



Goreway Battery Energy Storage System (BESS) Project

Capital 
Power

Virtual Public
Community Meeting
June 21, 2023

Welcome!

Meeting Overview

- Background on Capital Power
- The need for new generation and capacity in Ontario
- Goreway Battery Energy Storage System (BESS) Overview
- Class Environmental Assessment (EA) for Minor Transmission Facilities Process and Other Regulatory Approvals
- Project Timeline
- Questions & Answers



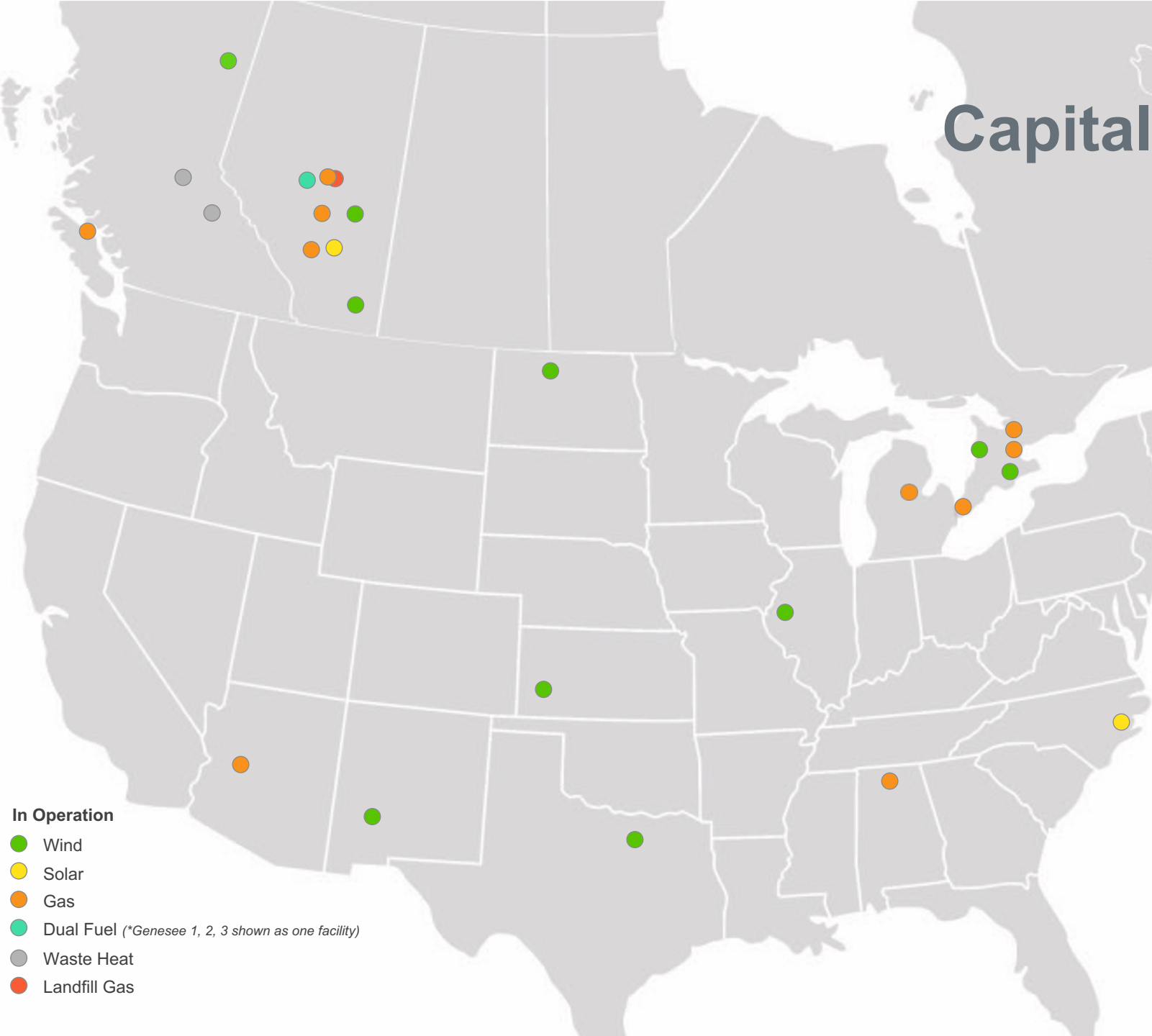
Land Acknowledgement

In the spirit of reconciliation, we respectfully acknowledge that we operate within the ancestral homelands, traditional and treaty territories of the Indigenous peoples of Turtle Island, or North America.

We also recognize that we are on the traditional territories of the **Wendat, the Haudenosaunee and the Anishinaabe peoples** and the Treaty land of the **Mississaugas of the Credit**.

In light of National Indigenous Peoples Day, we want to acknowledge the diverse Indigenous communities located in this region and whose presence continues to enrich the broader community.

Capital Power Highlights



- In Operation**
- Wind
 - Solar
 - Gas
 - Dual Fuel (*Genesee 1, 2, 3 shown as one facility)
 - Waste Heat
 - Landfill Gas

- Publicly-traded company (TSX: CPX) headquartered in Edmonton
- ~800 employees; regional offices in Boston, Toronto and Calgary
- Own ~7,500 MW of power generation produced at **29 facilities in Canada and U.S. 5 Facilities and ~1500 MW in Ontario**
- Named one of the World's Most Ethical Companies® by the Ethisphere Institute (2019-2022)



Providing Safe, Reliable Electricity to Ontario

Five facilities

1,500 megawatts

40 employees

Millions spent annually on
contracted support and equipment

Goreway Power Station

York Energy Centre

East Windsor Cogeneration Centre

Port Dover and Nanticoke Wind Energy

Kingsbridge Wind Energy Project





Capital Power invests to create impact Over **\$5.5M** donated in 2022 to power *sustainable communities*

Equity & Culture - Wellbeing - Climate Action

Partnering with local organizations:

- Big Brothers and Sisters of Peel
- Knights Table of Peel
- Journey Neighbourhood Centre



Need for the Project: The Growing Demand for Electricity in Ontario

Ontario's Independent Electricity System Operator

- Independent Electricity System Operator (IESO) is responsible for planning and operating Ontario's electricity grid.
- IESO forecasts changes in electricity demand and supply to ensure that Ontario ratepayers have an affordable, reliable supply of electricity to meet their needs.



