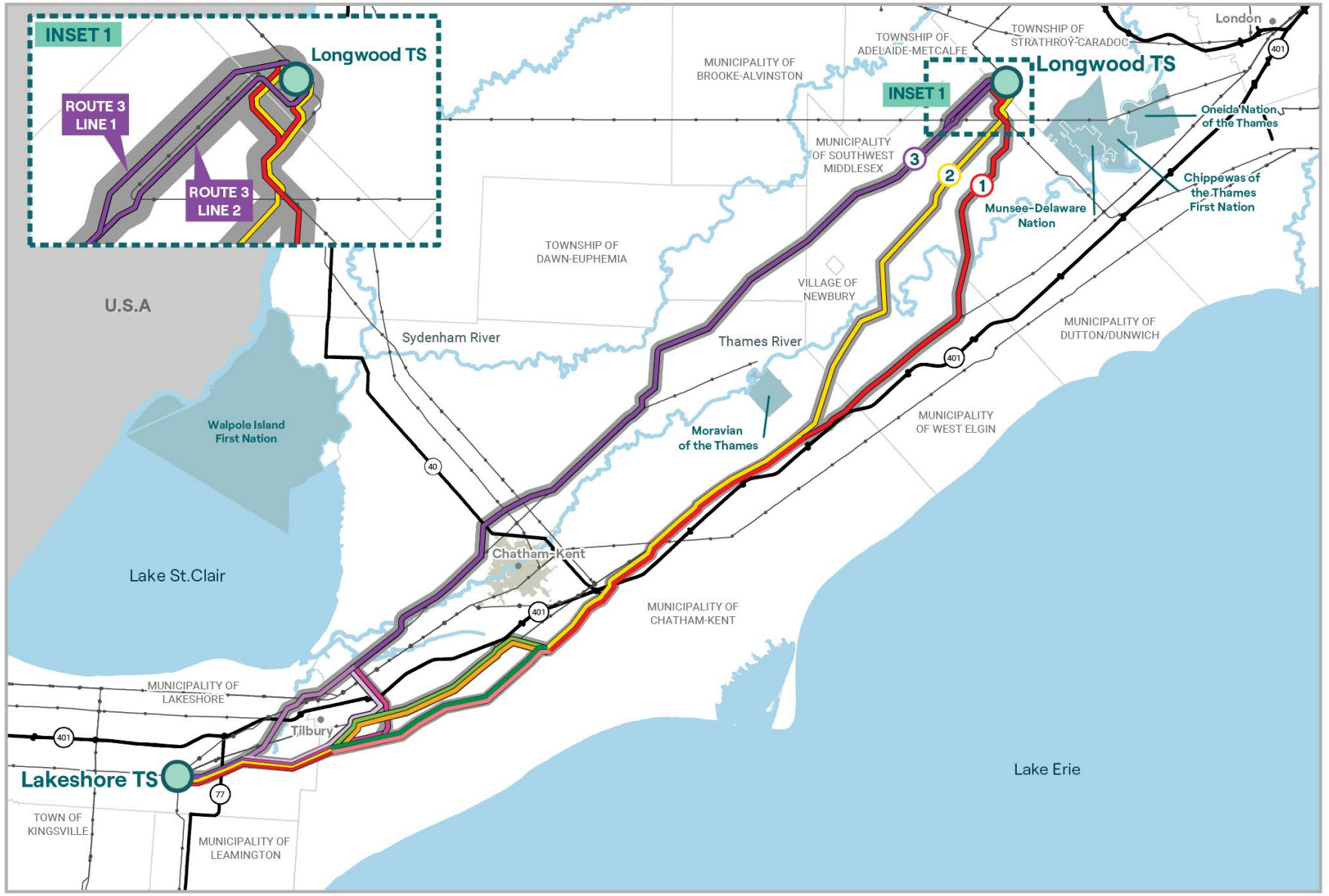

Note: Please visit our online interactive map for a more detailed view and to provide your feedback: **HydroOne.com/Longwood-to-Lakeshore.**

Three viable route alternatives, each with variations labelled A, B or C, have been identified for the new transmission lines.
Each route includes two transmission lines. Each transmission line requires a 60m right-of-way.

