



THE CITY OF
CALGARY

Utilities & Environmental
Protection

A Cooperative Approach to the Management and Remediation of a Former Oil Refinery Site on the Banks of the Bow River

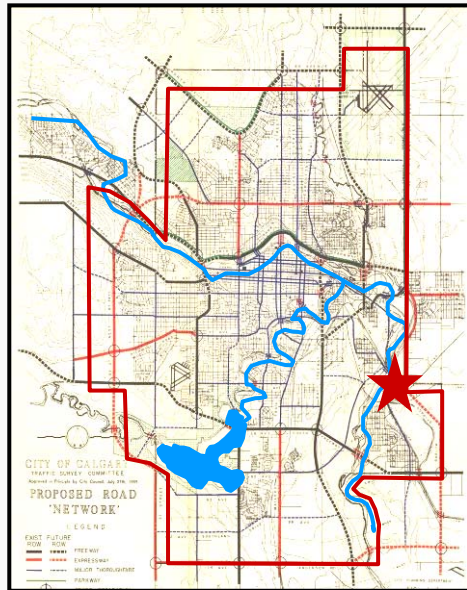
Trent Parks, Ph.D., P.Chem.

RemTech 2008

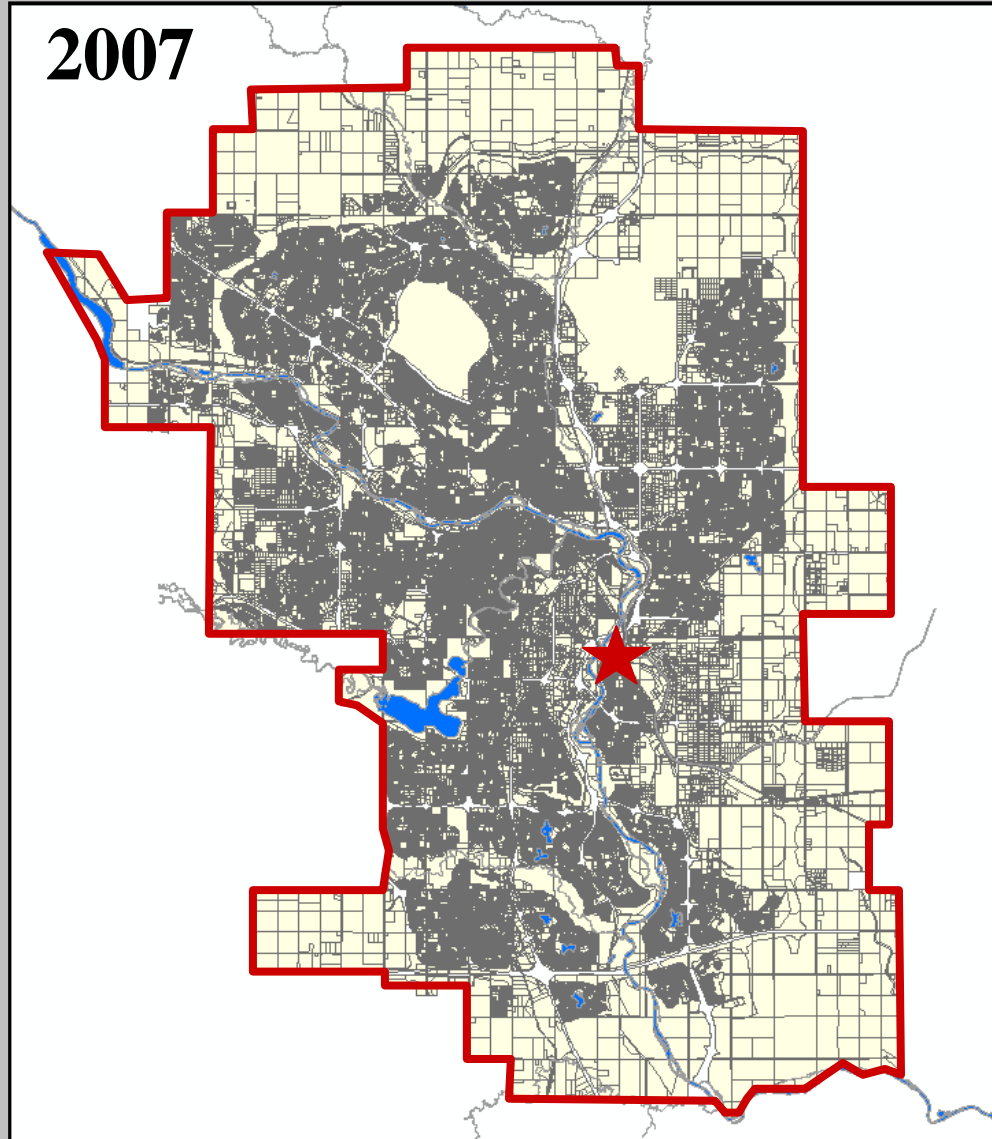
October 17, 2008

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1959



2007



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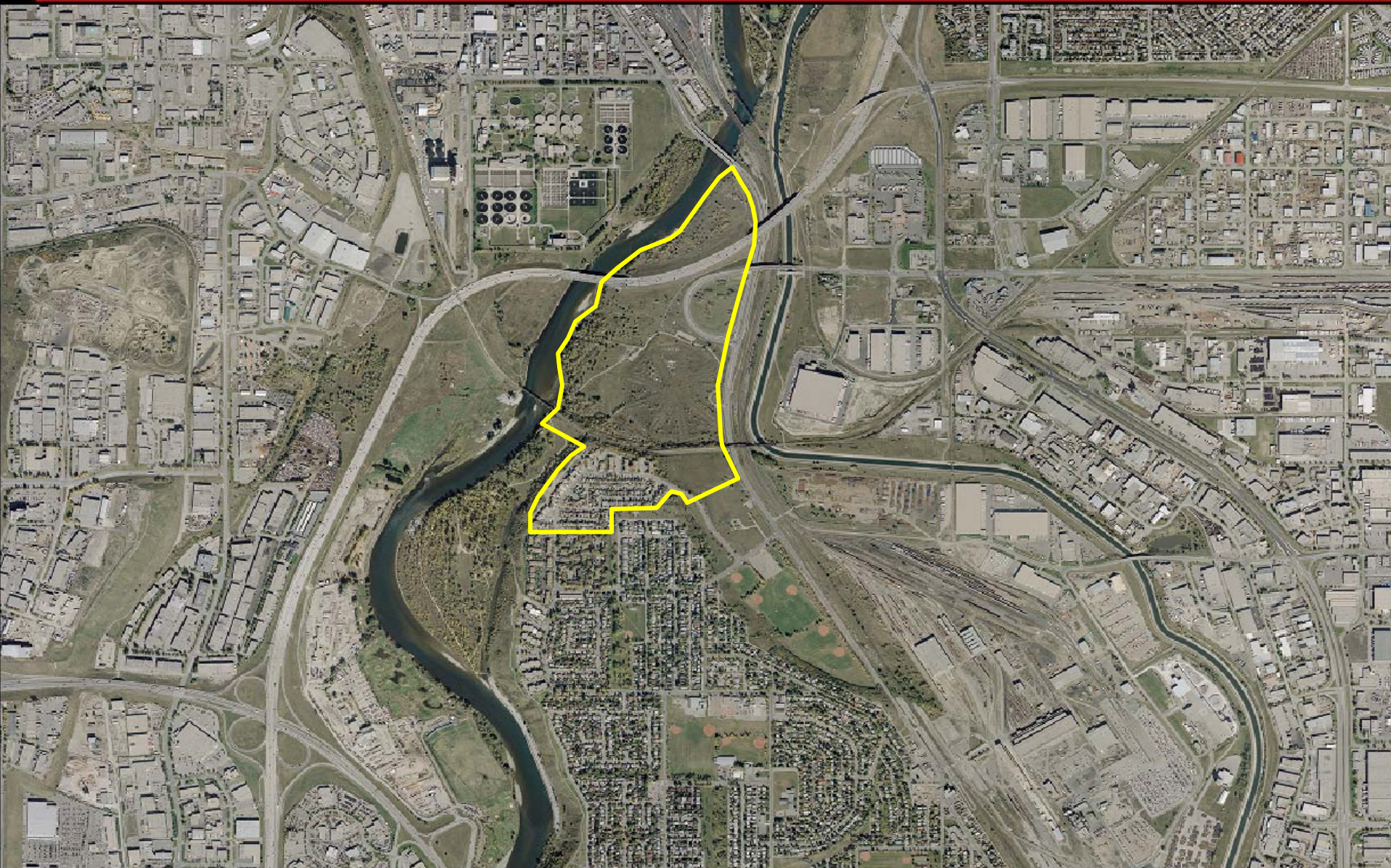