The Future Need for Power in Ontario

- IESO has identified a need for new generation in the province through its Annual Planning Outlook ("APO").
- Ontario's electricity supply will be reduced in the near term:
 - Potential retirement of the Pickering Nuclear Generating Station and other nuclear refurbishments.
- Demand for electricity is increasing in Ontario due to:
 - Population growth, electrification of certain sectors and vehicles, economic growth in the mining, industrial, and agricultural sectors.
- The APO considers many potential solutions for the expected shortfall and concludes that new generation capacity is required.



Ontario Supply and Demand, 2023 to 2041

Energy Demand by Scenario

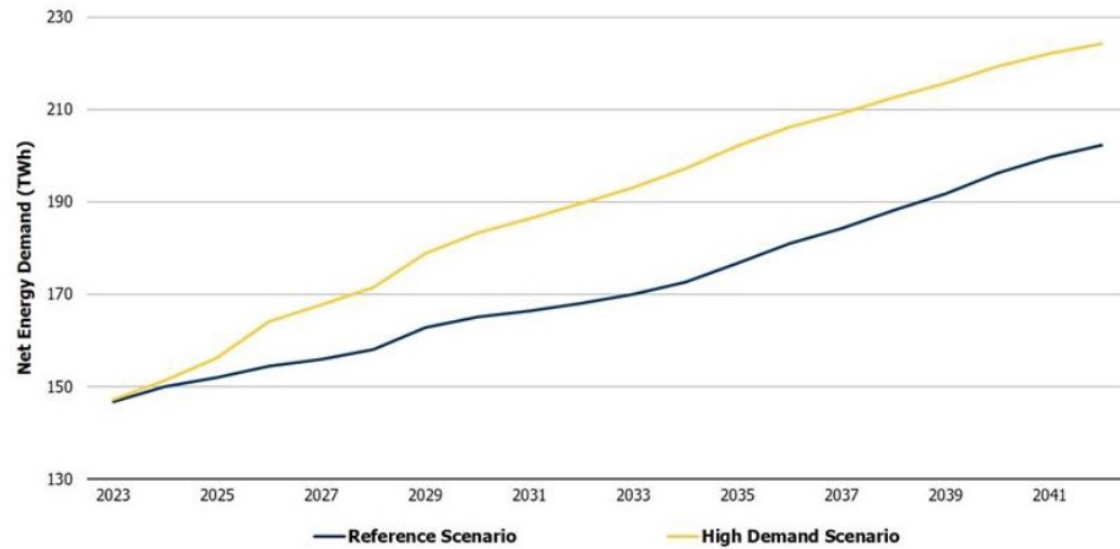
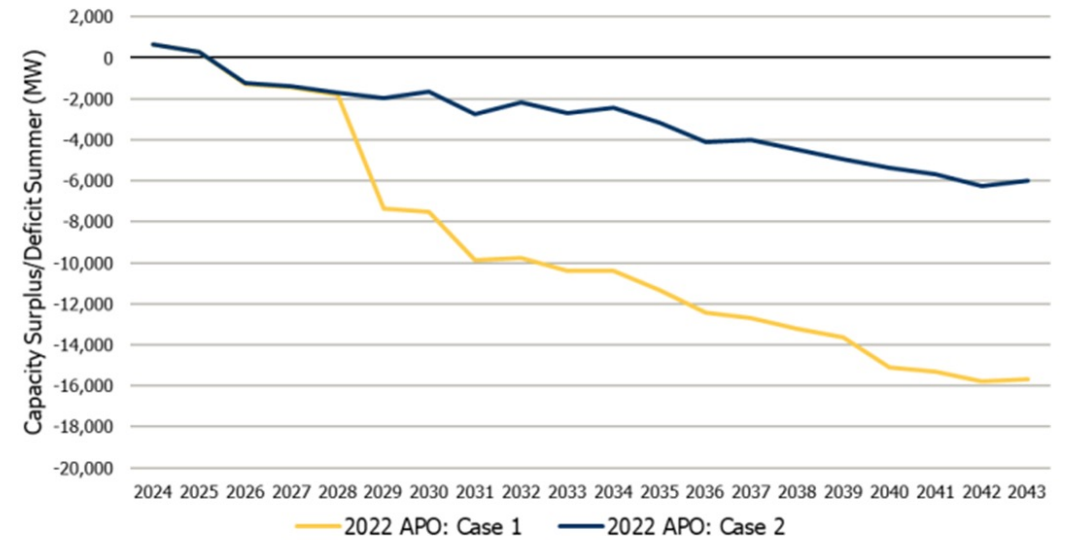


