Creosote Contamination From Two Former Wood Preserving Facilities

From the Old Industrial Area

Of Prince Albert, SK

15th Street - 6th to 13th Avenues East

Prepared By: Saskatchewan Environment

Environmental Protection Branch

The Nature of Creosote

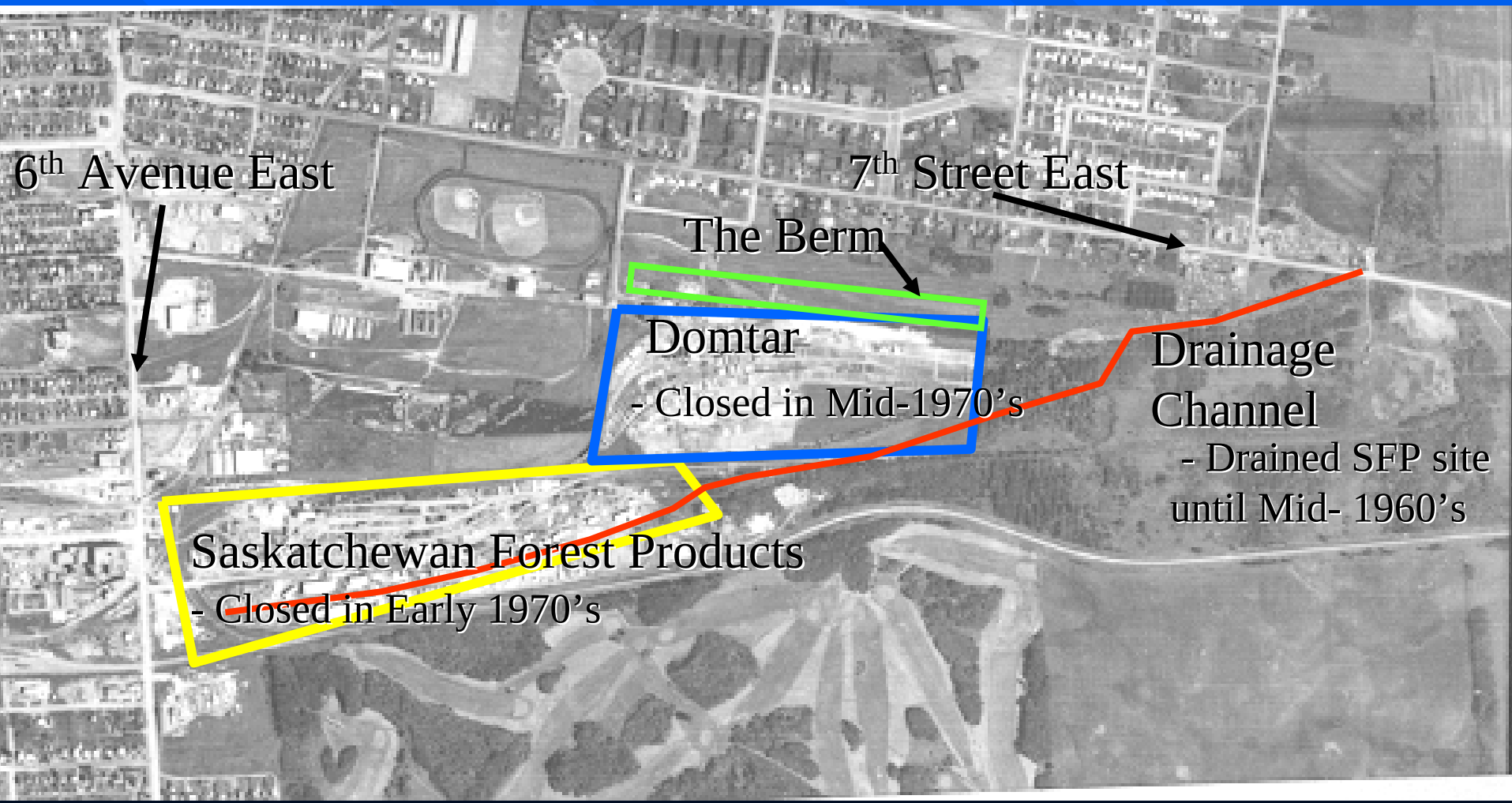
- Creosote is derived from coal tar and is a complicated mixture of chemicals.
- It can be either heavier or lighter than water, depending on how it is mixed with other chemicals for treating lumber.
- Creosote has a very strong attraction for organic compounds, and tends to stay closely associated with any soils it comes in contact with.
- Creosote is not very soluble in water.

