

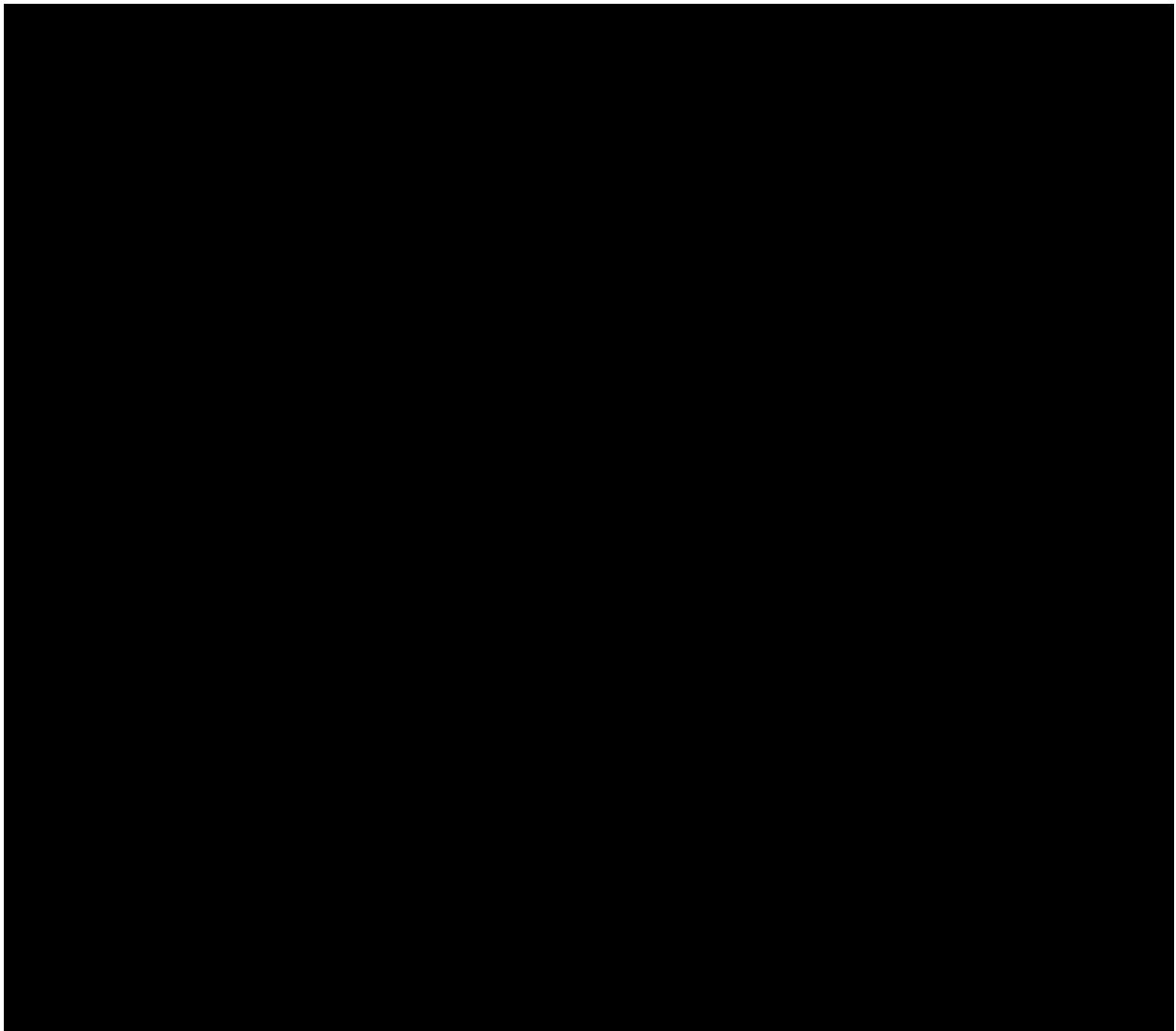


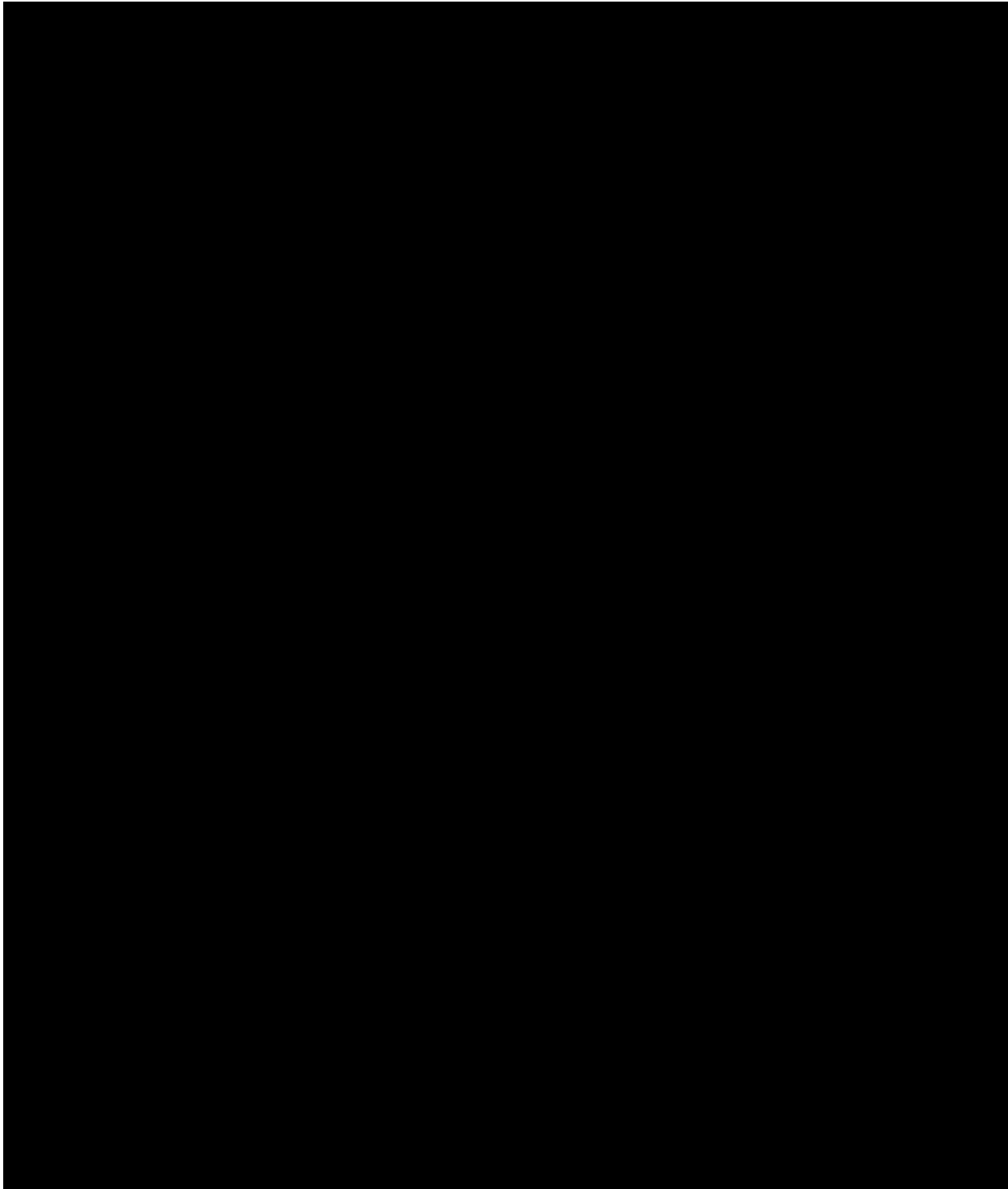
Board Meeting

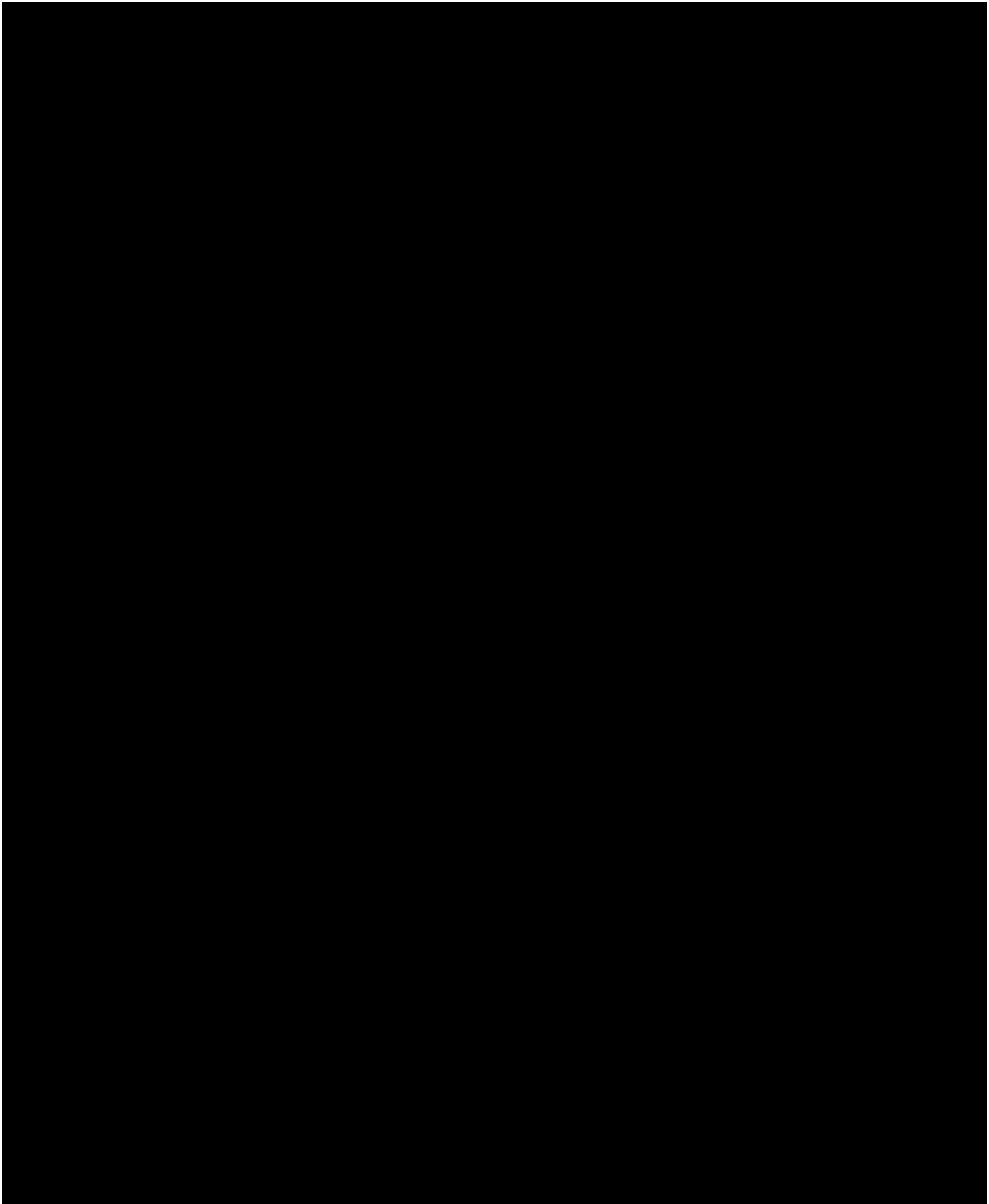
| | |
|----------------|--|
| Date of Report | September 16, 2022 |
| Submitted by | Indrani J. Butany-DeSouza, President & Chief Executive Officer |
| Subject | CEO Report |
| Meeting Date | September 27, 2022 |