Imperial Oil Refinery, facing south, circa 1960.

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Site History

- **1924-1975** Imperial Oil Refinery Operations
- **1977** The City purchases main refinery site for Deerfoot Trail Construction
- **1980** Lynnview Ridge Phase IV subdivision development

Site History

- **1989** Partial remediation of Beaver Dam Flats by AENV, Imperial, and The City
- **1997** Province obtains ownership of Deerfoot Trail and 100m ROW from the City
- **2001-2007** Imperial delineates and remediates Lynnview properties

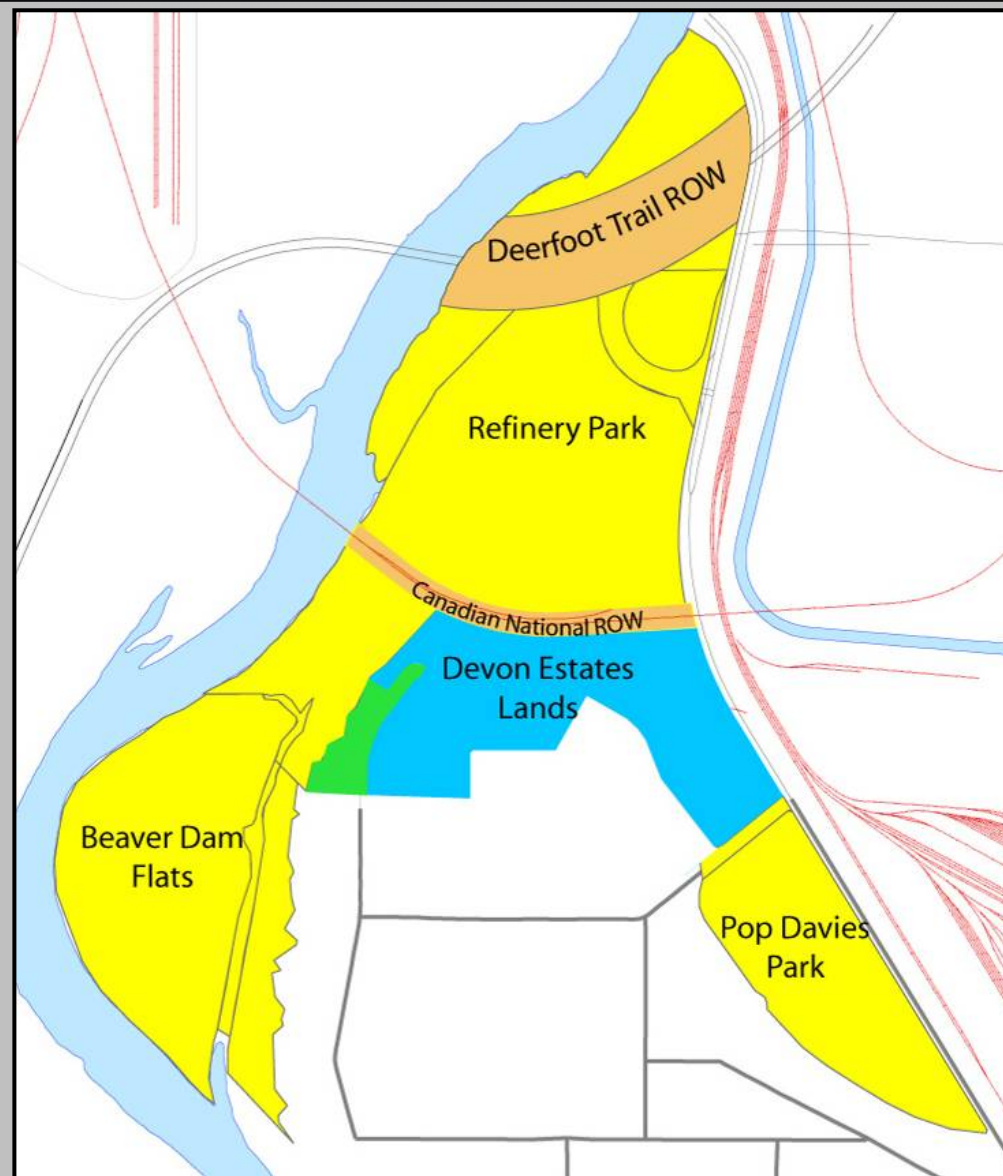
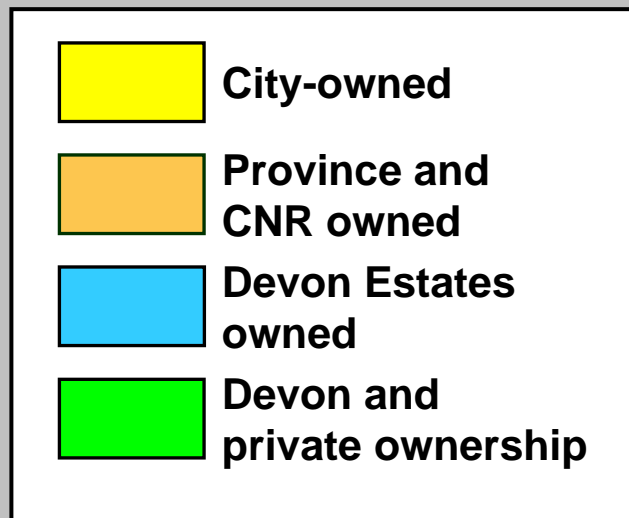
Site History

