



Thorold Expansion Bid

Presented to the Niagara Region Planning and Economic Development Committee (PEDC)



Northland Overview

- Northland is proud to be a **Canadian Firm and the leading global power producer** at the forefront of the **global energy transition**
- **Over 35 years of success** developing, constructing and operating power projects across a range of technologies
- **Significant depth of management experience** across a number of disciplines including renewable power project development, project finance, construction and operations.
- **Strong environmental and health & safety record**
- Building and operating **efficient natural gas facilities since 1990**. Located in Ontario and Saskatchewan, our gas turbines **generate 3,308 GWh annually**.
- Our four facilities – **Kirkland Lake, North Battleford, Spy Hill and Thorold** – use turbines to produce electricity in an efficient, reliable and environmentally responsible manner.
- Northland owns and operates **4 onshore wind farms, 11 solar farms, and has 2 energy storage projects** in development.



Growing Demand for Electricity in Ontario

Ontario continues to require, as identified by the IESO*, **a robust supply of energy from natural gas** to maintain cost-effective reliability, as capacity gaps emerge and to support existing and new clean technologies.

The IESO is running a series of procurements, targeting 1,500 MW of new natural gas capacity*, including a Long-Term (LT1) RFP that seeks resources to be in-service between 2026 and 2028 to address provincial and regional needs.

A key partner in Ontario's energy sector, **Northland is answering this call with plans to bid a new up to 200 MW peaking plant at Thorold into the IESO's LT1 RFP** – enough to **power over 100,000 homes at peak**.

Expanding Capacity

The power contract from the IESO is for *capacity only, not energy* – meaning that **the expansion project will only operate during high-demand times** when electrical energy is most needed.

*IESO's Resource Eligibility Interim Report

The Role of Natural Gas in the Short Term

Northland's bid for a new simple cycle peaking plant at **Thorold Cogeneration Station will add up to 200 MW of capacity,**

not energy, with IESO's expectation that it will act as a back-up resource to support and stabilize the regional energy grid, producing little energy and emissions*.

- Natural gas provides Ontario's electricity system with **flexibility, reliability and security** as population and economic growth across the province continues to drive demand for electricity.
- **Thermal is necessary to balance out the province's renewable portfolio** and is used in times of variability when the wind isn't blowing or the sun isn't shining
- New natural gas capacity fills gaps in the short-term, **preventing emergency actions such as rolling blackouts to stabilize the grid.**
- Natural gas expansions can be located closer to demand sources and on existing footprints, **reducing the need for large transmission upgrades.**
- Continuing to use natural gas in a limited way will **allow businesses and consumers to continue with their electrification plans and decarbonize the electricity system** without risking reliability or economic growth.

*IESO's Resource Eligibility Interim Report
IESO's Pathways to Decarbonization Report

Aligning with the Niagara Region Strategic Plan



Niagara Region's 10-Year Strategy

Green development and sustainability is one of the 9 key themes identified as critical to the Niagara Region's 10-year plan. Niagara's economic strategy includes promoting and leveraging this region's strength as one of North America's largest green energy providers to accommodate increased investment.*

Emissions from the new high-efficiency gas turbine will be **40% lower than government standards**, mitigating environmental impact and complimenting the Niagara Region's goals for a cleaner future.

Niagara Falls will be the first Ontario site for large-scale hydrogen production, positioning Niagara at the forefront of the hydrogen economy. Our new simple cycle peaking plant will be capable of burning a natural gas and hydrogen blend, and **with modifications could run on 80% hydrogen** in the future** as we look to transition to further clean energy solutions, aligning with the clean energy goals for the Niagara region.

Green Development and Sustainability

"Niagara Region supports new and innovative uses of new technologies that will lower our carbon footprint as demonstrated in this Economic Development Strategy and the new Official Plan."*

*Niagara Economic Development Strategy

**GE 7F Heavy Duty Gas Turbine Fact

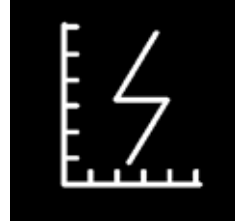
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Project Benefits



Local Employment

Thorold will continue to support **19 full time positions until 2040**. The expansion will also extend the life of employment for contractors, adding approx. **200-500 new opportunities** for construction contract employment in 2025 and 2026.



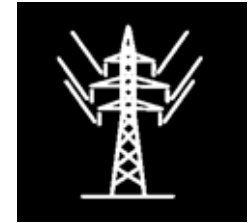
Economic Boost

Local businesses will experience increased activity due to the spin-off opportunities created by the expansion during development, construction, and operations. **This project will inject an estimated \$200M into the area.**



Property Taxes

Thorold's property tax contribution will be **secured until at least 2040** and will increase with the construction of a new building to house the expansion project.