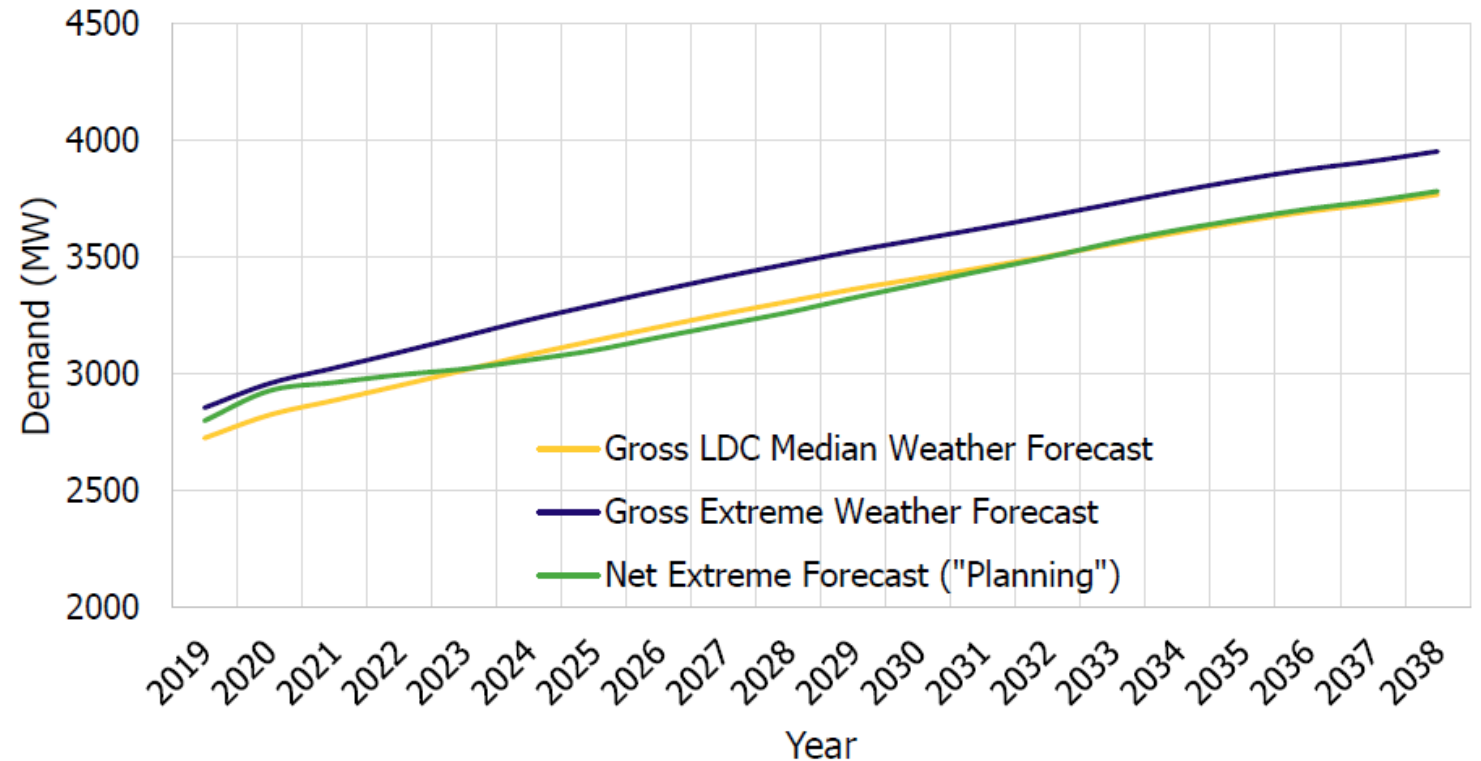
Figure 19 | Summer Capacity Surplus/Deficit



Source: <https://www.ieso.ca/en/Sector-Participants/Planning-and-Forecasting/Annual-Planning-Outlook>

Local Need

- The City of Brampton and surrounding area are in need of significant capacity additions.
- The IESO forecast suggests local demand will outstrip existing capacity by 2027.



Goreway BESS well-positioned to help meet future electricity capacity needs

- The IESO is seeking a total of 4,000 MW of new capacity to help meet anticipated capacity shortfalls.
- IESO's Expedited Long-Term RFP (E-LT1 RFP) concluded in May with awards to seven BESS projects totaling 739 MW.
- Capital Power's York BESS was one of the seven projects selected for a contract to supply power for 22 years.
- Subsequent IESO RFP processes are expected to meet the 4000 MW procurement target.
- Capital Power intends to submit the Goreway BESS into upcoming procurements.

Battery Energy Storage Systems

Battery Energy Storage System (BESS) Overview



- BESS facilities help balance the electricity grid:
 - Charged when demand is low and feed electricity into the grid when demand is high and/or generation from other resources is low.
- Use lithium-ion batteries, the most common type for utility-scale energy storage.
- BESS enclosures are similar in size to shipping containers, approx. 9m x 3m x 2m.

Battery Energy Storage System (BESS) Overview

- Numerous interconnected, weather-proof modular enclosures.
- Include a range of state-of-the-art systems to ensure optimal performance characteristics, such as:
 - Temperature control, HVAC, fire detection & suppression, energy control systems
- Maintenance requirements are minimal given the simplicity of the design.