The Nature of Creosote

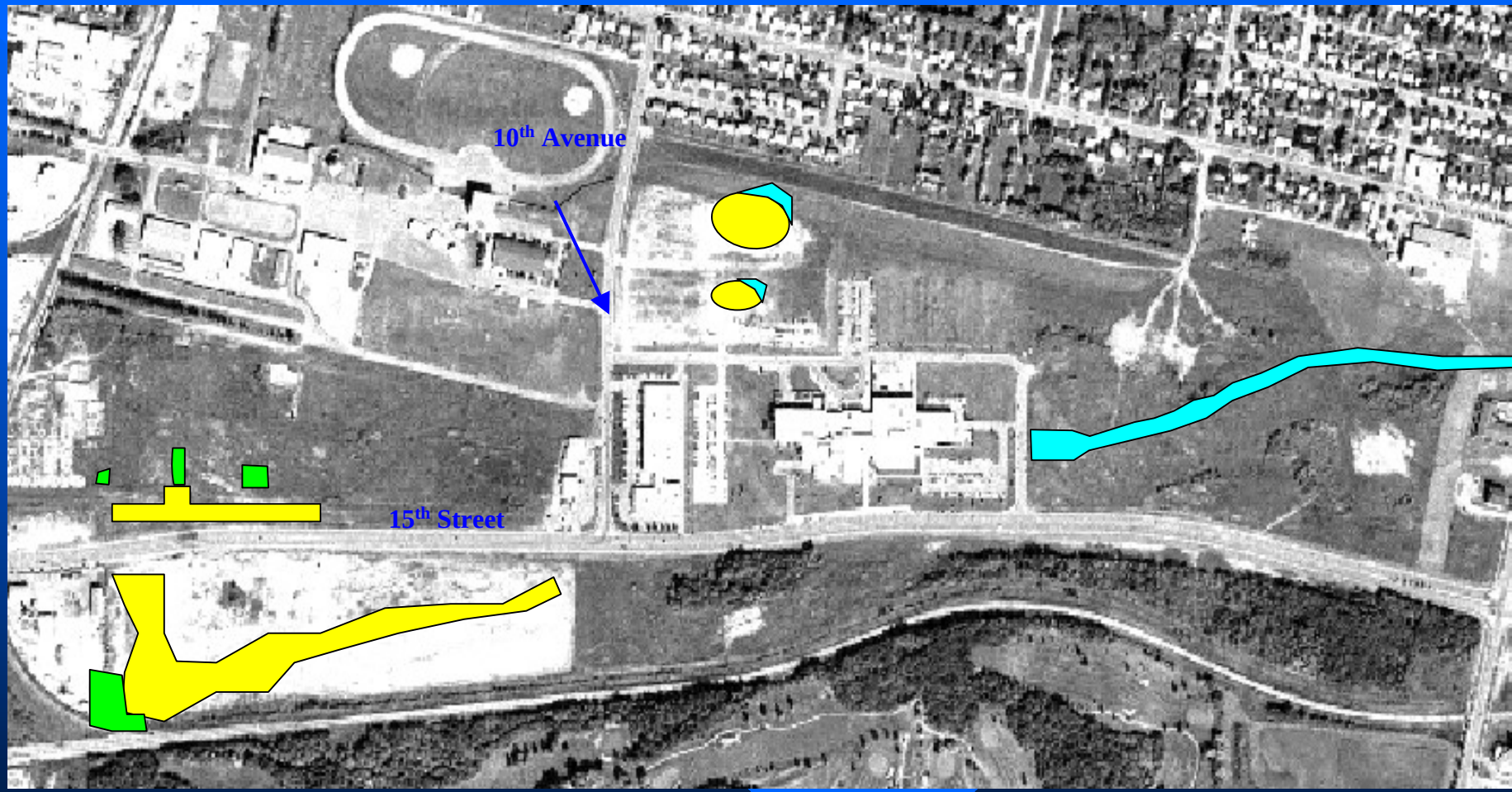
- What these properties of creosote mean for Prince Albert is that the contamination from the former treatment operations does not migrate very far within the underground or groundwater spaces where it has been spilled, and is mainly isolated to those areas where spillage or run-off contamination occurred.