Comparative evaluation process overview

Weighted Multi-Criteria Decision Making Analysis

Step 1: Establish Need

Step 2: Route Alternatives **TAC Workshop #1**

Step 3: Evaluation Criteria **TAC Workshop #2** **We are here ★**

Step 4: Weight What's Important

Step 5: Evaluate and Select

Step 1: Need for this Project

- A safe and reliable electricity supply is essential to economic growth. As southwestern Ontario continues to grow, so does the need for electricity
- To help meet this need, Hydro One is planning to build two single-circuit 500 kilovolt (kV) transmission lines between the Longwood Transformer Station (TS) and the Lakeshore TS, as requested by the Independent Electricity System Operator (IESO)
- Known as the Longwood to Lakeshore Transmission Line Project, this project will be constructed in two phases. Each line will add 550 megawatts of electricity to the area
- The project supports local food supply and security, economic development and job creation

Step 2: Route Alternatives

hydro one

Longwood to Lakeshore Project

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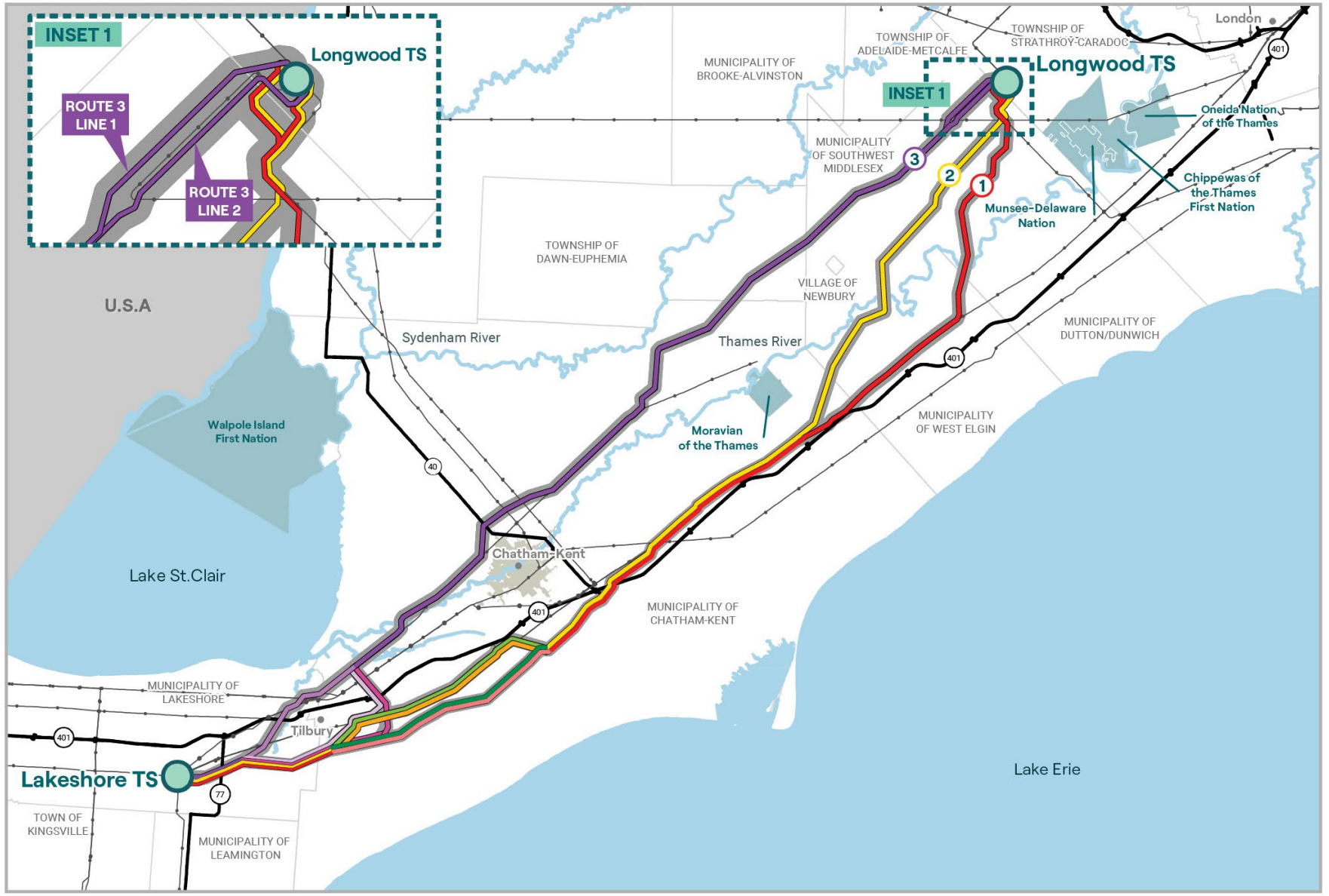