- **2007** Imperial and The City successfully negotiate a Risk Management Agreement (RMA) and future ground lease for the site
- **2007** Memorandum of Understanding between The City, Imperial, and Alberta Environment

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Ownership Distribution

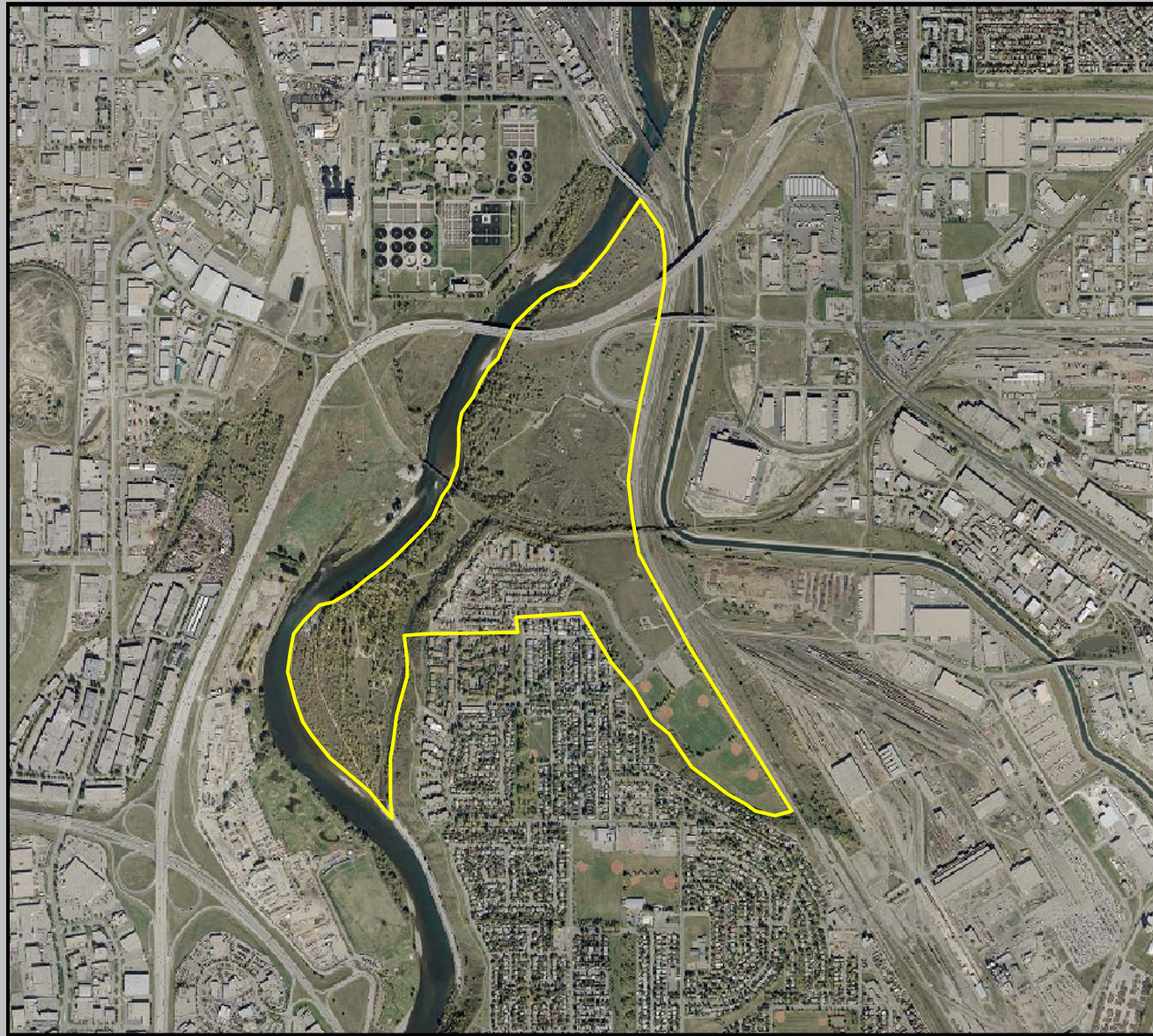
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Risk Management Lands