Global Growth of BESS Projects

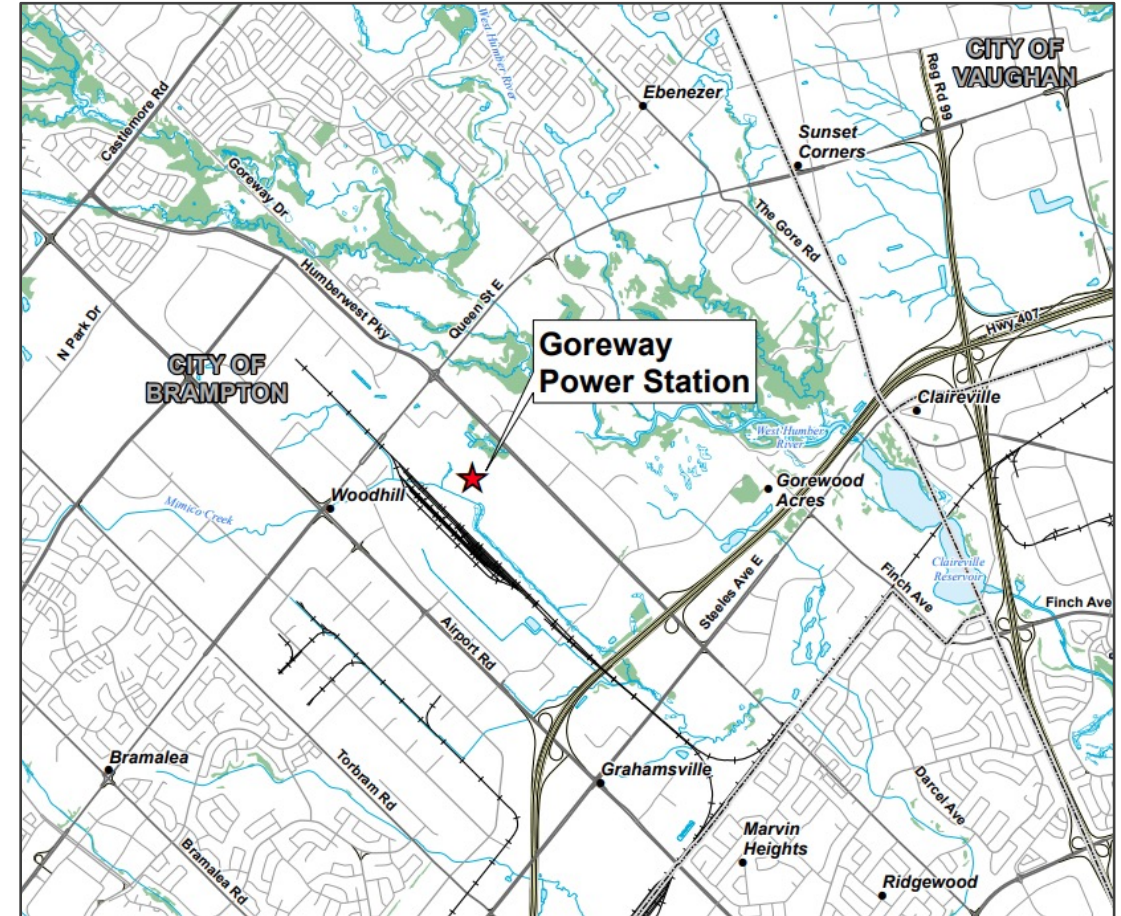
- BESS facilities are becoming vital to the effort of moving to lower-carbon sources of power.
- Large-scale systems are well-known elsewhere. The U.S. had over 8,200 MW of BESS installed by late 2022. Global installed BESS is expected to reach 80,000 MW by 2030.
- Smaller scale systems are already in wide use throughout Ontario. Growth is expected in 2023, as the federal government and all provincial governments work to enable power storage development to help the transition to net-zero.



Proposed Goreway BESS Project

Project Location

- City of Brampton, Peel Region.
- Located north of Hwy 407, east of Airport Rd.
- Site is municipally known as 8600 Goreway Drive.
- Adjacent to the Canadian National (CN) Brampton Intermodal Terminal.



