

Project Name:	Capilano Mall Remediation	Client:	Smartcentres
Location:	Edmonton, AB	Type:	Remediation and Geotechnical
Consulting:	\$349,000	Project Budget:	\$2.5 Million



ParklandGEO undertook a detailed Phase 2 Environmental Site Assessment (ESA) followed by a Remediation program at the location of a proposed new building on the Capilano Mall property in Edmonton, AB.

A detailed assessment program consisting of drilling 37 boreholes and completing 20 monitoring wells, was undertaken for soil and groundwater contaminant delineation in early 2013. Delineation of the contamination plume was achieved and a historic underground storage tank on an adjacent property was found to be responsible. A remedial plan was prepared and tender documents prepared. In conjunction with the ESA, a detailed geotechnical design was prepared for the installation of a 82 m long cantilever retaining wall to allow excavation up to a property line that bordered two sides of the excavation.

The recommended remedial option was to excavate the hydrocarbon impacted soil for landfill disposal. Because the groundwater was located in a granular strata that overlaid clayshale bedrock, excavation of all impacted soil also removed the impacted groundwater. On-site treatment was not possible due to time and space constraints. In-situ options were considered but not considered feasible due to soil contamination located in low permeable clay soils, deeper sands and gravels, and in fractured shale bedrock.

The impacted soil volume was 6,800 m³, with approximately 6,400 m³ of clean, reusable overburden soil across the area. The excavation extended to about 12 m depth at the deepest, and included the removal of clay and granular soils, as well as the upper fractured clayshale bedrock.

A detailed tender document was prepared, and a competitive bid was managed by ParklandGEO. A design-build option was used for the retaining wall with a concrete secant wall being chosen. The remediation was conducted from early September to mid-December 2013 and was successful in achieving all remedial objectives with no lost-time incidents, and minimizing construction delays of a new building.