

HAZARDOUS WASTE PCB SEDIMENT REMOVAL

Chemetron Lagoon PHAI

REMTECH Conference

October 2024



BUILDING A BETTER WORLD





LAND ACKNOWLEDGEMENT



ALICIA KRUSKA

Project Manager

akruska@ecc.net

Experience

- 7 years of experience in executing large scale environmental remediation projects
 - Long Term Waste Management
 - Soil Sampling and Treatment
 - Excess Soil Management
 - Water Treatment
 - Sediment Solidification

Role and Responsibilities

- ECC's Project Manager
- Onsite single point of contact for CNL
- Full authority on all decisions and resource allocations
- Ensures execution and compliance with all contract documents and specifications
- Maintains overall budget and schedule



37

COUNTRIES



5

CONTINENTS



\$13B

REVENUE



0.71

EMR



0.00

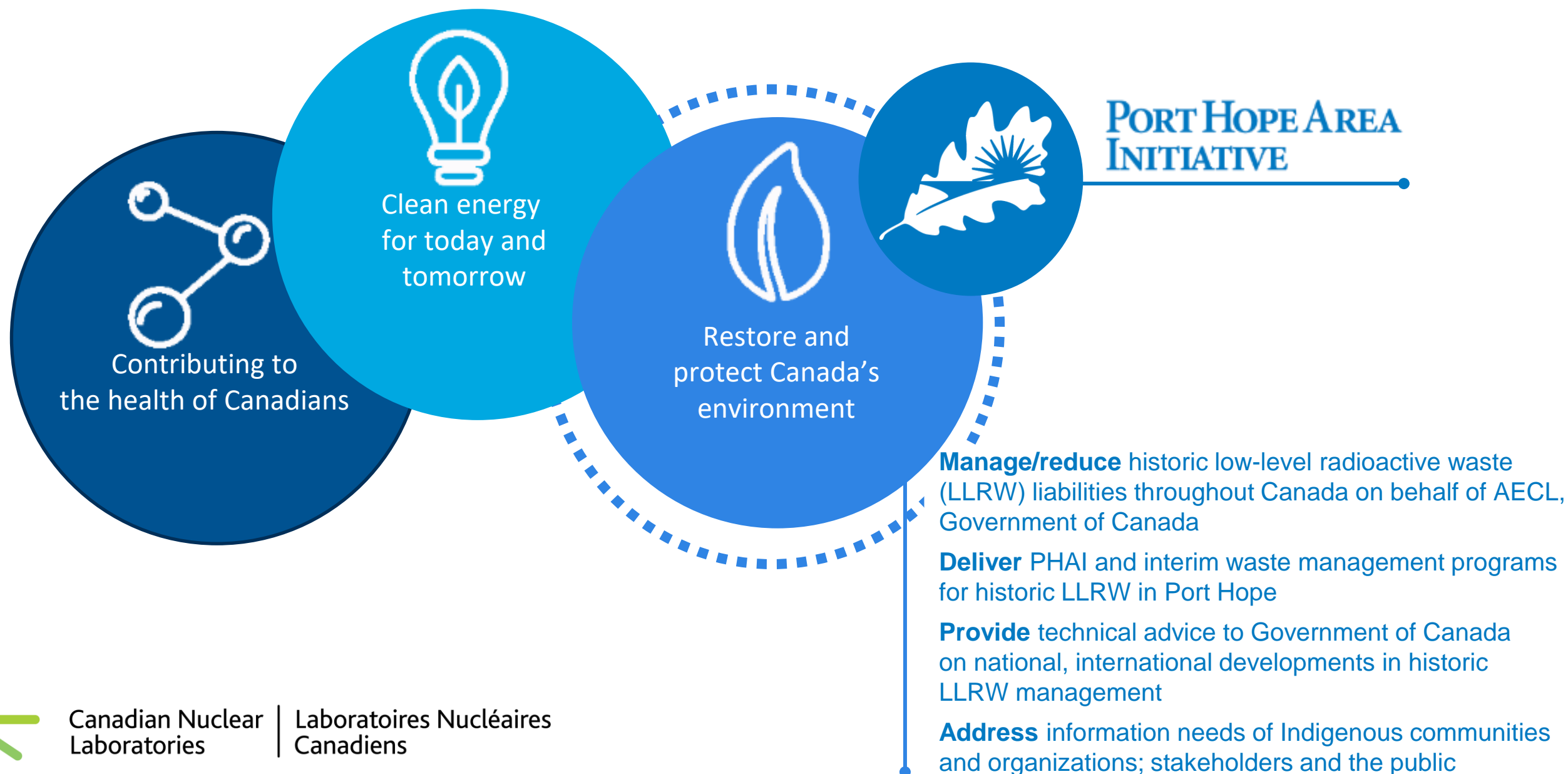
LTIR

5 years running

WORLDWIDE SERVICES DELIVERED SAFELY



PHAI – STRATEGIC PRIORITIES



Canadian Nuclear Laboratories | Laboratoires Nucléaires Canadiens

TEAM ENGAGEMENT



**ECC SERVICES
BRITISH COLUMBIA,
ULC**

PROJECT MANAGEMENT



PROJECT EXECUTION



WATER TREATMENT



**ENVIRONMENTAL
SERVICES**



