



**Remediation of
Junction Creek
Presentation to
City Council**



**September 26th
2007**



Remediation of Junction Creek

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Agenda

- Project Team
- Project Overview
- Events of August 25th 2007
- Mitigation Measures
- Preventive Measures
- Impacts



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Owners



Kevin Shaw

Manager of Construction Services

Greg Clausen

General Manager of Infrastructure Services



Della Berwanger

Accrual Project Manager



Marcel Sylvestre

Director of Soils Rehabilitation

Design / Contract Administration



A Tyco International Ltd. Company

Tony Cecutti

Project Manager

David Caverson

Manager, Solid Waste, Canada East

Craig Partington

Senior Project Engineer

Meggen Janes

Senior Environmental Engineer

John De Vries

Senior Environmental Site Investigator

Keir Thomas

Site Representative

Lindsey Beaton

Site Representative

General Contractor



Terry Fellner

Regional Director – Remedial Projects

David Watters

Senior Project Manager

Tanya Hodgins

Project Supervisor

Project Overview

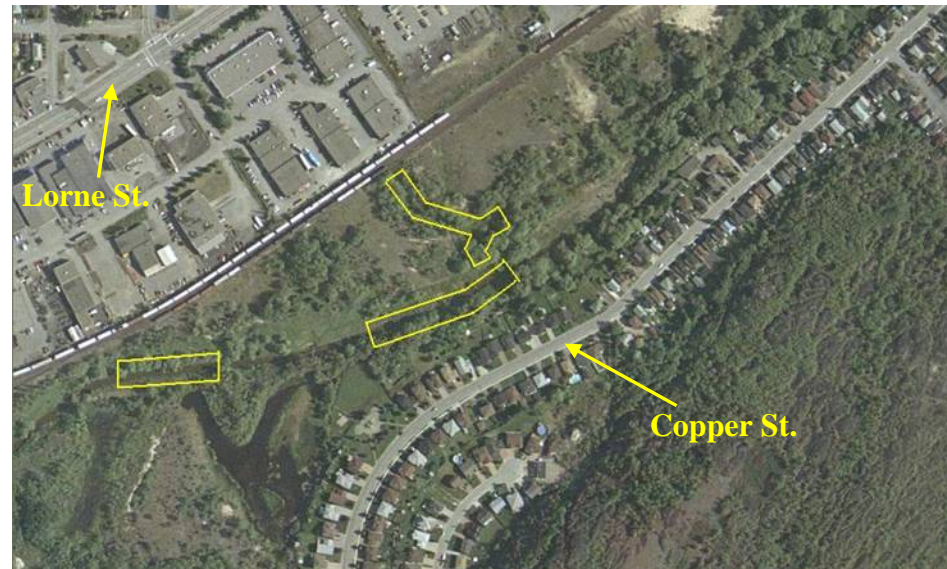
- Remediation of lands impacted with creosote (coal tar) contamination
 - Excavation and disposal of an estimated 20,000 tonnes of impacted soils/sediments from three impacted areas
 - Capping of remaining impacted sediments (if any) with impermeable clay liner
 - Restoration and enhancement of Junction Creek ecosystem



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Access Road Improvements

- Protection of Sanitary Sewer



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Creek Bypass

- Pumps



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- Energy
Dissipation
Structure

Dewatering / Decontamination Pads



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Containment of Impacted Sediments

- Areas exhibiting evidence of contamination after excavation will be capped with a Geosynthetic Clay Liner (GCL)



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Product bleeding in banks



Installed GCL

Health and Safety



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Snow Fence



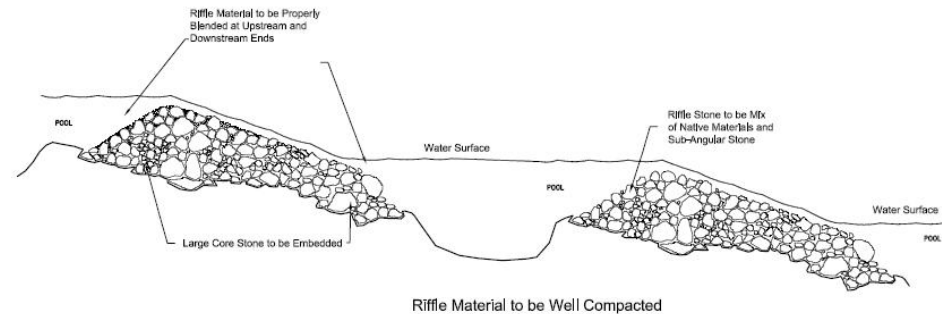
- **Noise Reduction Barrier**
- **Protected Pump Intakes**



Air Quality Monitoring

Site Restoration

- Regrading of creek banks to improve stability
- Planting of native vegetation
- Restoration of fish habitat
 - Riffles/Pools



- Fallen trees to be placed back in creek channel
- Co-ordination of restoration with Rainbow Routes for bicycle/walking paths



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August 25th, 2007

- Heavy rains resulted in rising water levels in Junction Creek
 - Creek level rose from 0.462m (1'6") to 1.766m (5'10") at McLeod St. monitoring station
 - Discharge increased from 0.1 m³/s (1500 gpm) to 13.0m³/s (205,000gpm)
- Dams were overtopped, flooding the project site and potentially allowing contaminated material to leave the site



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← Before



During →



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During →



← **Before**



← **After**



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During →



← **Before**



← **After**



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← Before



During →



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After Dewatering



← During



← After Clean Up

Mitigation Measures

- Immediate notification of MOE, MNR, DFO and NDCA
 - MOE, DFO and NDCA inspected site
 - Satisfied with emergency response
 - Involved in approving preventive measures
- Installation of floating absorbent oil booms
- Repair of silt curtains and installation of additional curtains
- Observation for evidence of product migration off job site



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Silt Curtains →

← **Absorbent
Oil Booms**



Preventive Measures

- Additional water dams stored on-site
- Additional oil booms and silt curtains
- Reconstruction and improvement of earthen dams
- Changes in material storage protocol
- Continued co-ordination of construction operations with weather forecast



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← Earthen Dam

**Improved
Earthen Dam →**



Impacts

- **Environment:**

- No evidence of excavated material leaving site. Silt curtains and earthen dams contained any mobilized soils.
- Evidence of some PAHs (components of creosote) in water downstream for 3-4 days after the flood. No evidence of impact downstream after 4 days.
- Fish and wildlife have returned to project site

- **Project**

- 10 days lost to cleanup and restoration of flood damage
- In channel work still expected to be complete by September 30th



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Thank You

Questions?



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