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Each route includes two transmission lines. Each transmission line requires a 60m right-of-way.

Natural environment criteria and measures

Natural environment criteria and metrics for measure

Criteria	Metric for Measure
Surface Water Resources and Aquatic Habitat	Number of watercourses crossed by the route centreline
	Total length of identified water crossings/drains in the RoW [km]
Vegetation and Vegetation Communities	Long-term changes to incompatible vegetation [ha in RoW]
Wildlife and Wildlife Habitat	Hectares of SWH and Candidate SWH in the RoW and in the Project Study Area (PSA)
Species at Risk	Temporary and Permanent impacts to SAR or SAR Habitat within the RoW and PSA [ha]
Wetlands, Natural Hazards and Floodplain Areas	Wetlands [ha in RoW]
	Conservation Authority Regulated Areas [ha in RoW]
Designated Natural Areas and Identified Habitat Restoration Areas	Impacts to designated areas in the RoW (measured in ha)
	Areas include: ANSI, Enhanced Management Areas, Provincial Parks, PSWs, Conservation Areas, etc. (see handout for list)

Natural Environment Criteria and Metrics for Measure

Natural Environment

Criteria	Routing Metric	Proposed Comparative Evaluation Metric
Surface Water Resources and Aquatic Habitat	Consideration given to: - Areas identified as fish sanctuaries - 30m buffer applied to watercourses and drains - Preference to locate routes in areas with no aquatic features	Evaluate based on: - Number of watercourses crossed by the route centreline - Total length of identified water crossings/drains in the RoW [km]
Vegetation and Vegetation Communities	Consideration given to: - Avoid areas of woodland/wetland/water - Bias towards citing in cropland/grass, meadow and developed land	Evaluate based on: - Long-term changes to incompatible vegetation [ha in RoW]

Natural Environment Criteria and Metrics for Measure

Natural Environment

Criteria	Routing Metric	Proposed Comparative Evaluation Metric
Wildlife and Wildlife Habitat	Consideration given to: - Preference to cite routes outside of areas identified as Significant Wildlife Habitat (SWH) based upon publicly available data (ex. size of woodlot, or pre-determined metrics to identify SWH)	Evaluate based on: - Hectares of SWH and Candidate SWH in the RoW and in the Project Study Area (PSA)
Species at Risk	Consideration given to: - Site routes away from documented occurrences of SAR and SAR Habitat for Threatened and Endangered Species	Evaluate based on: - Temporary and Permanent impacts to SAR or SAR Habitat within the RoW and PSA [ha]

Natural Environment Criteria and Metrics for Measure

Natural Environment

Criteria	Routing Metric	Proposed Comparative Evaluation Metric
Wetlands, Natural Hazards and Floodplain Areas	Consideration given to: - Preference to avoid areas identified as natural hazard lands or significant valley lands	Evaluate based on: - Wetlands [ha in RoW] - Conservation Authority Regulated Areas [ha in RoW]
Designated Natural Areas and Identified Habitat Restoration Areas	Consideration given to: - Preference to avoid designated features. National Wildlife Refuges, Provincial Parks/CAs and PSWs were identified as most important.	Evaluate based on: - Impacts to designated areas in the RoW (measured in ha) Areas include: ANSI, Enhanced Management Areas, Provincial Parks, PSWs, Conservation Areas, etc. (see handout for list)

