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Remediation Strategies

in **AN URBAN PARK SETTING**
CASE STUDY: CHERRY BEACH, TORONTO'S WATERFRONT

CHERRY BEACH REMEDIATION



The Project

The Solution

The Challenges

Lessons Learned

Former Oil Storage Site
-Contaminated with LNAPL, dissolved phase organics in groundwater and metals in soil
-Redeveloped as a parking lot integrated in-situ remediation and risk management measures



Park land
-Contaminated with organics in groundwater and metals in soil
-Redeveloped for Sportsfield with risk management measures



Cherry Beach Off-site Impacts
-Contaminated with LNAPL, dissolved phase organics in groundwater and surface soil metals
-In-situ subsurface remediation and barrier




THE SOLUTION

CASE STUDY: CHERRY BEACH, TORONTO'S WATERFRONT PLANNING



THE CHALLENGES



Complexities in the Regulatory Process
Multiple & high level contaminants
High profile location with valued trees
Multiple Stakeholders

THE REGULATORY PROCESS



CONTAMINATED SITE ASSESSMENT

CASE STUDY: CHERRY BEACH, TORONTO'S WATERFRONT PLANNING

UNWIN AVENUE

Environmental Investigations: 1987-2008

- 135 Monitoring wells
- 58 Testpits
- 9 Surface Water samples
- 22 Boreholes
- 3 Sediment samples
- 3 soil vapour samples
- 5 flux air samples
- 16 ambient air 24 hr samples