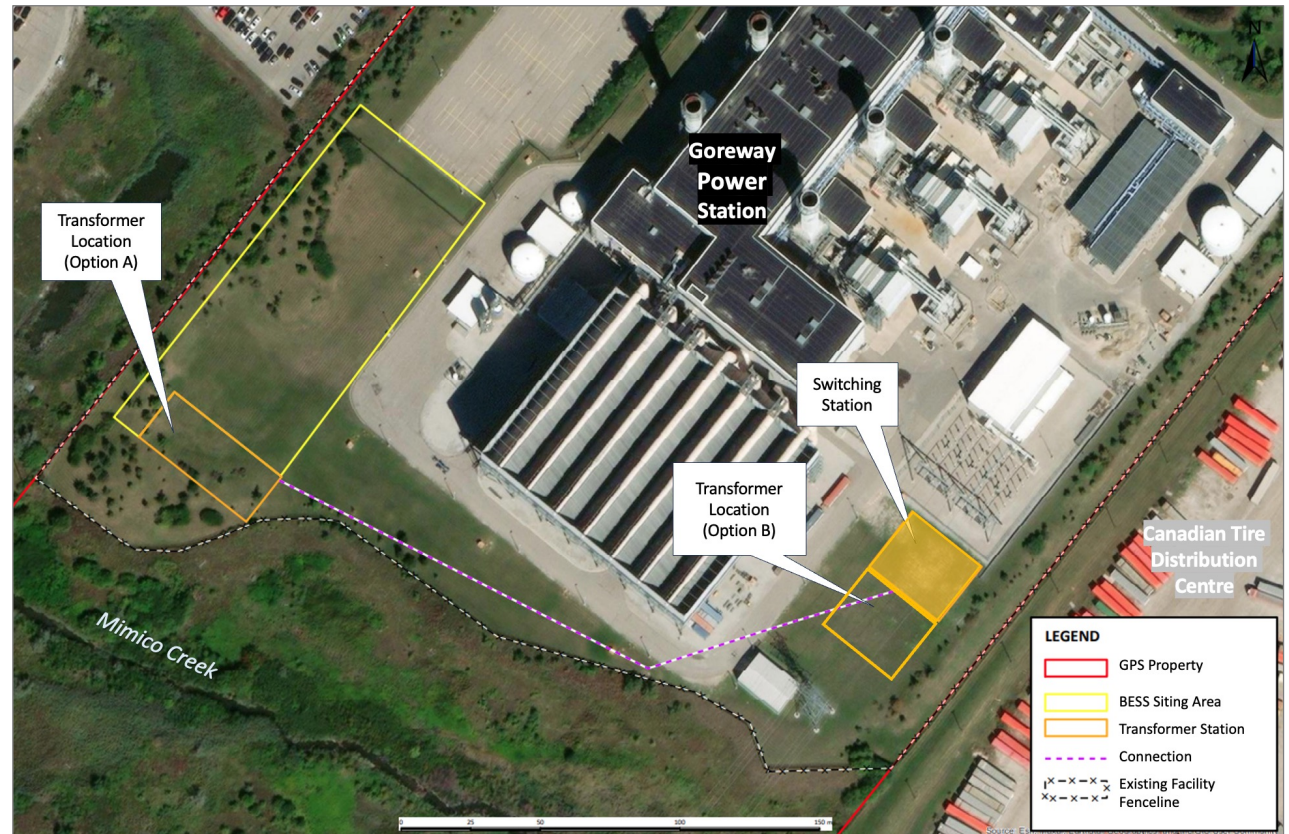
Project Overview

- BESS would provide up to 50 MW of electricity for up to 4 hours.
- Connection to provincial grid via a new 34.5 kV: 230 kV transformer station and interconnection line.
- Ancillary components:
 - Other electrical components
 - Internal graveled access laneways
 - Stormwater management
 - Temporary construction areas
 - Fencing
- Standalone facility, operating independently of the GPS.



BESS Site

- Proposed in southwest corner of the GPS site, within the existing facility fenceline.
- Currently manicured lawn and parking area.
- Footprint approximately 0.65 ha (or 1.6 acres).
- Two potential configurations (locations for the transformer station).



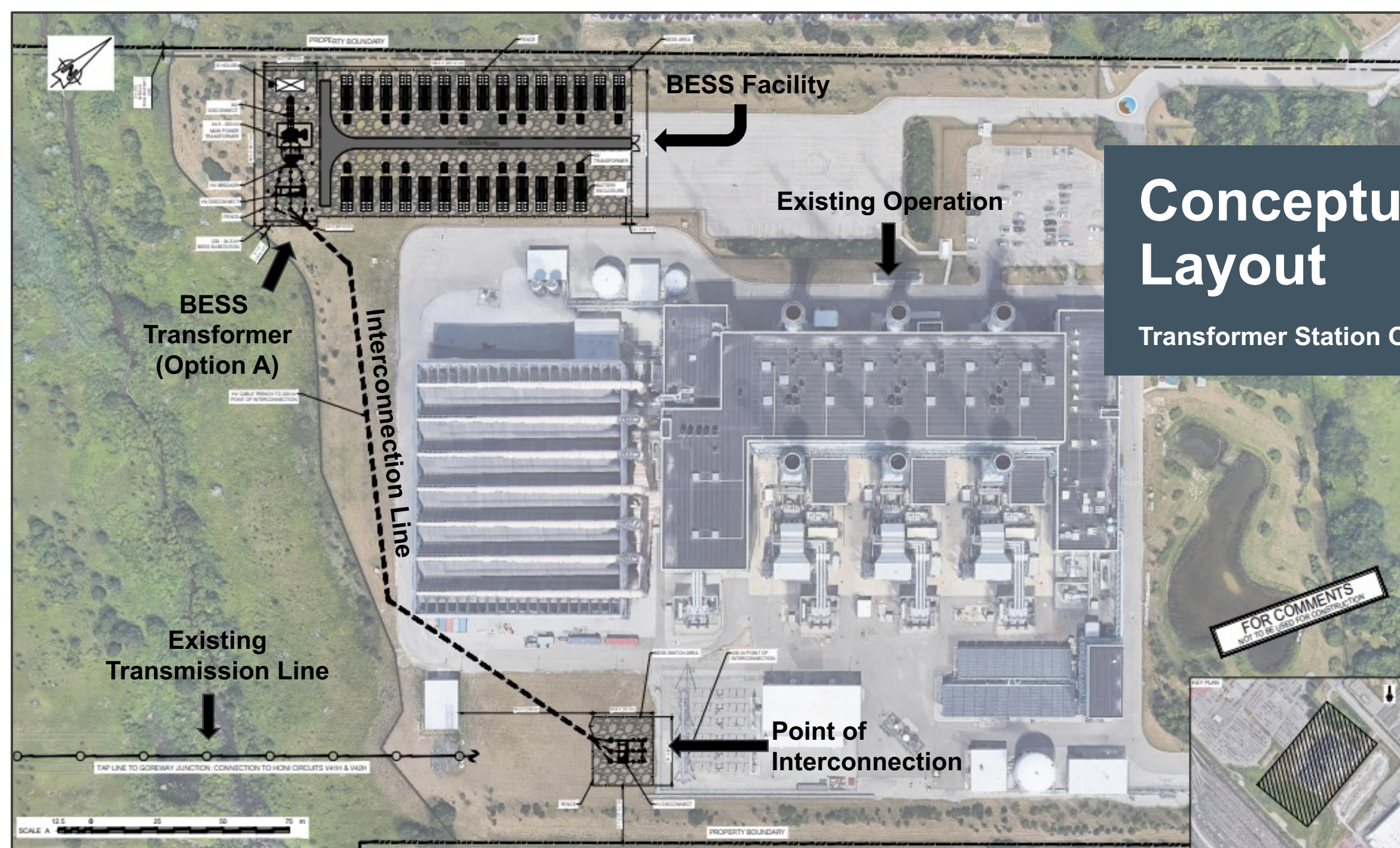
Key Project Design Elements

- Sited to avoid naturalized area along Mimico Creek.
- Entirely within the existing facility fenceline.
- Use of GPS infrastructure avoids need for new construction of some components.
- Trees/shrubs planted to create visual screening.
- No air emissions.



