



Ashbridges Bay TTC Facility Soil Removal Overview

August 11, 2010



Presentation Overview

- Soil Testing Results
- Safe Removal Plans
- Air Monitoring
- Dust Control Measures
- Communication





Environmental Investigations

- Extensive sampling and testing in 2009-2010 by AMEC Earth & Environmental
 - 33 boreholes
 - 21 testpits
 - Monitoring Wells
 - Soil Vapour Probes
- Analytical testing on soil, groundwater, soil vapour
- Specific Studies / Programs
 - Waste Characterization
 - Phase I & II Environmental Site Assessment
 - Human Health Risk Assessment
 - Dust Control and Air Monitoring





Soil impacts within the Soil Mound

- Metals (mainly Lead, Zinc, Arsenic, Cadmium and others)
- Polycyclic Aromatic Hydrocarbons (PAHs) - such as cinders, ashes
- Petroleum Hydrocarbons (PHCs) - such as oil, gasoline/diesel
- PCBs (trace amounts, <10 ppb)
- Volatile Organic Compounds (VOCs) – trace amount of solvents (xylenes, ethylbenzene, etc.)
- Construction Debris – concrete, metal, plastic, wood



Wood and concrete debris mixed with soil and cinders.



MOE Standards

- Extensive soil sampling and testing carried out at site
 - Worst case samples selected for testing
 - Contaminant concentrations measured at site are considered “Non hazardous” according to MOE Standards

Hazardous vs “Non Hazardous” (according to MOE Standards)

- Hazardous – single exposure may be harmful
- Impacted, “non-hazardous” – time weighted, continuous & longer term exposure may be harmful
- Exposure – (concentrations and exposure pathways depend on contaminant) can be direct contact, inhalation/ingestion or vapours
 - Example: no soil vapours from arsenic impacted soils, but ingestion harmful



Soil Removal

- Soil mound will be removed by direct excavation
- Removed offsite by Truck
- Truck Routing Options (e.g Commissioners)
- Disposal locations limited to MOE licensed landfills



Human Health Risk Assessment

- HHRA carried out to determine risk onsite
- Method set-out by MOE (standard practice for environmentally impacted sites)
- HHRA evaluates various risk pathways (inhalation/ingestion, direct contact, vapours)
- Identifies concentration levels to determine appropriate mitigation



HHRA Mitigation

Permanent Measures

- “Clean” fill cap of 1.5m to eliminate direct contact to soil
HHRA requires 0.5m soil cap (TTC to exceed requirement)
- Lining utility trenches with geomembranes & Placement of seals along utility trenches to prevent soil vapour migration along trench
- Subfloor gas ventilation to direct naturally occurring methane gas away from building



Mitigation Measures during Removal

- Dust Control
- Air Quality Monitoring



Dust Control

- Dust suppression methods
 - wetting the soil with water or MOE approved dust suppressants (Standard technique during soil remediation)
- Silt fencing installed for sediment control
- Truck tires washed prior to leaving site
- Street cleaning carried out should any soil be tracked off-site
- Personal protective equipments for workers



Air Quality Monitoring

- Air quality monitoring carried out at the four corners of site
- Samples (running air pump) collected over 24 hour periods for total particulates(dust), heavy metals, PAHs.
- Staff on-site during soil removal to monitor and sample the soil/dust conditions.
- Sampling planned to be carried out on weekly basis
- Provided results indicate sufficient dust control has been and is being implemented by the contractor, weekly tests still undertaken **throughout project**
- Dust monitors connected to audible alarm at construction trailer



Communication

- **Ongoing Communication with South Riverdale Community Health Centre and Leslieville Community throughout Soil Removal**
- **Reports posted to Project Website for review (Soil/Air Quality/Dust Control)**

Website: toronto.ca/involved/projects/lrv

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