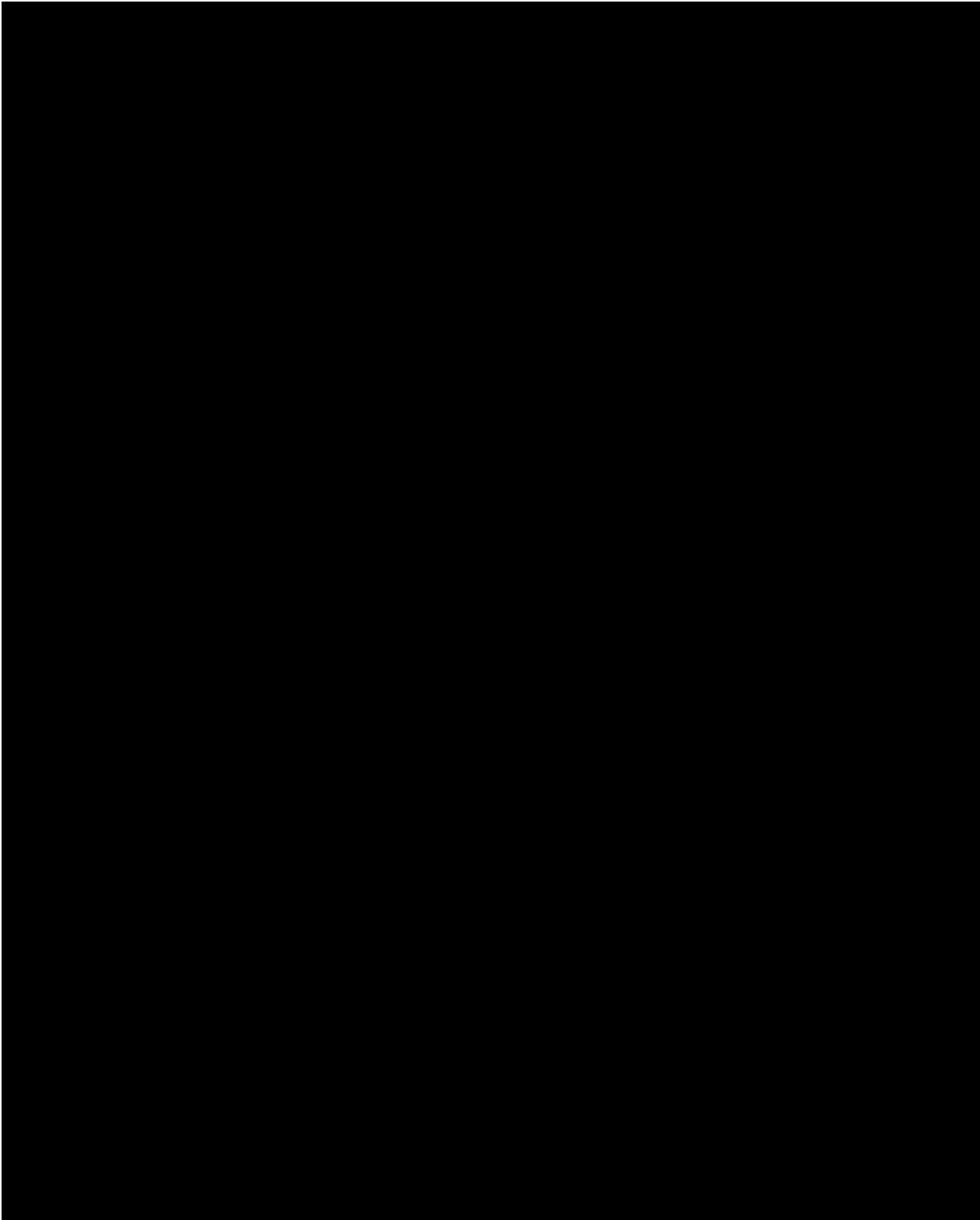
Action Request:

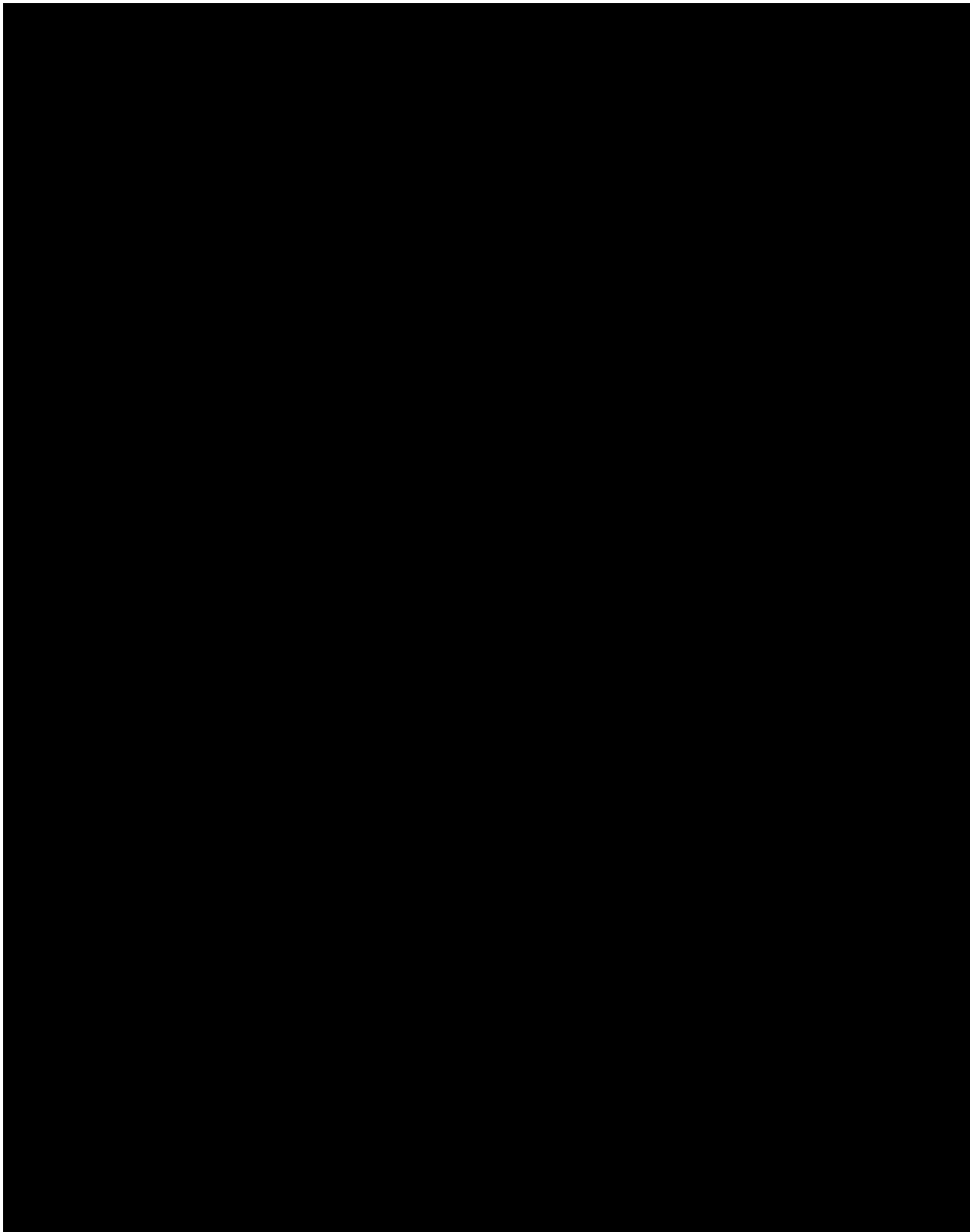
Recommend/Approve For Discussion For Information Only