Conceptual Layout

Transformer Station Option A

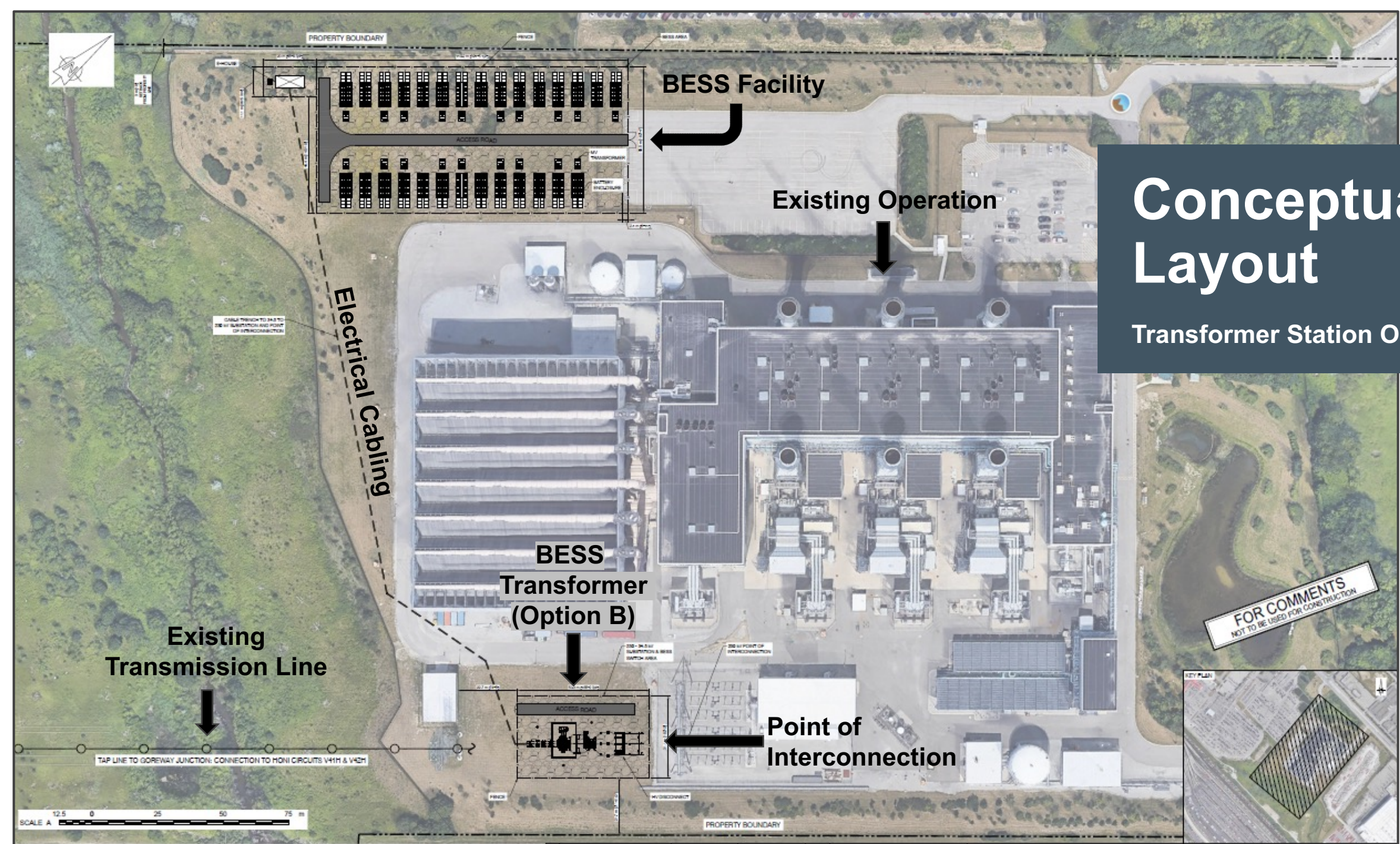


FOR COMMENTS
NOT TO BE USED FOR CONSTRUCTION



Conceptual Layout

Transformer Station Option B





BESS Construction

- Construction duration: approx. 1yr
- Access: via existing GPS entrance.
- Site preparation:
 - Site clearing and grading
 - Earthworks
 - Stormwater management features
- Foundations: slab-on-grade or helical screw pile.
- BESS enclosure delivery & installation using mobile cranes.
- Electrical and mechanical installation activities.
- Commissioning.
- Installation of fencing, gates & site remediation, including landscaping.



Regulatory Approval Processes & Ongoing Technical Studies

Regulatory Approvals

- Class Environmental Assessment for Minor Transmission Facilities (Class EA):
 - BESS facilities do not have requirements under the *Environmental Assessment Act*.
 - Construction of high voltage transformer station (≥ 115 kV) triggers the EA requirement.
 - BESS Project as a whole is being assessed as part of the Class EA process.
- Site Plan Approval – City of Brampton
- Other approvals are also required before the Project can proceed:
 - Environmental Activity and Sector Registry (EASR), Noise – Ministry of the Environment, Conservation and Parks (MECP)
 - Environmental Compliance Approval (ECA) for Industrial Sewage, Stormwater – MECP



Technical Studies

- Studies related to the following environmental factors are underway to inform the project design, Class EA Process and future permit applications:
 - Land Use Planning
 - Natural Environment (Ecology)
 - Noise
 - Stormwater Management
 - Cultural Heritage Resources (Built Heritage, Heritage Landscapes, Archaeology)
 - Landscaping (Visual Aesthetics)
 - Emergency Response Planning
 - Various construction and engineering plans and drawings