Reliable Grid Capacity

Provincial and regional capacity/reliability will increase by up to 200 MW – enough to **power over 100,000 homes at peak**.

Planning for the Future of the Niagara Region



- Niagara Region can leverage its strengths in the automotive industry to capture opportunities with Electric Vehicle (EV) battery manufacturers and supply chains.
- This emerging technology provides the opportunity for Niagara to capture an estimated \$4 Billion in transformative EV investments*, but will also increase the demand for electricity in the area.
- This plant will allow for increased electricity demands, making it possible for Niagara to be considered for EV investments

*[Niagara Economic Development Strategy](#)

COMMUNITY PARTICIPATION



Community Investment

Building strong relationships with local communities is rooted in Northland's values. **We are happy to share that this project will inject an estimated \$200M into the community.**

Northland Power has been active and contributing members of the City of Thorold for more than 10 years. Over this time, we have provided funding for various locally-inspired programs and initiatives including:

- McAdam Park Thorold Community Splash Pad
- Endangered species plantation
- Wildflowers and shrubs plantation
- Rain Garden & Native tree infilling

A few of our supported organizations:



Canadian
Cancer
Society

Make-A-Wish
CANADA



niagarahealth
foundation



Community Engagement Planning



- Northland will be running community engagement prior to formally asking the municipality for a letter of endorsement, including:
 - A project website where viewers can learn more about the project
 - Contact information to ask questions about the project
 - Two town hall meetings (one in person and one virtual)
 - A community open house and BBQ
 - Notification of the project sent to our neighbors
- Formal request for endorsement will be made at the Council meeting on August 1.
- Project Timelines:

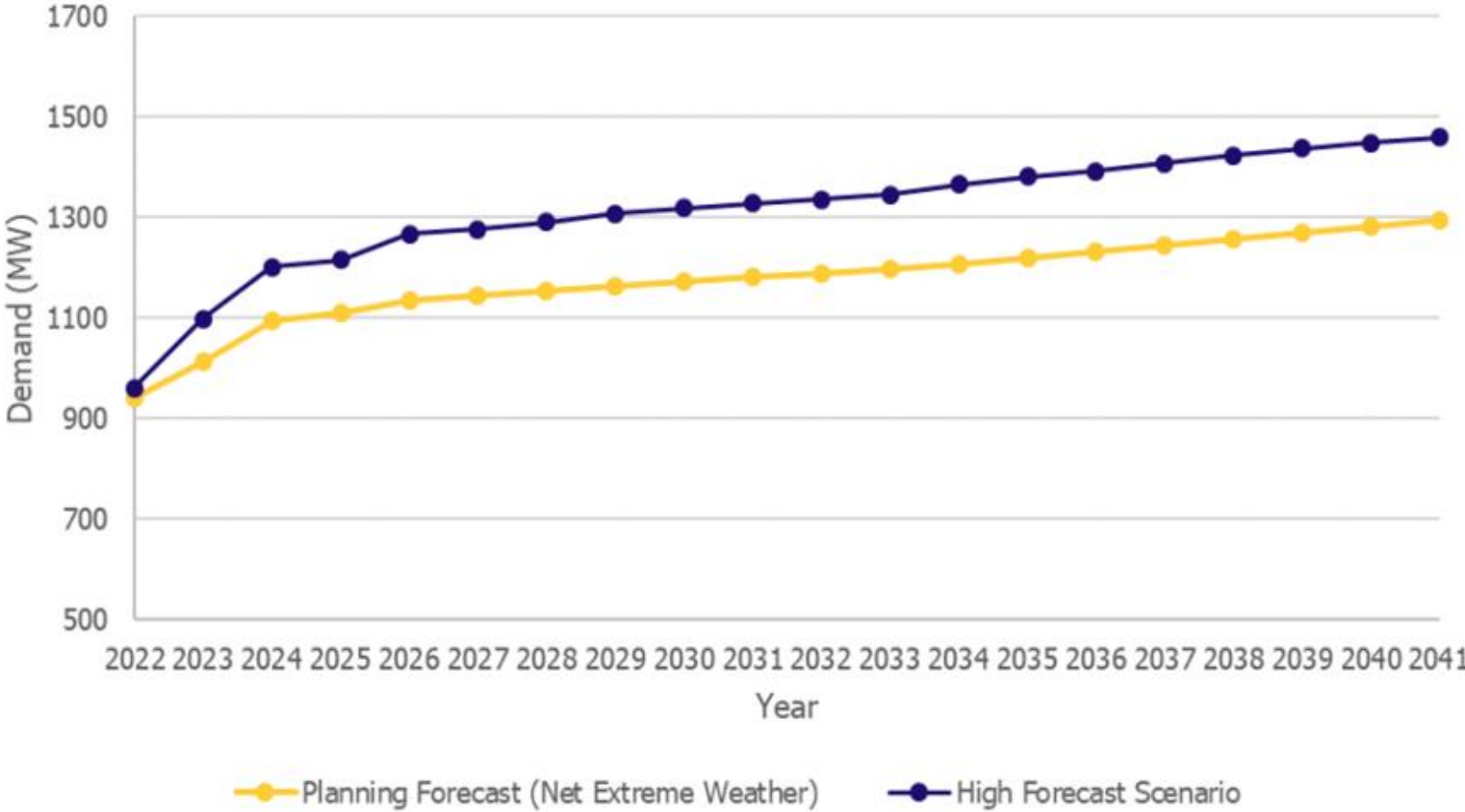
Milestone	Timing
Community Engagement	June through July 2023
Formal Endorsement Request	August 1, 2023
Project Bid Due	October/November 2023
Bid Award	Q1/Q2 2024
Project In-service	May 1, 2027