**ENGINEER OF
RECORD**

CHEMETRON LAGOON



CHEMETRON LAGOON

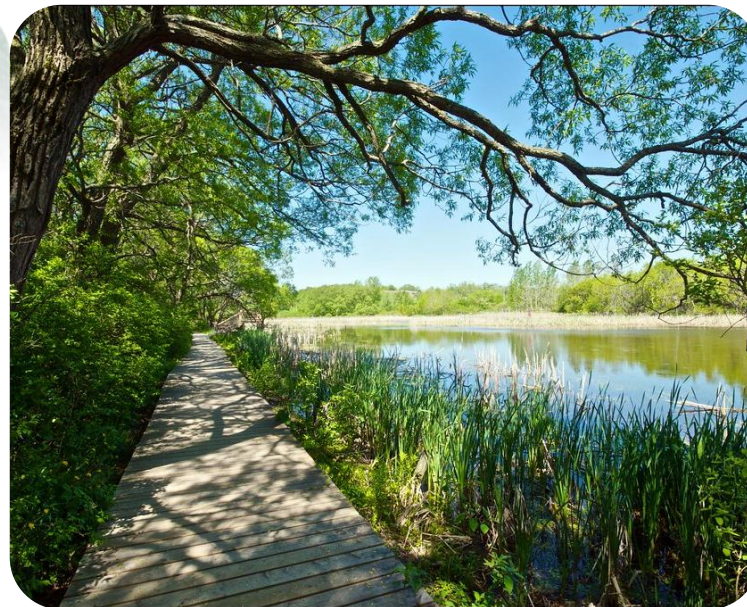


Site Location



Polychlorinated
Biphenyls &
1,4-
dichlorobenzene

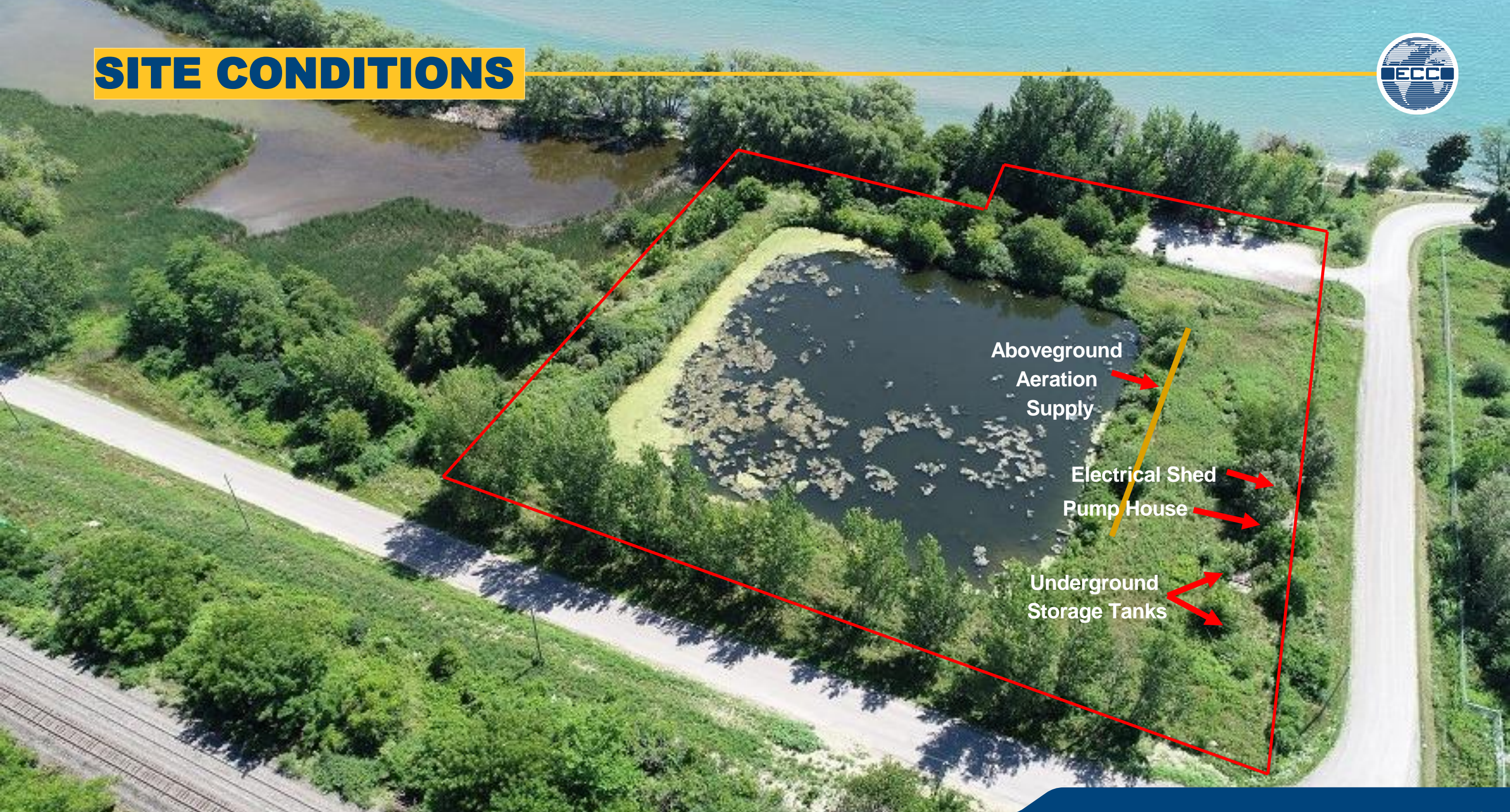
Project Site



Chemetron
Corporation of
Canada



SITE CONDITIONS



Aboveground
Aeration
Supply

Electrical Shed
Pump House

Underground
Storage Tanks

PROJECT TIMELINE



Phase 1

Design Completion



Phase 2

Project Planning and Management



Phase 3

Lagoon Water Removal and Site Preparation



Phase 4

Sludge Removal and Management



Phase 5

Site Restoration and Risk Management Measures Installation



SITE PREPARATION ACTIVITIES



Topographic Survey

Site Grading

Site Facility Set Up

Tree Removal

Haul Road Construction

Asbestos Abatement

Demolition



PROTECTING THE ENVIRONMENT



Dust Control



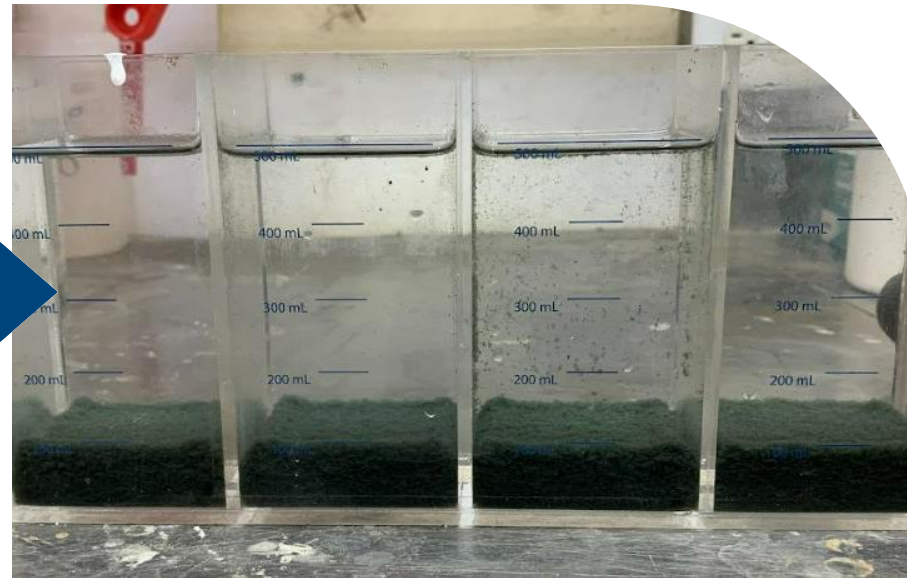
Wildlife Relocation & Protection



Air Monitoring

First Stage

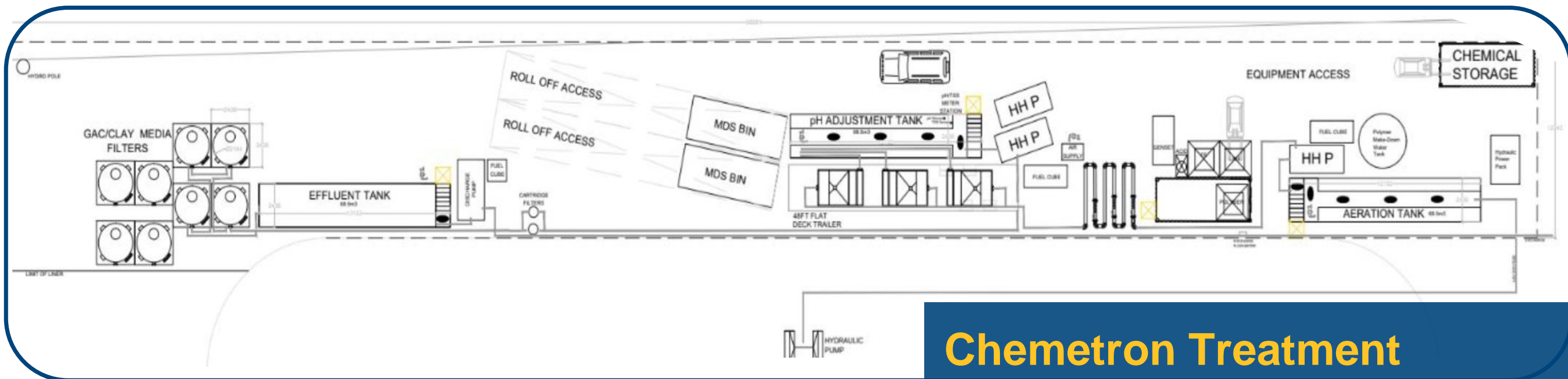
- Aeration
- pH adjustment
- Coagulation & Flocculation
- pH Adjustment



Second Stage

- Filtration
- GAC and Organo Clay