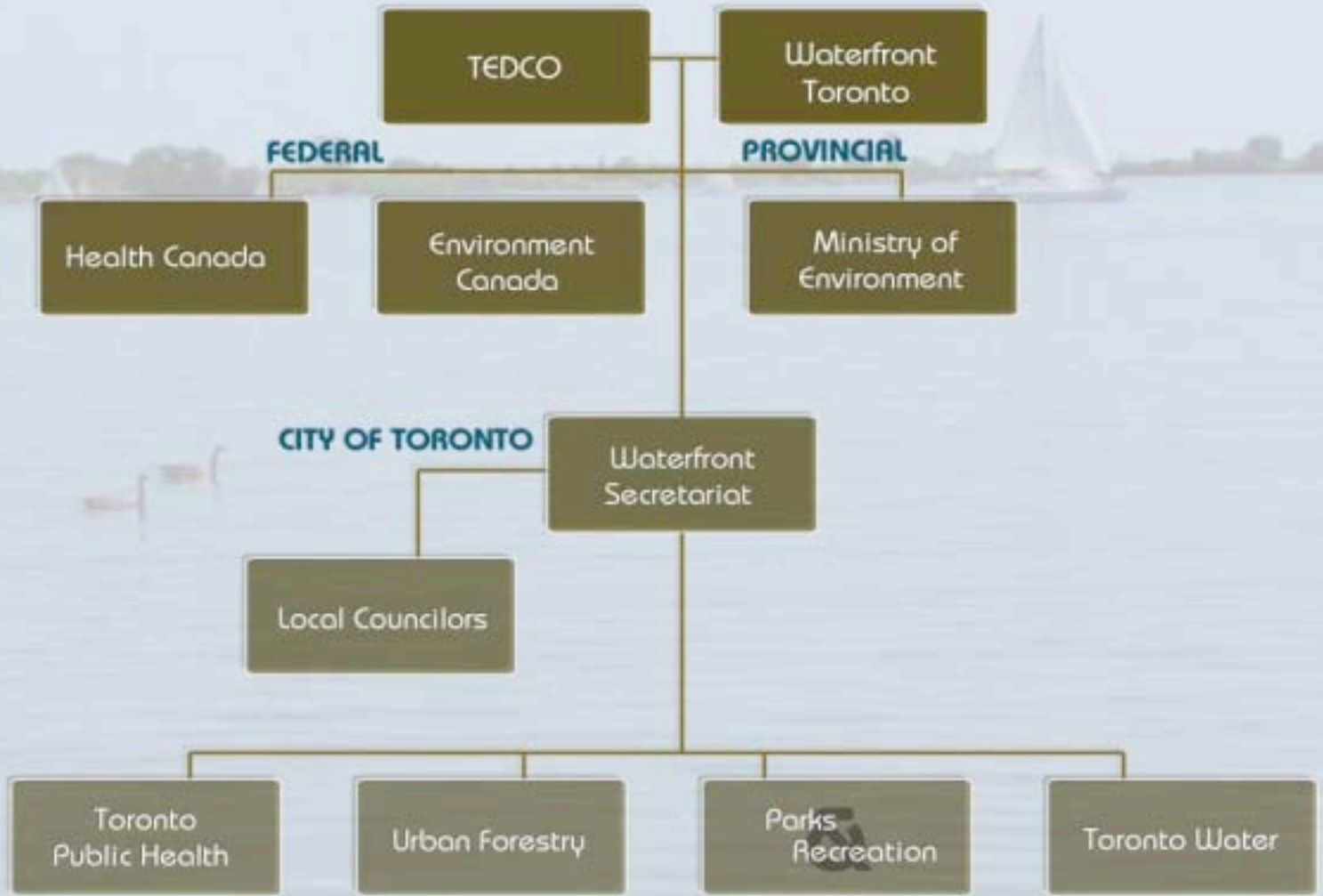
CHERRY BEACH
TORONTO OUTER HARBOUR

PHASE I/II ESA

CONTAMINATED SITE ASSESSMENT



THE STAKEHOLDERS



THE PROCESS

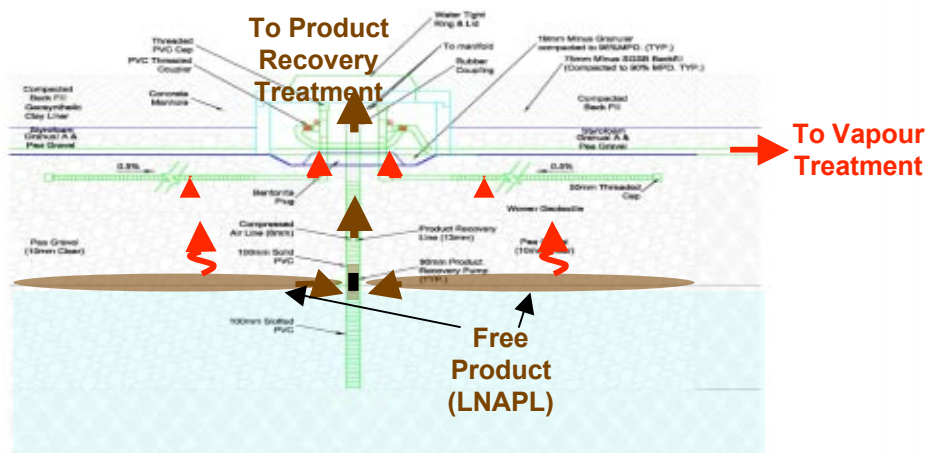
Brownfield Re-development Process
Risk Assessment and Risk Management Plan
Remedial Action Plan and Remedial Design
Remediation Installation