APPENDIX A

Demand Forecast

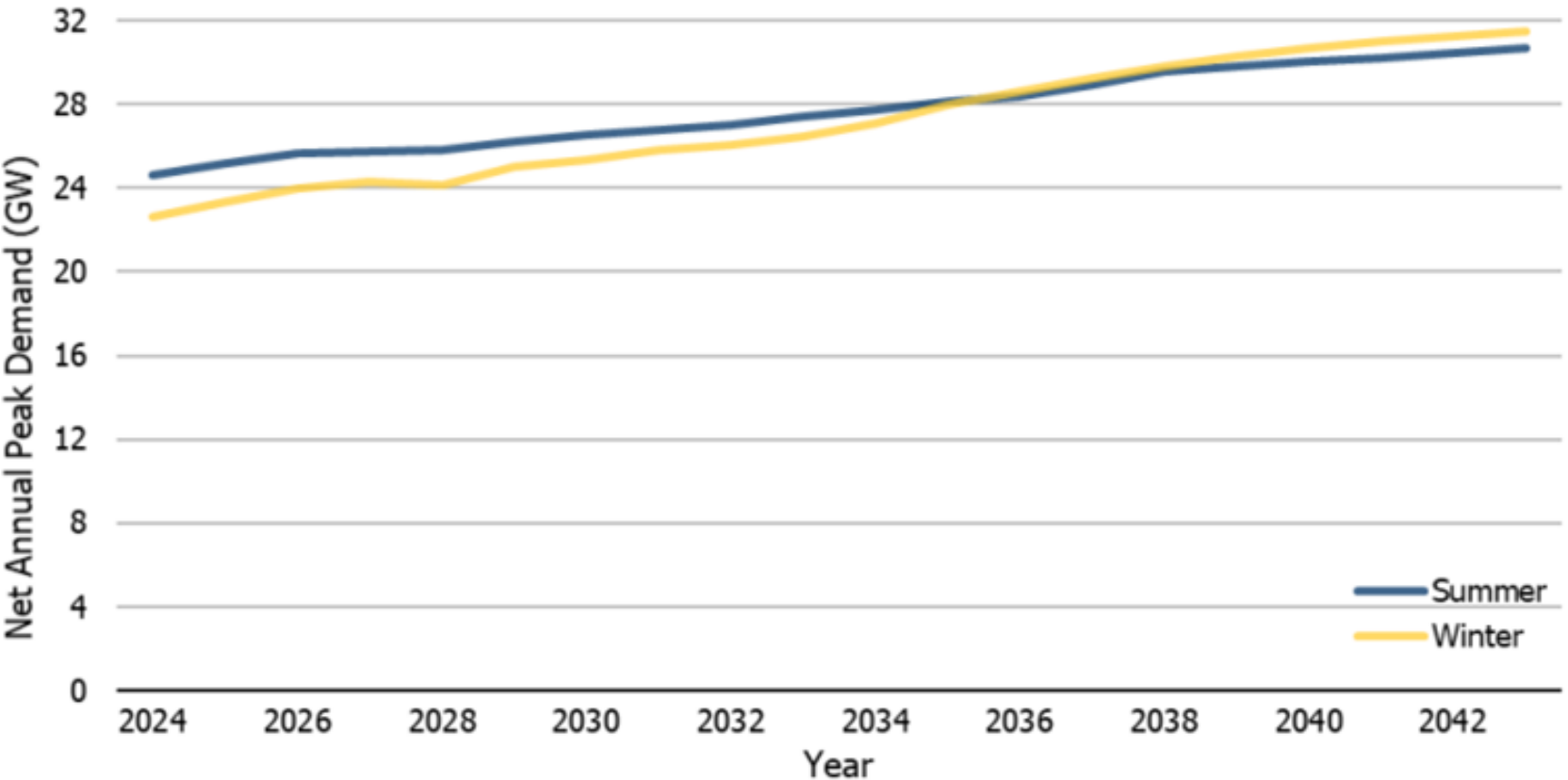


Niagara Regional Demand Forecast