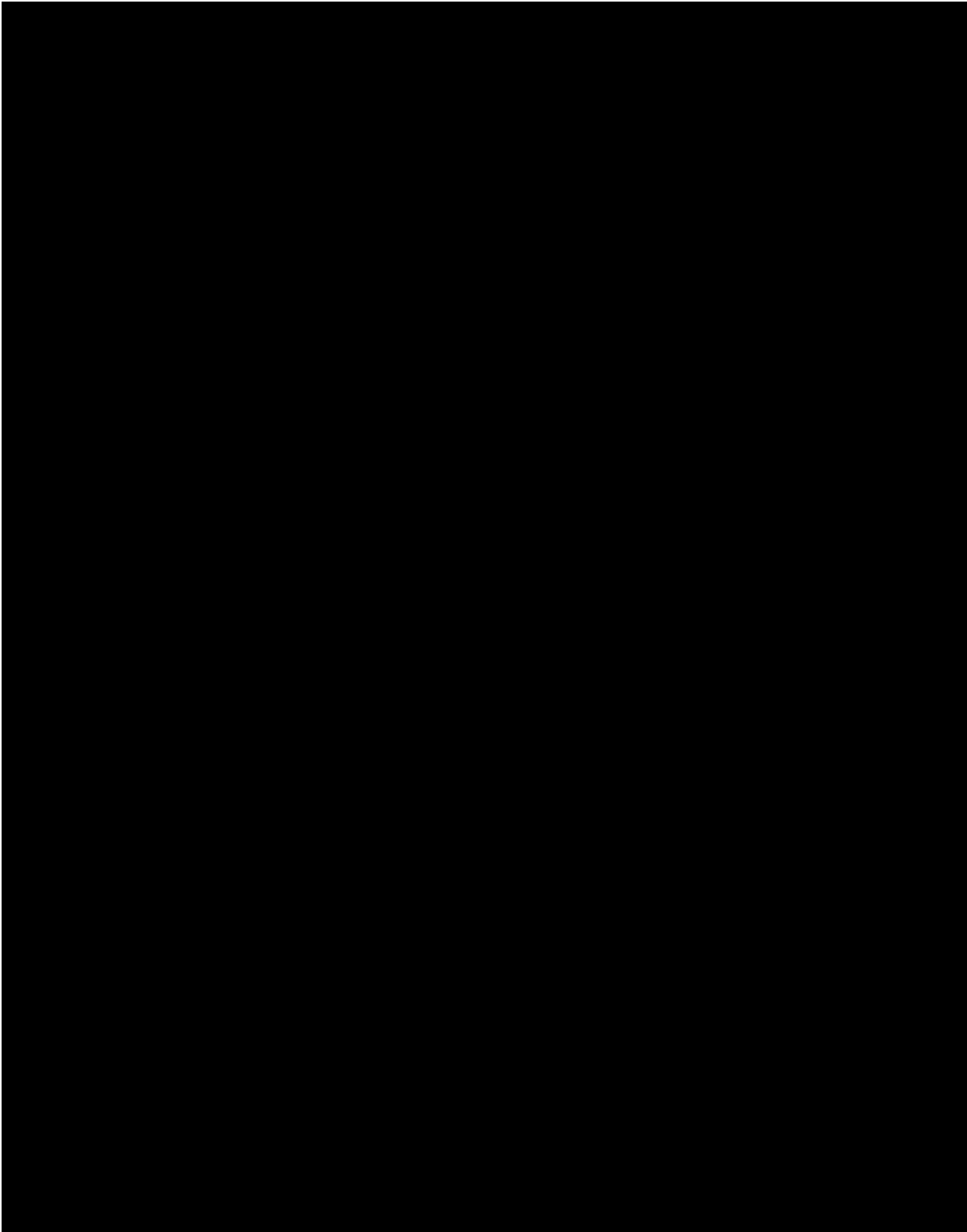


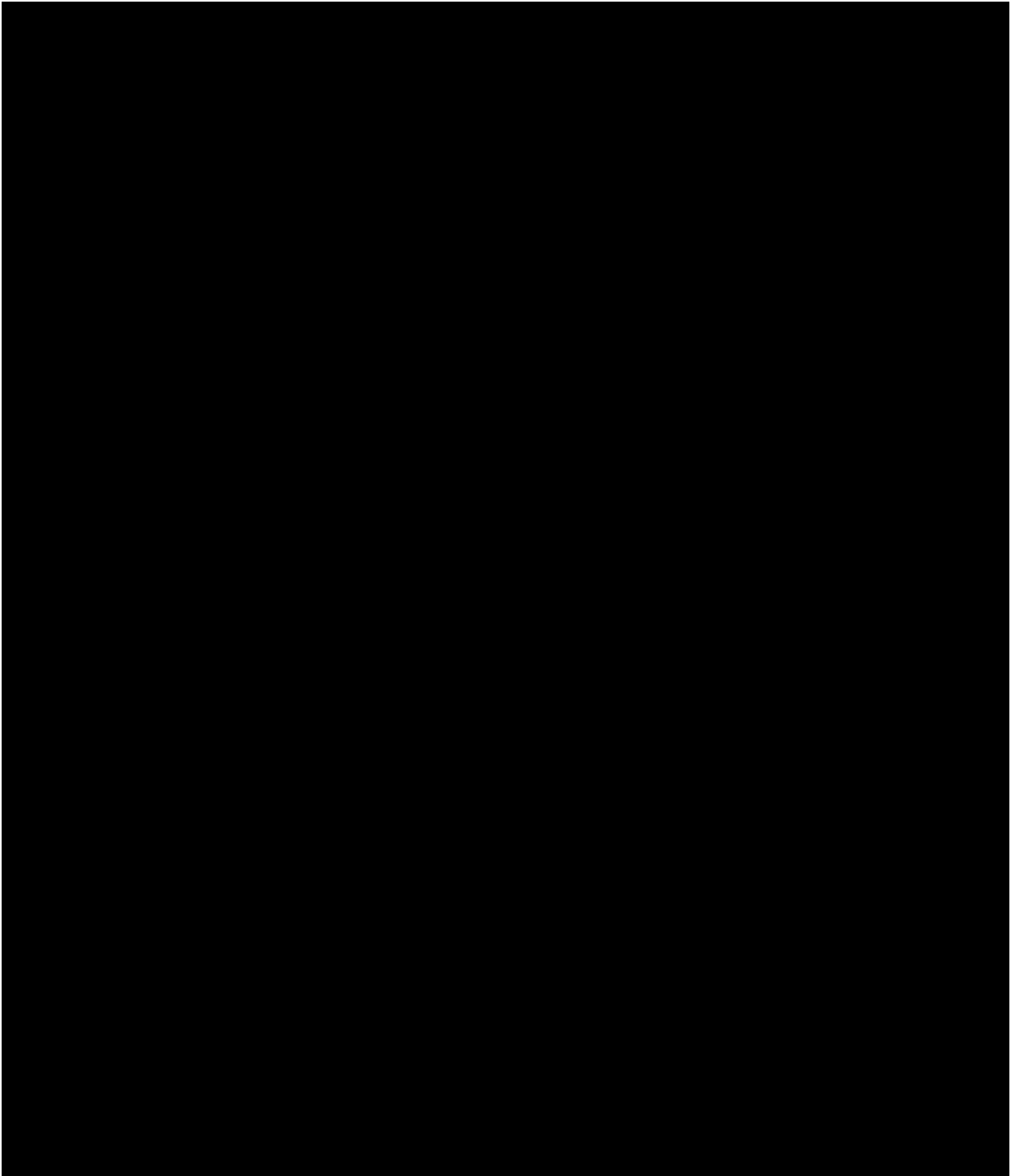


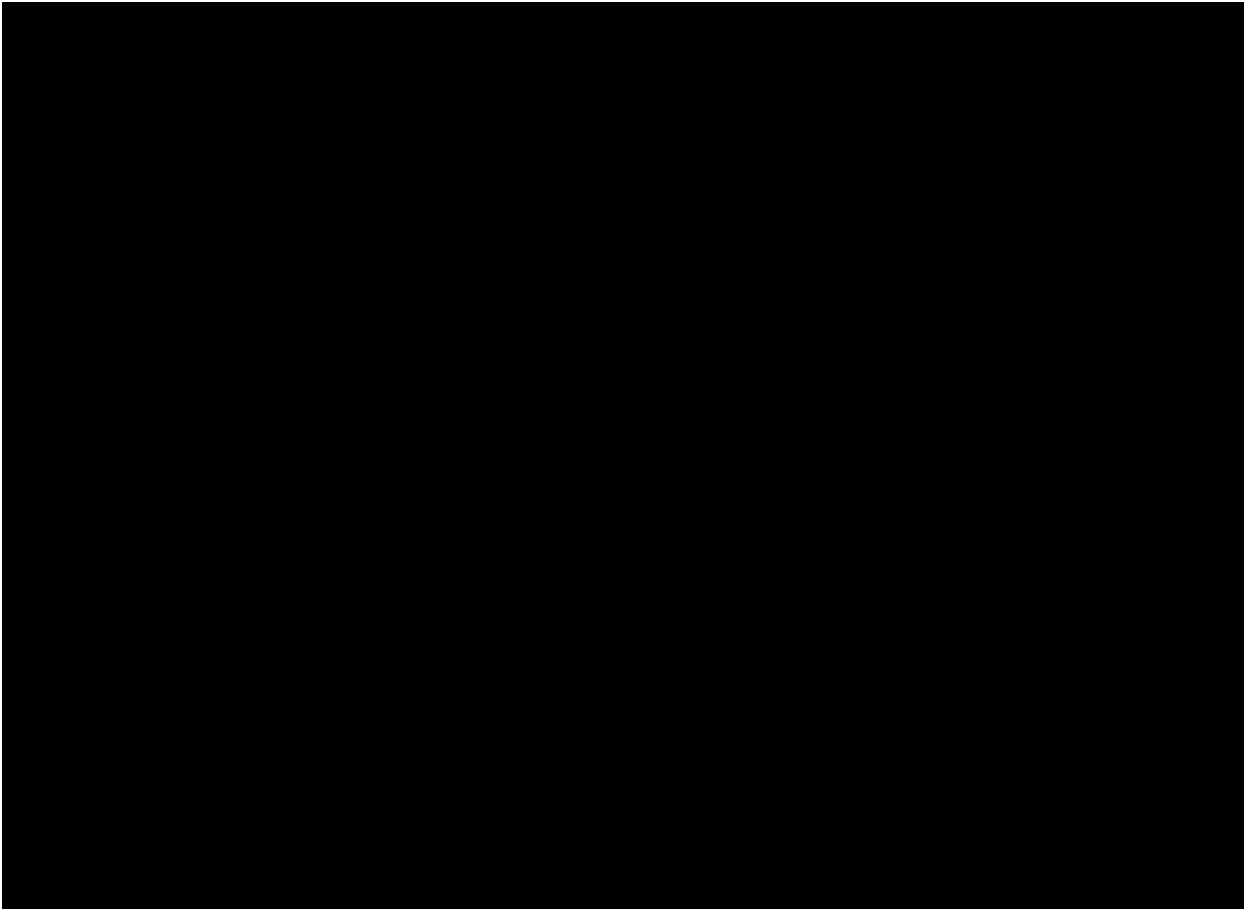








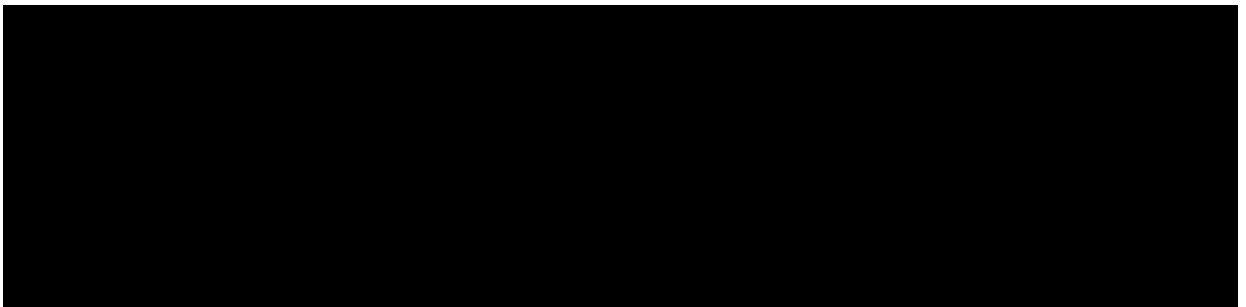




Other Business:

- **Presentation to Whitby Council of the Incremental Rate Application with the Ontario Energy Board**

Following a request by the Mayor of Whitby, on July 11, 2022, Ellexicon made a presentation to Whitby Council (the "Council") to get support for the Incremental Rate Application ("ICM") application to the Ontario Energy Board ("OEB") for the Whitby Smart Grid and Sustainable Brooklin projects. The presentation was well received, and Council endorsed the ICM application to the OEB.





Appendices:

1. Presentation to Whitby Council of the Incremental Rate Application with the Ontario Energy Board

Attachment 1



elexicon
ENERGY

**ICM Application Update:
Whitby Smart Grid & Sustainable Brooklin**

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ICM Application: Vision & Scope