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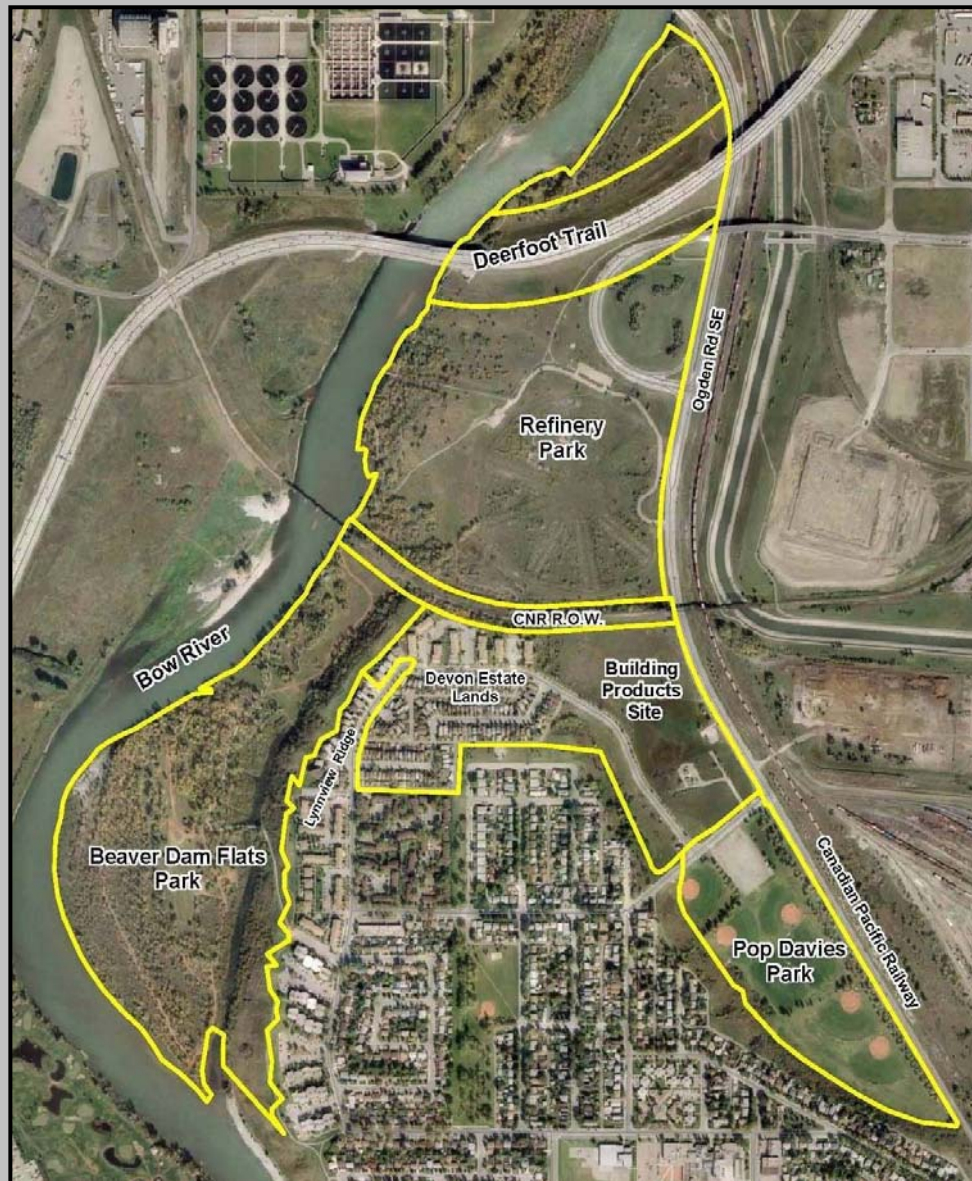
The Agreement

- Immediate priority is to perform site investigations and develop a Risk Management Plan:
 - protect the Bow River
 - recover liquid hydrocarbons
 - remove hot spots
 - place a protective soil cap
- Imperial will be the project manager
- Imperial will be responsible for first response for environmental emergencies

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Risk Management Lands

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The Agreements

- Cost Sharing Allocation on \$22 million project (City Lands):
 - 60% Imperial
 - 40% City
- Imperial is 100% responsible for RMP costs on all Imperial lands
- Liability risks & emergency response cost-sharing parallel responsibility for project costs

The Agreements

- The City will lease Imperial's lands for 99 years for \$1/year
- Leased lands will be redesignated, redeveloped, and operated by The City for community benefit including parks, trails, natural areas, and a public golf course
- Land uses must support RMP provisions and operational needs
- Potential LRT expansion can be accommodated

The Agreements

- Steering Group
 - 3 IOL members, 3 City members
 - Quarterly project review meetings
 - Approves annual budget and workplan
 - Can amend the RMP
 - Requires unanimous decisions

The Agreements

- Dispute Resolution
 - Escalating process
 - Senior manager review
 - Technical review
 - Mediation – Arbitration
 - Expedited arbitration

Working Together

Government Partners

- Municipal Government – The City of Calgary
- Provincial Government – Alberta Environment
- Federal Government – Environment Canada; Fisheries and Oceans Canada