Socio-economic environment criteria and measures

Socio-Economic environment criteria and metrics for measure

Criteria	Metric for Measure
Co-Location and Repurpose of Existing Infrastructure	Parallel an existing transmission corridor [km]
	Reuse or repurpose existing transmission corridors [km]
Future Land Use Designations	Future land use designations within the ROW and PSA [ha]
Agricultural Resources and Operations	Agricultural land impacted in the RoW [ha]
	Number of agricultural buildings impacted in the RoW
	Ability to repurpose existing transmission corridors in agricultural fields [ha in RoW]
Petroleum Operations	Number of petroleum, gas, and brine wells within the RoW
Residential Properties	Number of residential buildings in the RoW
	Number of residential properties overlapping the RoW and PSA
Commercial, Industrial, Institutional, Recreational, Business and Facilities	Number of commercial, industrial, institutional, recreational and business/facility buildings in the RoW
	Number of commercial, industrial, institutional, recreational and business/facility properties overlapping the RoW and PSA

Criteria	Metric for Measure
Source Water Protection and Groundwater Wells	Overlap with a significant groundwater recharge area, well-head protection area or intake protection zone [ha in RoW]
	Number of private wells within the RoW and PSA
Built Heritage & Cultural Landscapes	Number of built heritage resources within 25m of route centre line
	Number of known Cultural Heritage landscapes within 25m of route centre line
	Number of potential resources within 60m of RoW
	Number of potential resources >60m of RoW
Archaeological Resources	Number of areas identified with archaeological potential
Aggregate Resource Extraction Areas / Operations (Pits/Quarries)	Size [ha] of active sites within RoW
	Size [ha] of inactive sites within RoW

Socio-economic Criteria and Metrics for Measure

Socio-Economic Environment

Criteria	Routing Metric	Proposed Comparative Evaluation Metric
Co-Location and Repurpose of Existing Infrastructure	Consideration given to: - Preference to identify routes within existing transmission corridors or parallel to existing corridors. - Avoiding locating routes within road ROWs or adjacent to highways	Evaluate based on the ability of each route to: - Parallel an existing transmission corridor [km] - Reuse or repurpose existing transmission corridors [km]
Future Land Use Designations	Consideration given to: - Future development areas	Evaluate based on: - Future land use designations within the ROW and PSA [ha]

Socio-economic Criteria and Metrics for Measure

Socio-Economic Environment

Criteria	Routing Metric	Proposed Comparative Evaluation Metric
Agricultural Resources and Operations	Consideration given to: - Agricultural soil classifications (preference for routes to be located outside of prime agricultural land) - Specialty crop areas	Evaluate based on: - Agricultural land impacted in the RoW [ha] - Number of agricultural buildings impacted in the RoW - Ability to repurpose existing transmission corridors in agricultural fields [ha in RoW]
Petroleum Operations	Consideration given to: - Petroleum, gas and brine wells within 50m of the RoW	Evaluate based on: - Number of petroleum, gas, and brine wells within the RoW

Socio-economic Criteria and Metrics for Measure

Socio-Economic Environment

Criteria	Routing Metric	Proposed Comparative Evaluation Metric
Residential Properties	Consideration given to: - Official plan designated residential areas	Evaluate based on: - Number of residential buildings in the RoW - Number of residential properties overlapping the RoW and PSA
Commercial, Industrial, Institutional, Recreational, Business and Facilities	Consideration given to: - Official plan designated commercial, industrial, recreational, business and facility areas	Evaluate based on: - Number of commercial, industrial, institutional, recreational and business/facility buildings in the RoW - Number of commercial, industrial, institutional, recreational and business/facility properties overlapping the RoW and PSA

Socio-economic Criteria and Metrics for Measure

Socio-Economic Environment

Criteria	Routing Metric	Proposed Comparative Evaluation Metric
Source Water Protection and Groundwater Wells	Consideration given to: - Preference to not impact Source Water protection areas - Avoid areas of significant groundwater recharge, intake protection zones and well-head protection areas	Evaluate based on: - Overlap with a significant groundwater recharge area, well-head protection area or intake protection zone [ha in RoW] - Number of private wells within the RoW and PSA