RISK ASSESSMENT AND RISK MANAGEMENT PLAN

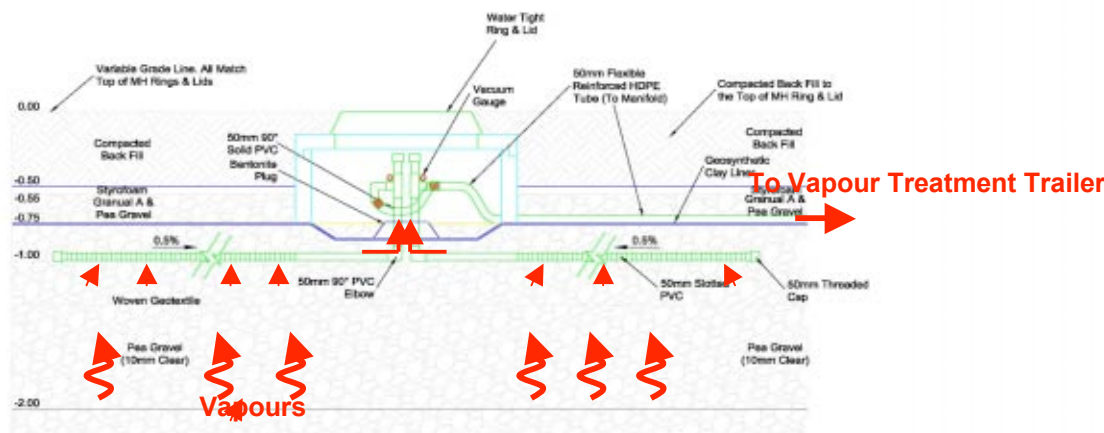


REMEDIAL ACTION PLAN

Enhanced LNAPL Recovery



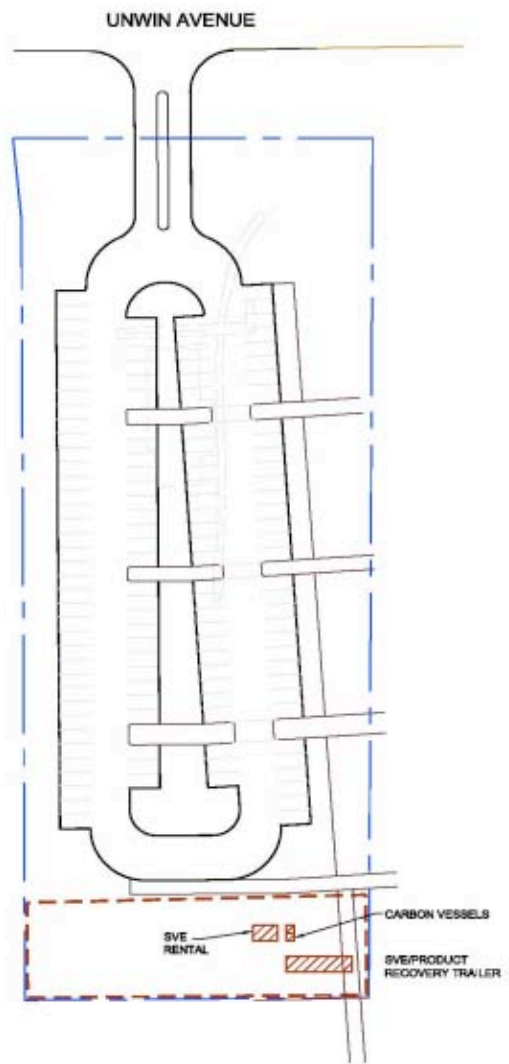
Soil Vapour Extraction



PRODUCT AND SOIL VAPOUR TREATMENT

Soil vapours and product collected from trenches and pumped to treatment station on 115 Unwin Avenue

Treatment equipment housed in two containers within a secure, fenced area



REMEDIATION INSTALLATION



PRODUCT REMOVAL INSTALLATION

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SITE PREPARATION



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THE
future

SITE RESTORATION

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THE RESULT

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THE RESULT

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THE RESULT

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19/09/2007

Establish Stakeholder Consultation
& Review Process (*apply consistently*)

Frequently Communication of Key Decisions

Project Documentation through all phases,
with circulation

Political process and media attention
can affect the project

Significant Ministry of the Environment role

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Hon Lu, Manager Urban Environmental Services, TEDCO

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Kathleen Anderson Brown, Ministry of Environment

Carrie Randall & Eric Bedard, Environment Canada

QUESTIONS
&
ANSWERS

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