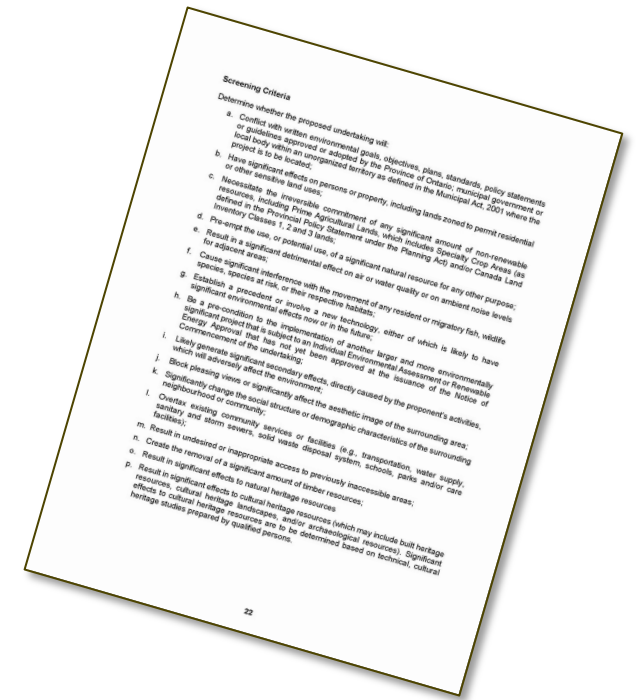
Study Area & Existing Features

- Key features in the Study Area include:
 - Mimico Creek & associated natural area
 - Natural area (along Goreway Dr)
 - CN Brampton Intermodal Terminal
 - Canadian Tire Distribution Centre
 - Commercial businesses & residential dwelling
 - Hyatt Place Toronto/ Brampton Hotel
 - Municipal infrastructure & utilities
 - Goreway Drive



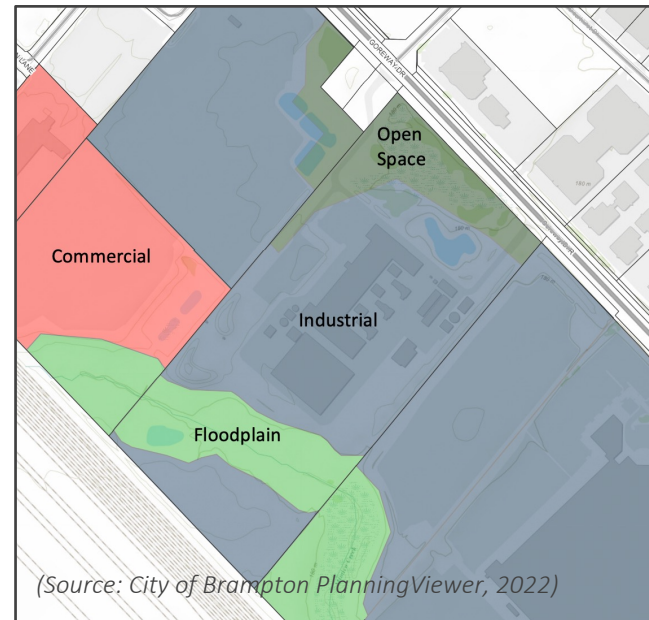
Class EA Screening Process

- Process for projects with predictable environmental effects.
- A series of questions to evaluate the potential for significant impacts that cannot be avoided and/or mitigated.
- Key areas include:
 - Government Objectives, Plans & Policies
 - Natural Heritage
 - Air & Noise
 - Water Resources
 - Cultural Heritage Resources
 - Neighborhoods & Communities
- A key part of the Screening Process is engaging with government agencies, Indigenous communities, and the public to identify potential environmental concerns. Capital Power is committed to addressing concerns related to this Project.



Government Objectives, Plans & Policies

- Project meets provincial government goals, objectives, plans, policies & guidelines.
- Project is consistent with City of Brampton Official Plan designation & zoning:
 - Property is split-zoned – Industrial, Open Space & Floodplain.
 - The BESS will be located within the area zoned for industrial use.