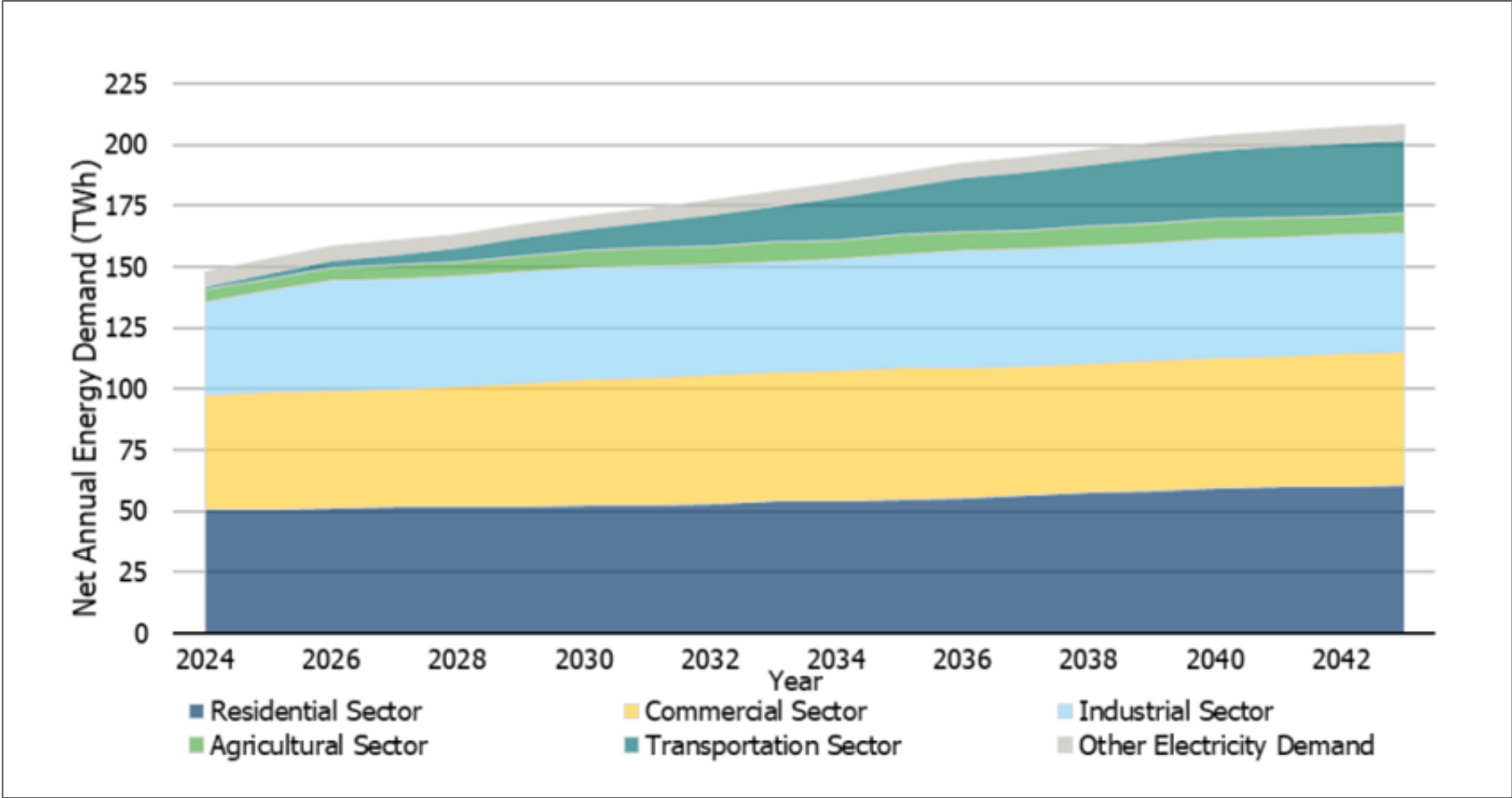
Source: [IESO's Niagara Integrated Regional Resource Plan – December 22, 2022](#)