Socio-economic Criteria and Metrics for Measure

Socio-Economic Environment

Criteria	Routing Metric	Proposed Comparative Evaluation Metric
Built Heritage & Cultural Landscapes	Consideration given to: - Avoidance of known built heritage resources and cultural heritage landscapes	Evaluate based on: - Number of built heritage resources within 25m of route centre line - Number of known Cultural Heritage landscapes within 25m of route centre line - Number of potential resources within 60m of RoW - Number of potential resources >60m of RoW
Archaeological Resources	Consideration given to: - Avoidance of known archaeological sites	Evaluate based on: - Number of areas identified with archaeological potential

Socio-economic Criteria and Metrics for Measure

Socio-Economic Environment

Criteria	Routing Metric	Proposed Comparative Evaluation Metric
Aggregate Resource Extraction Areas / Operations (Pits/Quarries)	Consideration given to: - Official plan designated aggregate sites in RSSA	Evaluate based on: - Size [ha] of active sites within RoW - Size [ha] of inactive sites within RoW

Criteria weighting

Criteria weighting discussion and survey

Natural Environment

Criteria	Weighting (%)
Surface Water Resources and Aquatic Habitat	16%
Vegetation and Vegetation Communities	16%
Wildlife and Wildlife Habitat	16%
Species at Risk	20%
Wetlands, Natural Hazards and Floodplain Areas	16%
Designated Natural Areas and Identified Habitat Restoration Areas	16%
Total	100%

Socio-Economic Environment

Criteria	Weighting (%)
Co-Location and Repurpose of Existing Infrastructure	16%
Future Land Use Designations	0
Agricultural Resources and Operations	16%
Petroleum Operations	2.5%
Residential Properties	20%
Commercial, Industrial, Institutional, Recreational, Business and Facilities	14%
Source Water Protection & Groundwater Wells	15%
Cultural Resources	5%
Archaeological Resources	11.5%
Aggregate Resource Extraction Areas / Operations (Pits/ Quarries)	0
Total	100%

Next steps

Anticipated Project Timeline

2022	2023	Early 2024	Spring/ Summer 2024	Fall 2024	Early 2025	Early-mid 2025	Mid-2025	Late-2025
Project need identified	Define study area and identify viable route alternatives	Issue Notice of Commencement of Class EA	Collection of environmental data	Evaluate route alternatives	Select and announce preferred route	Prepare draft Environmental Study Report (ESR)	Release draft ESR for review and comment	Submit final ESR and complete the Class EA process
			We are here ★	**TAC #3**				

2023 - 2026: Ongoing Indigenous and stakeholder engagement

For More Information on Hydro One's Class Environmental Assessment Process visit:
Class EA for Minor Transmission Facilities

Project development timeline*

Ongoing Engagement

2023
Initial open houses, data collection and development of route alternatives

March - April 2024
Notice of Commencement of Class EA, release of route alternatives and open houses

2024
Consultation and data collection in support of EA

Early 2025
Selection of preferred route

Mid-2025
Release the Draft Environmental Study Report (ESR) for review and comment

Late 2025
Submit Final ESR and complete the Class EA process

2025 - 2026
Completion of detailed design and other permits and approvals, including Leave to Construct (Section 92) approval from the Ontario Energy Board

2027
Start of construction on Line 1

2030
Line 1 in service

Line 2 construction and in-service date will be determined upon further planning by the IESO

*Timelines are subject to change

**Leave to Construct under Section 92 of the Ontario Energy Board Act is a regulatory process to obtain approval from the Ontario Energy Board to build and operate a transmission line.

Next steps

- Hydro One will continue to conduct environmental surveys and studies this summer.

- Hydro One will continue to engage with the TAC through an online survey(s) to obtain further feedback on the criteria and metrics for measurement.

- TAC Workshop #3 will be held in the fall to provide a Project update with anticipated focus on route refinements as well as final evaluation criteria and weighting.

Thank you!

For any follow up questions, please call or email:

1.877.345.6799

Community.Relations@HydroOne.com

For the most up-to-date project information and project updates, visit our project website:

HydroOne.com/Longwood-to-Lakeshore