Phase 1 – BESS Site Testing

Testing procedure as per Ministry of the Environment, Conservation and Parks (MECP "Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario, June 1996 and addenda".

All information, data, material, etc. gathered as a part of this study shall be treated as confidential. All queries on the project from the public, news media, etc. will be referred to Brookfield. 3rd party testing company will make no contact to any third party without the full knowledge and approval of Brookfield.

Water Sampling/Water Well Survey

Sampling of raw well water will be completed at the BESS site for the Phase 1 commence work notification. The residential well of 2625 Marchurst will be tested along with 1 Monitoring well, which is in the BESS footprint. One blind duplicate well water sample will be collected for quality assurance / quality control (QA/QC) purposes. Field measurements for Turbidity, pH, temperature and conductivity will be recorded for each well water sample location. Samples results will be provided to each homeowner where requested.

The water sampling program will include groundwater sampling at the existing site monitoring well. A static water level will be recorded for the monitoring well location using a Solinst® Model 102 water level meter. Prior to groundwater sampling, a minimum of three well volumes will be purged from the monitoring well. Groundwater sampling will be conducted using dedicated inertial lift foot valves equipped with 12.7 mm outer diameter low density polyethylene tubing.

Field filtering will be conducted for groundwater samples collected for metals analyses. All water samples will be placed in coolers containing ice and delivered to Eurofins Laboratories (Eurofins) under strict chain of custody protocol within 24 hours of sample collection for laboratory analysis.

Surface Water Sampling

This program will be completed in conjunction with the well water and groundwater sampling program and ideally in conjunction with a rainfall event. Field measurements for temperature (in oC) and electrical conductivity (EC) (in mS/cm) in surface water will be obtained at all surface water sampling locations (see attached Figure). All field measurements will be obtained using a Horiba-U52 multi-parameter meter. Site conditions will be noted, including surface flow conditions and recent rainfall events.

All collected samples will immediately be placed in a cooler containing ice to ensure the temperature is kept near 4C. Sample jars/bottles will be separated from each other using a combination of bubble wrap and plastic bags to reduce cross-contamination within the cooler. Samples for chemical analysis will be submitted to Eurofins within 24 hours of sample collection under strict chain of custody protocol.

Soil Sampling

The field investigation program will include the advancement of six shallow test pits to 1.0 m depth for soil quality sampling. Utility locates and test pit excavation will be provided by the proponent using the onsite contractor. All soil samples will be logged for soil characteristics and subjected to sample headspace screening. Appropriate decontamination/cleaning protocol will be used to clean sampling equipment between sample locations. A portion of each collected soil sample will be placed in a plastic zip lock bag and screened for organic and combustible vapors using a RKI Eagle 2 combustible gas / organic vapor detector after equilibration at room temperature. A portion of the soil sample will be placed in clean sample jar and placed in a cooler at approximately 4C.

One soil sample per test pit location plus one blind duplicate sample for QA/QC will be submitted to Eurofins for laboratory analysis. Samples will be submitted within 24 hours of sample collection under strict chain of custody protocols. The proposed soil sample analytical program is included in Table 3 and proposed sample locations are provided on Figure 1. The test pit sample locations will be referenced by GPS methods.

Table 1: Sampling Program Summary

Sample Type	Location of sample	Lab analysis
Domestic Well Water	Raw Well Water (Prior to treatment)	- 8 (Metals incl. Li, PAHs, VOCs, D-5-5 Subdivision Suite Package) - (Ni, Mn, Co, Al, Zn), liquid electrolytes (Li, P, F), VOCs, PAHs) - Field measurements for Turbidity, pH, temperature and conductivity
Groundwater	Monitoring Wells	- 8 (Metals incl. Li, PAHs, VOCs, D-5-5 Subdivision Suite Package) - (Ni, Mn, Co, Al, Zn), liquid electrolytes (Li, P, F), VOCs, PAHs) - Field measurements for Turbidity, pH, temperature and conductivity
Surface Water (SW1)	South property boundary where flow is entering the site.	- 2 (Surface Water General Inorganics incl. Phosphorus and Fluoride, Metals incl. Li, PAHs, VOCs)
Surface Water (SW2)	Northern discharge location off the Project Area.	- 2 (Surface Water General Inorganics incl. Phosphorus and Fluoride, Metals incl. Li, PAHs, VOCs)
Surface Water (SW3)	From the Marchurst Rd Ditch at the Northern discharge location off the Property	- 2 (Surface Water General Inorganics incl. Phosphorus and Fluoride, Metals incl. Li, PAHs, VOCs)
Soil Samples (SS1 – SS6)	On Site Per Figure 1 - Baseline Site assessment Fitzroy Brookfield Battery Energy Storage System	- O. Reg 153 Metals & Gen Chem (Incl. Li, F and P) - PAHs - VOCs

Phase 2a Registered Letter & Distribution

The letter provided to homeowners describing the sampling program shall be prepared to the satisfaction of City Planning staff prior to the letters being provided to residents, and convey the following:

- Describe that the baseline water quality sampling program is a requirement of the City of Ottawa,
- Describe what is involved (sampling and well owner interview) and identify the estimated time needed,
- Identify that an untreated groundwater sample will be collected from a tap or at the pressure tank prior to any filtration or treatment system,
- Identify that a copy of the results will be made available to the well owner free of charge, and
- Identify a City of Ottawa contact (Travis Smith, travis.smith@ottawa.ca, 613-580-2400 x16544) as well as the consultant's contact information.
- Registered letters containing the consultant's and the City's documents are to be sent to all of the properties invited to participate in the program. A minimum three (3) week window should be provided to the homeowners after they receive the letter to express interest in participating in the baseline water quality sampling program.
- In-person visits to invite residents to participate should be completed, beginning a minimum of 1 week after the registered homeowner letter was sent, for residents who have not yet replied. A minimum of two in-person home visits should be conducted, on different days, with one visit occurring after work hours (evening).
- In instances where the homeowner is not present at the time of a visit, a contact letter outlining the proposed sampling program should be left at the property.
- A minimum of 2 weeks should be provided for the resident to respond after the second home visit.
- The goal of the program is 100% participation, and the rationale of why a homeowner has not participated should be documented (i.e. How the homeowner turned it down).

Phase 2b – Off Site Testing

Testing procedure as per Ministry of the Environment, Conservation and Parks (MECP "Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario, June 1996 and addenda".

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Water Sampling/Water Well Survey

Sampling of raw well water will be completed for up to nine locations including 2620, 2625, 2640, 2655, 2660 2665, and 2680 Marchurst Rd and 1570 and 1620 Thomas A Dolan. The final number of sample locations will depend on homeowner participation. One blind duplicate well water sample will be collected for quality assurance / quality control (QA/QC) purposes. Field measurements for Turbidity, pH, temperature and conductivity will be recorded for each well water sample location. Samples results will be provided to each homeowner where requested.

The water well sampling program will include the completion of a Well Survey Form while on-site. The level of detail in the form may be dependent on the identification of a water well record for the site, and the level of knowledge of the home owner.

The water sampling program will include groundwater sampling at the existing site monitoring well FY24-1. A static water level will be recorded for the monitoring well location using a Solinst® Model 102 water level meter. Prior to groundwater sampling, a minimum of three well volumes will be purged from the monitoring well. Groundwater sampling will be conducted using dedicated inertial lift foot valves equipped with 12.7 mm outer diameter low density polyethylene tubing.

Field filtering will be conducted for groundwater samples collected for metals analyses. All water samples will be placed in coolers containing ice and delivered to Eurofins Laboratories (Eurofins) under strict chain of custody protocol within 24 hours of sample collection for laboratory analysis.

Soil Sampling

This program will be completed in conjunction with the well water and groundwater sampling program and ideally in conjunction with a rainfall event. Field measurements for temperature (in oC) and electrical conductivity (EC) (in mS/cm) in surface water will be obtained at all surface water sampling locations (see attached Figure). All field measurements will be obtained using a Horiba-U52 multi-parameter meter. Site conditions will be noted, including surface flow conditions and recent rainfall events.

All collected samples will immediately be placed in a cooler containing ice to ensure the temperature is kept near 4C. Sample jars/bottles will be separated from each other using a combination of bubble wrap and plastic bags to reduce cross-contamination within the cooler. Samples for chemical analysis will be submitted to Eurofins within 24 hours of sample collection under strict chain of custody protocol.

Table 1: Sampling Program Summary

Sample Type	Location of sample	Lab analysis
Domestic Well Water	Raw Well Water (Prior to treatment)	- 8 (Metals incl. Li, PAHs, VOCs, D-5-5 Subdivision Suite Package) - (Ni, Mn, Co, Al, Zn), liquid electrolytes (Li, P, F), VOCs, PAHs) - Field measurements for Turbidity, pH, temperature and conductivity
Groundwater	Monitoring Wells	- 8 (Metals incl. Li, PAHs, VOCs, D-5-5 Subdivision Suite Package) - (Ni, Mn, Co, Al, Zn), liquid electrolytes (Li, P, F), VOCs, PAHs) - Field measurements for Turbidity, pH, temperature and conductivity
Surface Water (SW1)	South property boundary where flow is entering the site.	- 2 (Surface Water General Inorganics incl. Phosphorus and Fluoride, Metals incl. Li, PAHs, VOCs)
Surface Water (SW2)	Northern discharge location off the Project Area.	- 2 (Surface Water General Inorganics incl. Phosphorus and Fluoride, Metals incl. Li, PAHs, VOCs)
Surface Water (SW3)	From the Marchurst Rd Ditch at the Northern discharge location off the Property	- 2 (Surface Water General Inorganics incl. Phosphorus and Fluoride, Metals incl. Li, PAHs, VOCs)
Soil Samples (SS1 – SS6)	On Site Per Figure 1 -Baseline Site assessment Fitzroy Brookfield Battery Energy Storage System	- O. Reg 153 Metals & Gen Chem (Incl. Li, F and P) - PAHs - VOCs

Phase 3 - Reporting

Water well sampling results will be tabulated with results for each address provided to the perspective homeowner. A draft report will be prepared and submitted within 4 – 6 weeks following receipt of analytical results documenting the results of the investigation program. This report will include a summary of the methodology and results of the investigation and conclusions/ recommendations derived from the investigation. Data tables and figures will be included with the report.

Figure 1: Baseline Site Assessment – South March BESS