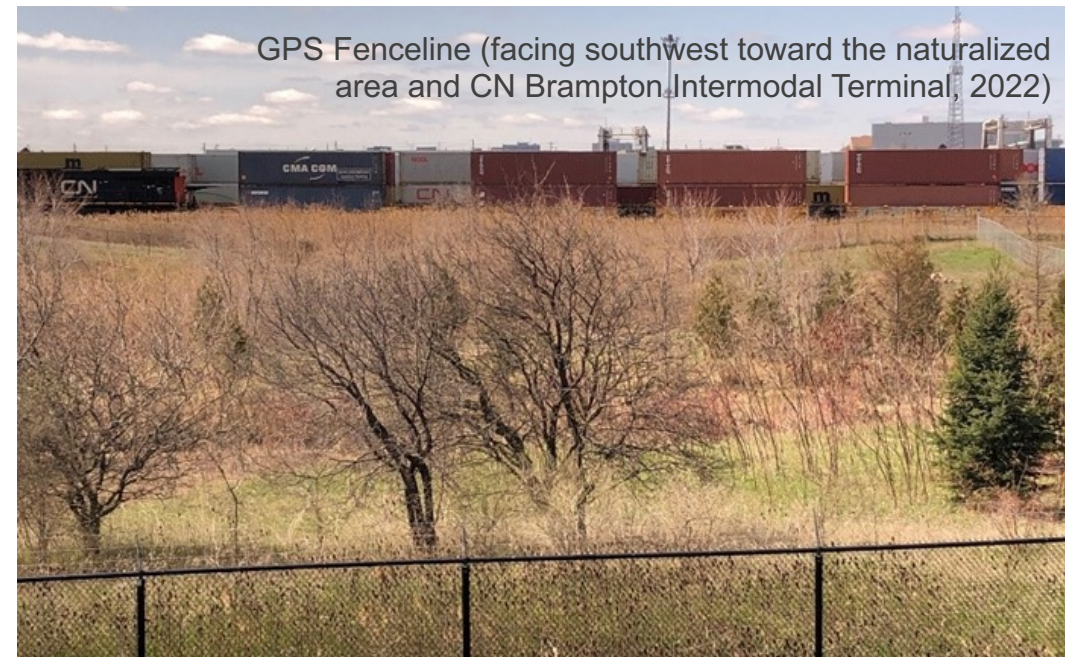


Applicable Permitting Process:
Site Plan Approval



Natural Heritage

- Potential impacts to natural heritage features have been avoided through siting and design.
- The BESS site is currently proposed within manicured lawn and parking lot.
- Project will not interfere with species at risk, wildlife, fish, or habitat:
 - Mimico Creek crosses the property more than 50 m from the limit of construction.
 - Existing fencing that separates the natural area from the facility will be maintained.
 - Vegetation clearing will be limited to landscaping features within the Project area.



Applicable Permitting Process:
None anticipated

Air & Noise

- BESS facilities do not produce air emissions.
- Noise emissions must meet provincially mandated limits. Preliminary acoustic (predicted sound) modelling demonstrates that the Project will comply with provincial noise limits at nearby receptors:
 - 50 decibels during the daytime (7am-7pm), 45 decibels during the nighttime (7pm-7am)
- Noise emissions will be subject to a detailed acoustic assessment in accordance with MECP requirements as part of the EASR process.
- Noise barrier wall ~5 m in height may be required, dependent on final site configuration and equipment selection.

Applicable Permitting Process:
EASR – Noise Report

Water Resources

- No anticipated effects to groundwater quantity or quality:
 - Shallow excavations – no groundwater takings anticipated.
- No anticipated effects to surface water quantity or quality:
 - BESS is located more than 50 m from natural surface water features.
 - Stormwater management (SWM) design is underway – will discharge to existing Goreway SWM pond.
 - Potential construction-related effects such as run-off or sedimentation will be managed through standard Erosion and Sediment Control (ESC) practices.



Applicable Permitting Process:

Site Plan Approval and ECA (Industrial Sewage) – SWM Plan



Cultural Heritage Resources

- Project is not anticipated to impact cultural heritage resources (built heritage resources, cultural heritage landscapes or archaeological resources):
 - No known built heritage or cultural heritage landscapes present.
 - Previous archaeological assessments cleared the Project area of archeological concerns.
- Cultural Heritage & Archaeological experts will review the project to confirm no impacts to these resources and ensure compliance with the *Ontario Heritage Act*.
- Engagement with Indigenous communities is an important part of the Project.

Applicable Permitting Process:

None Anticipated (to be confirmed by licensed archaeologist & cultural heritage specialist)



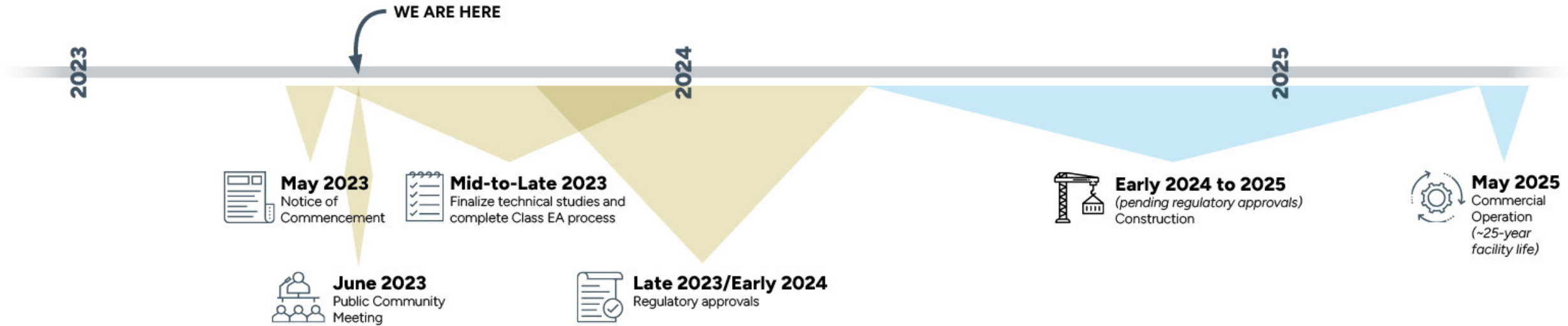
Neighborhoods & Communities

- During operation, Project is not anticipated to affect nearby properties:
 - Sited entirely on Capital Power owned and operated lands.
 - Existing facility entrance will be used for BESS access.
 - Provincial thresholds for noise will not be exceeded.
 - Landscaping features (native trees and shrubs) will be planted in accordance with City of Brampton Tableland Tree Assessment Guidelines.
 - Minimal maintenance requirements, therefore limited site activity.
- Temporary, localized minor emissions related to construction will be mitigated using standard management practices (e.g., truck traffic, noise & dust).

Applicable Permitting Process:

Site Plan Approval – Landscape Plan, EASR – Noise Report

Project Timeline



Capital Power will continue to engage the community throughout the permitting & approvals process, which includes finalizing technical studies, designs and mitigation



Community & Indigenous Engagement

Capital Power will continue to share information as the Project proceeds through construction and into operation.

Questions & Answers

Contact us.

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1-855-703-5005

www.capitalpower.com/operations/goreway-power-station-bess/