Ontario Demand Forecast



Source: [IESO's 2022 Annual Planning Outlook](#)

Provincial Demand By Sector

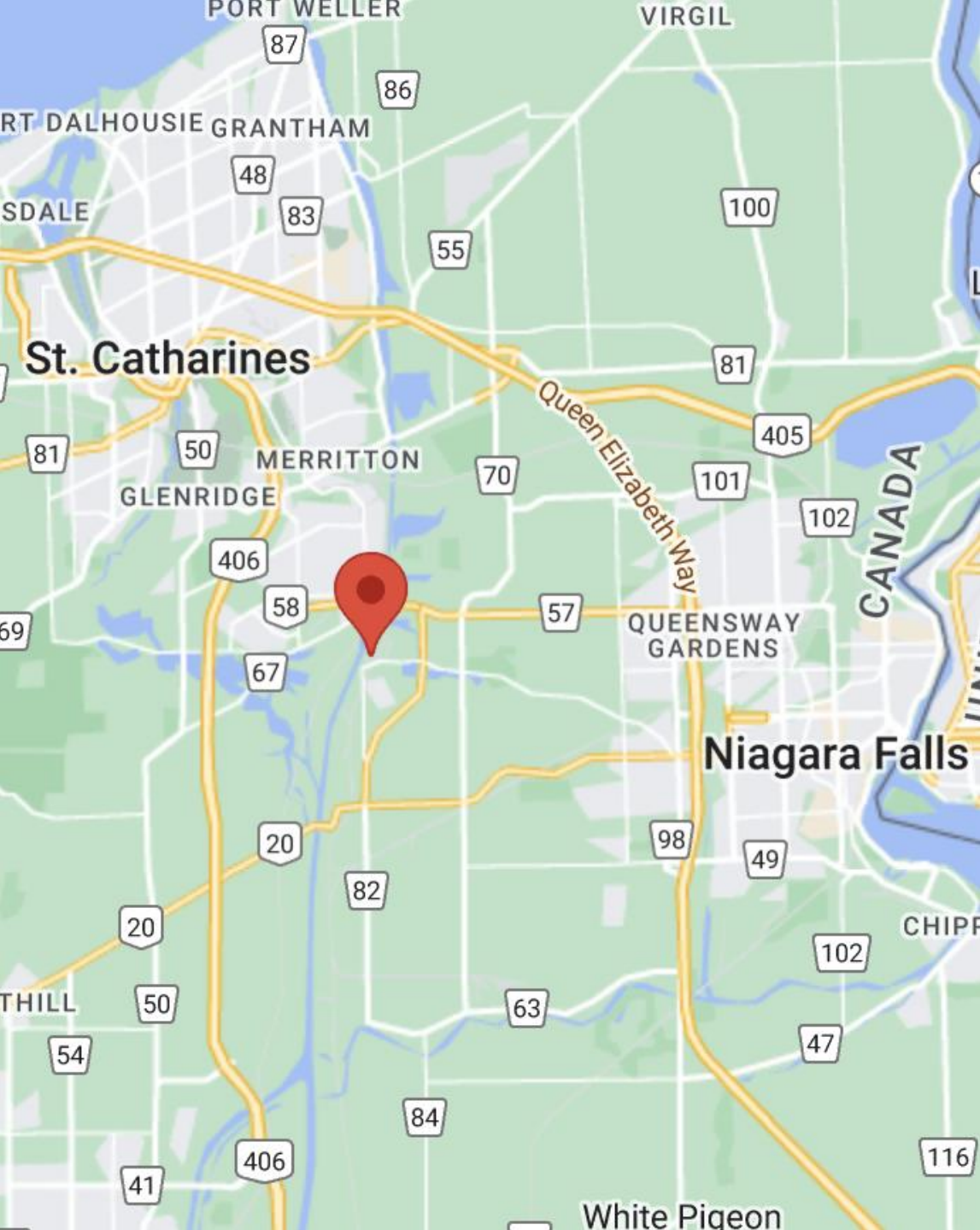


Source: [IESO's 2022 Annual Planning Outlook](#)

APPENDIX B

Project Location





Plant Statistics and Location

- **19** People On-Site
- 4748 Consecutive days without a **Lost Time Accident**
- 4 Acres Secured
- This plant will be adjacent to the existing plant on the North side