Working Together

Stakeholder Involvement

- CN Rail owns a right-of-way which crosses the site and was used to service the refinery
- Millican – Ogden Community Association
- Citizens of Calgary

The Bigger Picture

- Represents the first of many sites to be reinvigorated
- Triple bottom line drivers

The Bigger Picture

- The City considers economic, social, and environmental results of decisions
- Cooperation among interested parties contributes to successful projects
- Benefits to everyone

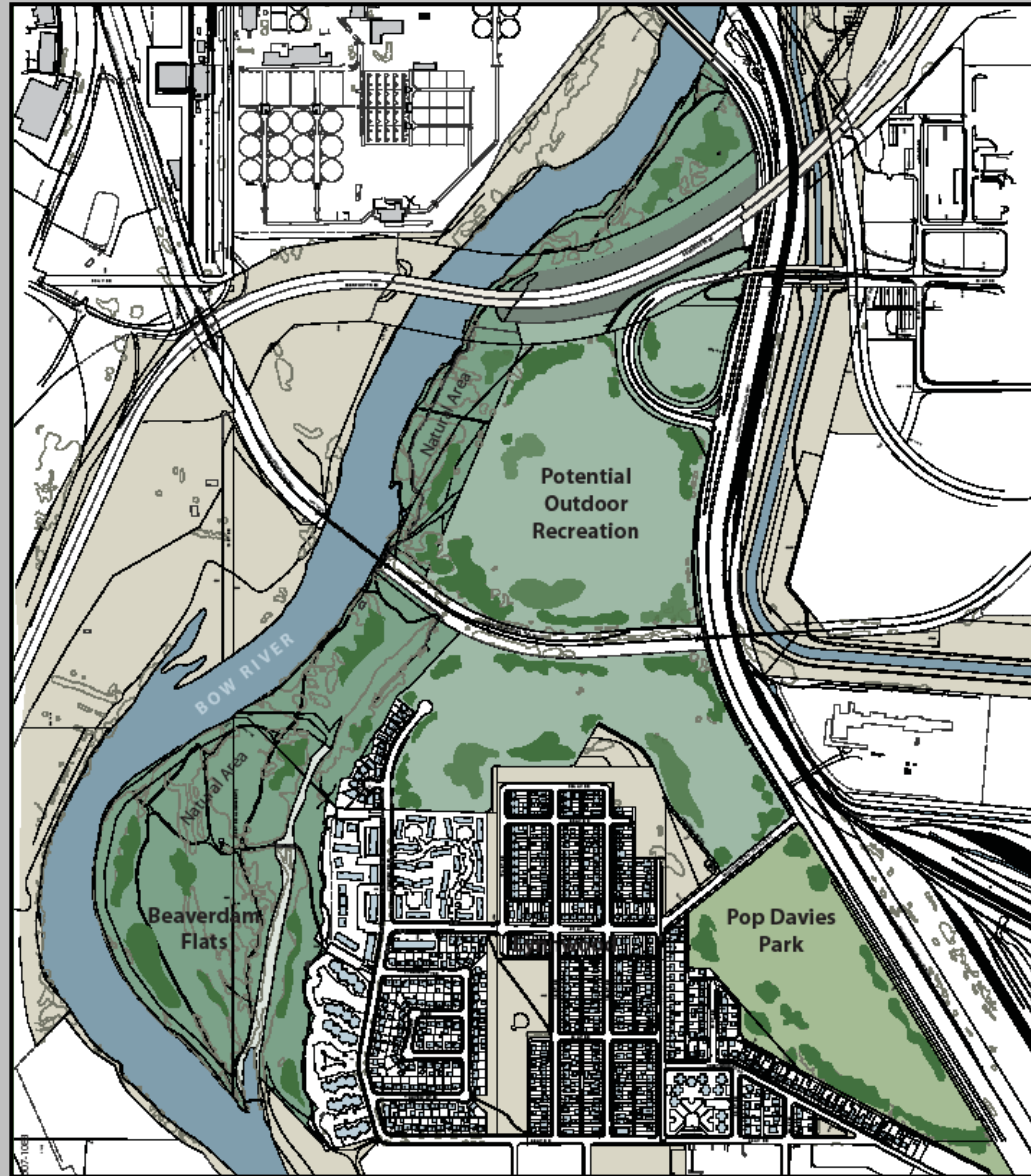
Project Timeline

- ***Already Completed***
 - Historical review and EM survey
- ***2008***
 - Site characterization & hydrogeological modelling
