

**Phase 1
Environmental Site Assessment
Sarnia Waterfront
Sarnia, Ontario**

Prepared for:

City of Sarnia
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Executive Summary

Trow Associates Inc. (Trow) was retained by the Corporation of the City of Sarnia to carry out a Phase I Environmental Site Assessment (ESA) of the selected lands along the Sarnia St. Clair River Waterfront. The Site has been divided into the following lands:

Area A: 166 Devine Street; the former CN Ferry Dock Lands currently occupied by Lafarge Ready Mix Concrete

Area B: North-west corner of George Street and Front Street currently occupied by a Municipal Parking Lot

Area C: the Point Lands along Seaway Road currently occupied by Centennial Park (including the Great Lakes Display).

The objective of this investigation was to characterize the potential likelihood, types and locations of contamination that may be present at the Site. The work was carried out to meet the requirements of the current CSA Standard Z768-01, Phase I ESA. There was no deletion of tasks from those required under the Standard.

Area A is located at the western end of Devine Street extending north along the St. Clair River to Ferry Dock Hill. Area A is approximately 13 acres in area and is accessed by asphalt and gravel driveways off of Devine Street. The Site is currently occupied by a ready-mix concrete facility used to mix and distribute concrete. The facility includes a truck repair shop with 2 underground fuel storage tanks, a concrete hopper/processing silo, a small single storey office building near the entrance to the site and a truck washing station. The north portion of Area A is a narrow strip along the St. Clair River which contains the former CN Ferry Dock and a number of large fill piles.

Area B is in an area historically developed as downtown core. The area is approximately 1.5 acres in area and is located west of Front Street, north of George Street east of the CN right-of-way. The site is currently occupied by a municipal parking lot.

Area C is located at the Sarnia Bay just south of Exmouth Street at the west end of Seaway Road. The site is a parcel of land currently used as a recreational park and occupies an area of about 12 acres. The Sarnia Marina is located just east of the subject site.

Potential environmental concerns for the Site are listed as follows:

Potential On-Site Environmental Concerns			
Source	Location	Parameter	Environmental Risk
Fuel Storage Tanks (UST's)	Area A: Lafarge Maintenance Shop	Petroleum Hydrocarbon	Moderate –soil sampling program recommended to confirm quality of soil and groundwater.
Former Fuel Storage Tanks (UST's)	Area A: Former Maintenance Shop	Petroleum Hydrocarbon	Moderate –soil sampling program recommended to confirm quality of soil and groundwater.
Waste Oil Storage (AST)	Area A: Maintenance Shop	Petroleum Hydrocarbon	Low – soil sampling program recommended to confirm quality of soil and groundwater.
Acid Wash	Area A: Truck Washing Platform	Petroleum Hydrocarbon Acids	Low to Moderate – Trow was informed that the water is tested on a regular basis and washing is done on a concrete pad
Floor Drain	Area A: Maintenance Shop	Petroleum Hydrocarbon	Moderate – Drain must discharge to regularly maintained separator
Various Pole Transformers	Across Site (All Areas)	PCB's	Low – unless damaged or leaking
Quality of Fill	Across Site (All Areas)	Various	Moderate – soil sampling program recommended to confirm quality of soil
Oil Refinery	Area A – Adjacent Property to South	Petroleum Hydrocarbon	Moderate – soil sampling program recommended to confirm quality of soil and groundwater

The Phase I Environmental Site Assessment revealed the following potential environmental concerns:

- Potential impact on the subsurface environment by gasoline and other motor fuels/oils as a result of current and past use of various above ground/underground storage tanks on the Lafarge property. (Area A)
- Potential impact on the subsurface environment by motor fuels/oils a result of Imperial Oil Refinery operations on the adjacent property to the south. (Area A)
- Unknown quality of fill used to create the Point Lands and restore the former CN Lands and George Street areas. (All Areas)
- Potential discharge of acid and/or motor fuels/oils to the St. Clair River from the activities at the Lafarge site. (Area A)
- Potential subsurface impact by heavy metals and polycyclic aromatic hydrocarbons along the railway line and the ferry dock. (Area A)
- Various pole mounted transformers were observed throughout the site. The transformers may contain PCB insulating fluids. (All Areas)

Based on the Phase I Environmental Site Assessment findings it is recommended to complete a Phase II (i.e. sampling and testing) assessment to address the potential environmental concerns identified. A borehole program incorporating soil sample collection, soil vapour screening techniques, groundwater monitoring and analytical evaluation of indicator parameters consistent with gasoline and motor oil (i.e., Total Petroleum Hydrocarbon (TPH) and Benzene, Toluene, Ethylbenzene and Xylenes (BTEX)), metals/hydrides and polycyclic aromatic hydrocarbons (PAH's) should be designed and executed.