WATER TREATMENT SYSTEM



Chemetron Treatment System - P&ID

PWTS SET UP



WATER TREATMENT OPERATIONS



Volume pumped: 15,135.85 m³



Floating A Frame Pump



Water Treatment System

CHALLENGES AND SOLUTIONS



Algae

- ClariPhos was dosed using the treatment equipment in recirculation mode
- 0.5 um cartridge filters were introduced to capture the smallest of the identified algae particles to prevent them from migrating into the adsorption media.



TSS

- Transfer of treated water to Port Hope Wastewater Treatment Plant

SEDIMENT SOLIDIFICATION





DISPOSAL METHODS



Metrics

Lagoon: 7,613.94 MT Haz Waste
USTs: 648.66 MT Haz Waste
Water: 1,792.01 m3

Total Haz. Loads: 269

No incidents!

UNDERGROUND INFRASTRUCTURE



REMOVAL VERIFICATION



Removal Criteria:
70 % of hazardous levels

Total Excavation area:
6,545 m²

- Totals for Lagoon Sampling:**
- 35 lagoon sampling cells
 - 83 RV Soil Samples
 - 24 RV locations required additional excavation
 - 99 additional samples





REMEDIAL EXCAVATION CHEMETRON LAGOON ECC Port Hope, Ontario

LEGEND

- 23 Cell Number
- Remediation Cell
- Refer to UST
- Confirmation Soil Sampling Program (Cambium, 2024)
- Site (approximate)

NOTES:
- Features on map are Produced under License with the Ontario Ministry of Natural Resources and Forestry (2023).
- Distances on this plan are in meters and can be converted to feet by dividing by 0.3048.
- Cambium Inc. makes every effort to ensure this map is free from errors but cannot be held responsible for any damages due to errors or omissions. This map should not be used for navigation or legal purposes. It is intended for general reference use only.



194 Sophia Street
Peterborough, Ontario, K9A 1E5
Tel: (705) 742.7950 Fax: (705) 742.7907
www.cambium-inc.com

SITE PLAN

Project No.:	13231-008	Date:	June 2024
Scale:	1:500	Projection:	NAD 1983 UTM Zone 17N
Created by:	MAAT	Checked by:	BT
		Figure:	2

BACKFILLING ACTIVITIES



Working as a team

- Onsite reuse
 - Eliminated disposal and/or excess soil generation
- Applicable Site Condition Standards (SCS)
 - Table 1 Full Depth Background
- RMM: 0.5 m to 1.5 m



RESTORATION AND LANDSCAPING





ALICIA KRUSKA
PROJECT MANAGER

Email: akruska@ecc.net
ECC.net





Thank You!