 - Land use re-designation process initiated
- ***Spring 2009***
 - Approval of Risk Management Plan by AENV
- ***2009***
 - Site remediation fieldwork underway
- ***2011***
 - Site redevelopment
- ***Spring 2012***
 - Community use

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Land Use Conceptual Design

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Groundwater Monitoring Network

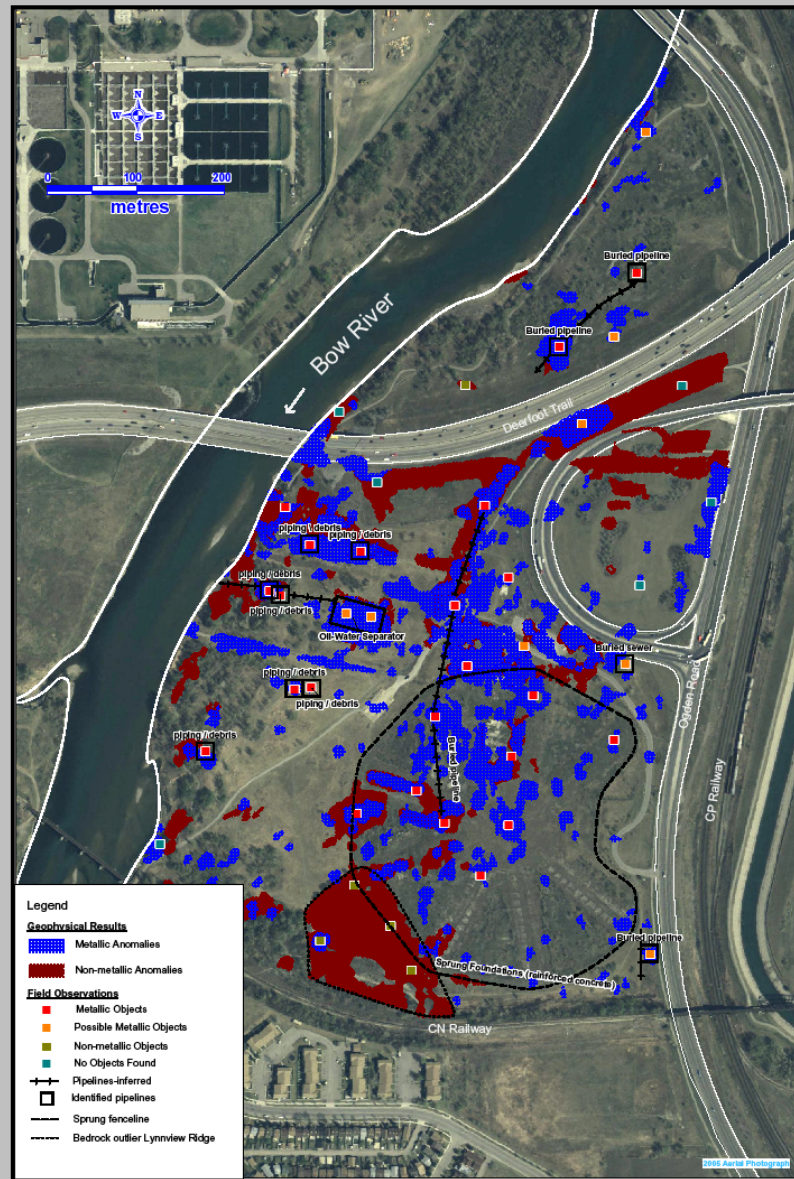
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Metallic & Non-metallic Anomalies

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Acknowledgements

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