



Pilot Soil Recycling Facility Fact Sheet

As part of its commitment to sustainable development, Waterfront Toronto is striving to raise the bar on brownfield remediation. To deal with the almost 2,000 acres (800 hectares) of waterfront land requiring remediation prior to redevelopment, Waterfront Toronto established a pilot soil recycling facility in 2010 to evaluate soil remediation tools and techniques to determine the technological, environmental and economic feasibility of soil recycling before proceeding with a permanent, full scale facility.

After an international request for proposals and a rigorous review, Waterfront Toronto chose two teams - DEC, in partnership with Coffey Geotechnics, and Tetra Tech/Stuyvesant Environmental Contracting - to conduct the soil recycling pilot.

After consulting the public and stakeholders and obtaining all necessary Ontario Ministry of the Environment approvals, the operators began processing soil in early September 2010. The pilot was complete by early November.

During the pilot approximately 20,000 cubic metres of soil was processed employing the newest and best technologies available to treat contaminated soils. The DEC and Tetra Tech/Stuyvesant teams used soil washing, complemented by field trials of a number of other cutting-edge technologies. Both teams operate similar facilities in Europe and the United States.

SOIL WASHING

Soil washing is being used to recycle soils around the world at such large-scale remediation sites as Miami Harbor, Fox River (Wisconsin) and the King of Prussia Superfund Site. Soil washing was the primary technology used to clean approximately 1.3 million tonnes of soil to remediate the 2012 Olympics site soils in London, England.

While not commonly used in Canada, soil washing treats a wide range of contaminants, such as metals, gasoline, fuel oils, and the by-products of burning. The soil washing technique uses water and a mechanical process to remove contaminants. The mechanical process removes contaminants by concentrating them into a smaller volume.

Contaminants tend to bind, chemically or physically, to the smaller silt and clay particles.

Silt and clay can bind to sand and gravel particles. The soil washing process tends to separate the contaminated fine soil (silt and clay) from the coarse soil (sand and gravel).

When completed, the smaller volume of fine soil can be further treated by other methods or disposed of in accordance with provincial regulations. The larger volume of suitable soil can then be recycled and reused as backfill.

PILOT OPERATORS

DEC

DEC is part of the DEME group, a private Belgian holding company. DEC partnered with Coffey Geotechnics consultants on environmental permitting, geotechnical engineering, and work place health and safety for the pilot. DEC recently established a Canadian Branch, DEC Canada, which is headquartered in Toronto.

DEC UK was engaged by the London Olympic Delivery Authority (ODA) to redevelop 2.5 square kilometers of brownfield land within the Lower Lea Valley that will house five major venues for the 2012 Olympic and Paralympic Games.

For the Waterfront Toronto pilot DEC employed soil washing techniques in a full scale self-contained plant. In addition to soil washing, DEC conducted additional pilot testing that integrated a number of complementary parallel lab trials including bioremediation, thermal desorption, chemical oxidation, and stabilization/solidification methodologies in field-scale trials.

Tetra Tech Canada Construction Inc./Stuyvesant Environmental Contracting Inc.

Tetra Tech Construction Canada Inc. is one of the largest environmental consulting, engineering, remediation and construction companies in North America. Tetra Tech teamed with Stuyvesant Environmental Contracting Inc., a subsidiary of Netherlands-based Boskalis Dolman bv. This team is currently conducting the world's largest soil/sediment remediation project in Green Bay, Wisconsin, USA, a 10 year project to remediate the Lower Fox River.

The Tetra Tech/Stuyvesant primary soil treatment approach was soil washing using a mobile soil washing treatment plant that was assembled on-site. Supplemental treatability studies were also be undertaken to assess chemical, biological, stabilization/solidification, and thermal soil treatment technologies.

SITE MANAGEMENT

The Cannington Group

The Cannington Group is a full service contractor serving the Province of Ontario. In addition to preparing the site for the pilot, the Cannington Group was responsible for facility management and maintenance services, including the management of all incoming soils, stockpiles and project records. They were also responsible for implementing the onsite health, safety and environmental management plans, including dust monitoring and management, emission control, and the construction, management and monitoring of the storm water management pond, the mobile water treatment unit, and the silt fence that controls potential runoff from the site. As Site Manager, they developed and managed the overall Health and Safety Plan, including the visitor training program and traffic management plan, as well as monitoring the pilot's operators to ensure compliance with all health, safety and environmental requirements.

LOCATION

294-348 Unwin Avenue in the Port Lands, Toronto

The 8.2 hectare (20 acre) site, owned by the Toronto Port Lands Company on behalf of the City of Toronto, is currently zoned industrial and was most recently used for salt storage and aggregate processing prior to its use as the pilot soil recycling facility.