- Project is first step in implementation of **Elexicon's Grid of the Future**
 - **Enable Net-Zero homes & implement base elements to support climate change goals**
- Implementing known and available innovation technologies with well understood customer and system benefits to support Grid of the Future
- **Whitby Smart Grid:**
 - Volt-VAR Optimization (VVO), Fault Monitoring and Distribution Automation (FLISR), Advanced Distribution Management System (ADMS)
- **Sustainable Brooklin:**
 - **Approximately 10,000 new homes over 20 years in North Brooklin encouraged to adopt DERs** as 1st tranche of Whitby Smart Grid
 - Developer group committing ~\$2,260 per home to rough-in homes for Distributed Energy Resources (DERs) and EV adoption
 - **Seek OEB approval of exemption from developer group capital contributions** relating to the \$26 million cost to build extension of grid to North Brooklin (specifically, exemption applicable to Section 3.2 of Distribution System Code (DSC))
- Long term establishment of Local Electricity Market



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ICM Application: Whitby Smart Grid

- Benefits
 - VVO can be operated to drive energy/capacity conservation benefits across distribution system
 - **Approx. ~2% to 5% - help to reduce all ratepayers' total bill**
 - Reduce Greenhouse Gas (GHG) reductions through energy conservations – Net-Zero
 - FLISR will improve system reliability
 - Helps Elexicon identify issues (e.g., outages, tree contacts) more quickly
 - **Allows Elexicon to respond to issues more efficiently** (e.g., by isolating the affected segment of line & rapidly restoring power to all other customers)
 - ADMS
 - This is the “brains” – the control hardware and software that Elexicon uses to deliver benefits from VVO and FLISR
- Modelled on the OEB approved Sault Ste. Marie Smart Grid project
<https://saultstemarie.ca/Newsroom/May-2021/Smart-Grid.aspx>

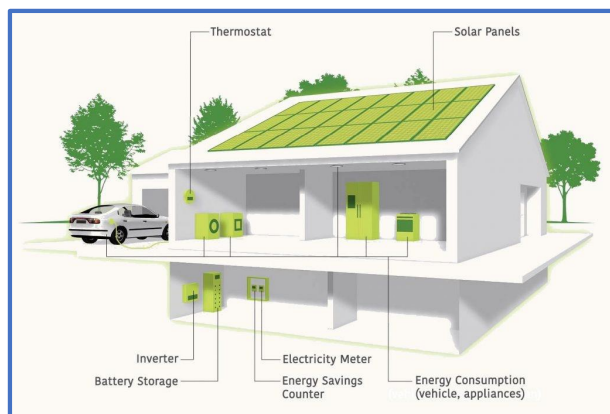


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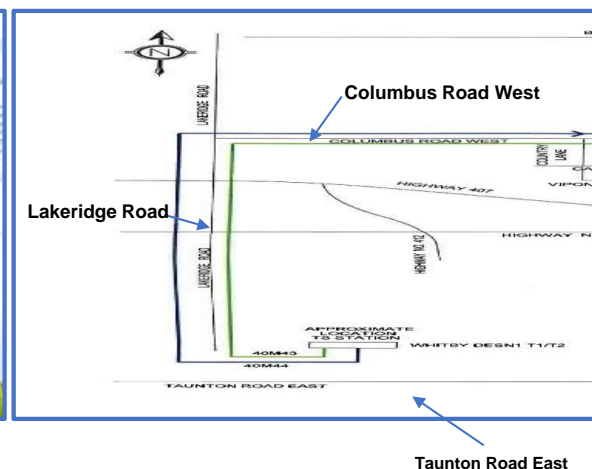


ICM Application: Sustainable Brooklin

Developers pay for DER rough-ins:



In return, Whitby ratepayers would pay for “Extension Cord”:



- Grid extension to North Brooklin cost ~ \$26.3M
- Developer commitment (EV & solar, batteries rough ins) ~\$19.9M - \$30M
 - Cost varies based on rough-in cost of just over \$2K per, times # of units
 - Cost varies based on impact of inflation on current cost estimates



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ICM Application: Project Financials*

| Project | Asset Grouping | Cost Estimate (\$ Million) (Class 5) | Estimated <u>Total</u> <u>Bill Increase</u> (\$/month) |
|----------------------|-------------------------------------|--|--|
| Whitby Smart Grid | VVO (CVR System) | \$16.2 | \$2.59 |
| | FLISR (& CFCI) | \$16.0 | |
| | ADMS (NRCan 50% funded)** | \$4.0 | |
| | Project Support Costs | \$7.4 | |
| Sub-Total | | \$43.6 | |
| Sustainable Brooklin | Extension of Grid to North Brooklin | \$26.3 | \$2.60 |
| Total | | \$79.9 | \$5.19 |

Notes: (Estimates as of June 15, 2022)

*: Costs net of benefits to be recovered from Whitby ratepayers

** : NRCan funding \$4.0 million of \$8.0 million project budget



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ICM Application: Bill Impacts

- Estimate average Whitby customer's total bill is approx. \$126/month
- Normal OEB formulaic inflationary increase anticipated to increase rates by \$3.83/month in 2023
- Incremental Capital Module (ICM) increases are in addition, and vary based on scope and conservation assumptions*:
 - Sustainable Brooklin + Whitby Smart Grid** ~ \$5.19 / month
 - Whitby Smart Grid (Full scope)** ~ \$2.59 / month
 - **Whitby Smart Grid (No FLISR)** ~ \$0.39 / month**
- Opportunity to further reduce bill impacts by getting more federal funding from NRCan will be pursued under all scenarios



Notes:

*: Conservation assumptions still being modelled and finalized as of June 15, 2022

** : Conservation assumption of 2.5% savings used for Sustainable Brooklin + Whitby Smart Grid, Whitby Smart Grid (Full Scope), and 3.0% savings used in calculation of Whitby Smart Grid (No FLISR)

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ICM Application: Summary

- **Elexicon Grid of the Future:**
 - Implement plans and technologies to address 2040 climate change goals, and enable transformation for customer adoption of DERs and construction of Net-Zero homes
- **Whitby Smart Grid:**
 - Technologies of VVO, FLISR and ADMS are proven, verifiable and have been implemented in multiple North American jurisdictions
 - Chosen technologies will deliver benefits (i.e., savings) that have being accepted by multiple North American energy regulators
- **Sustainable Brooklin**
 - Cost consequence of capital contribution exemption is substantially matched by developer contributions to rough-in new homes for DERs
 - “Extension cord” is the most cost effective solution to bring new capacity to North Brooklin
 - Alternative of building a Transformer Station does not address transformational environment (i.e., addressing climate change) and is not in IESO or Hydro One Regional planning outlook



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