History of the Sites

Operations, 1964



Multiple Clean-ups

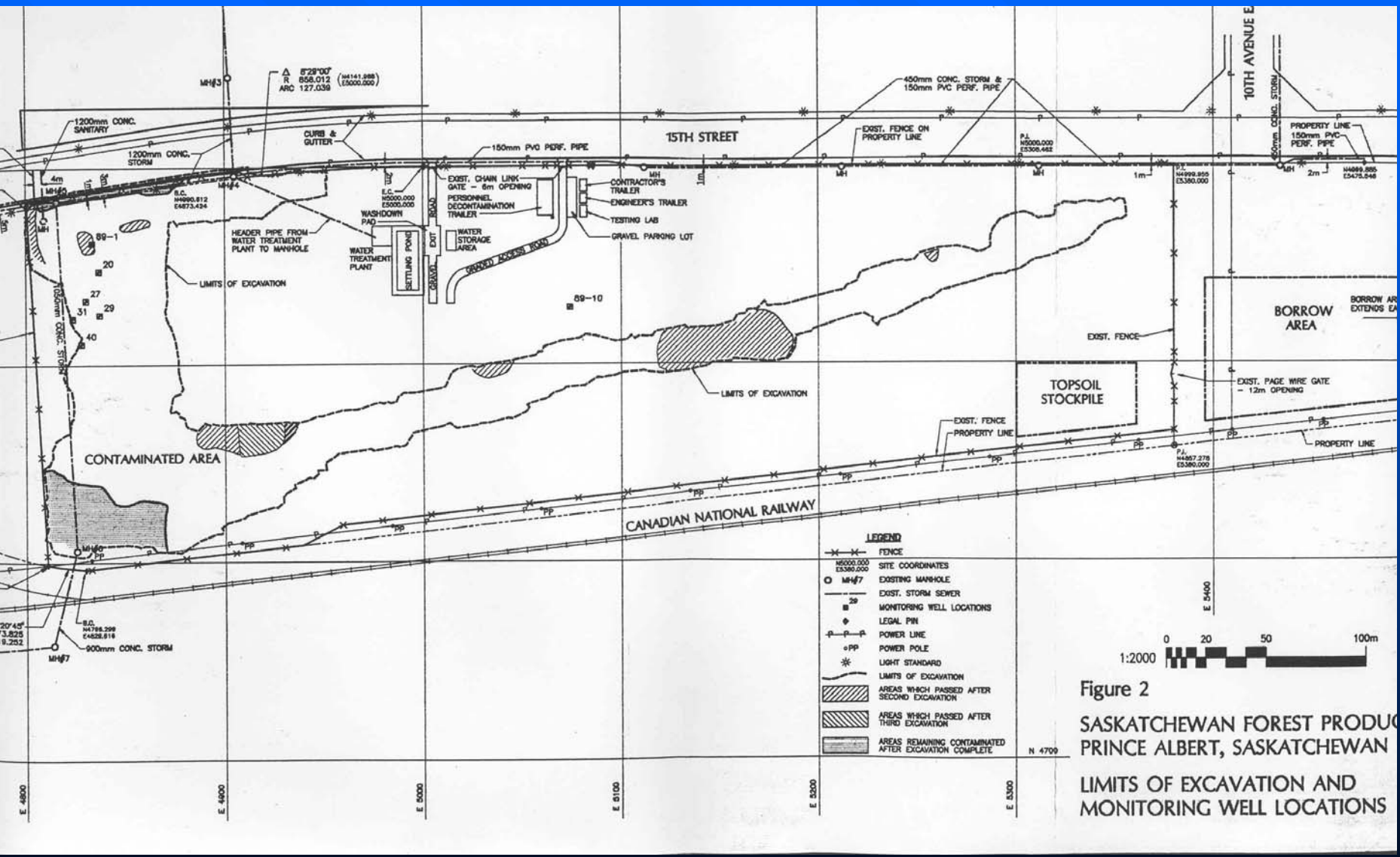


1994 Clean up - (SFP, City of PA, CN Rail)

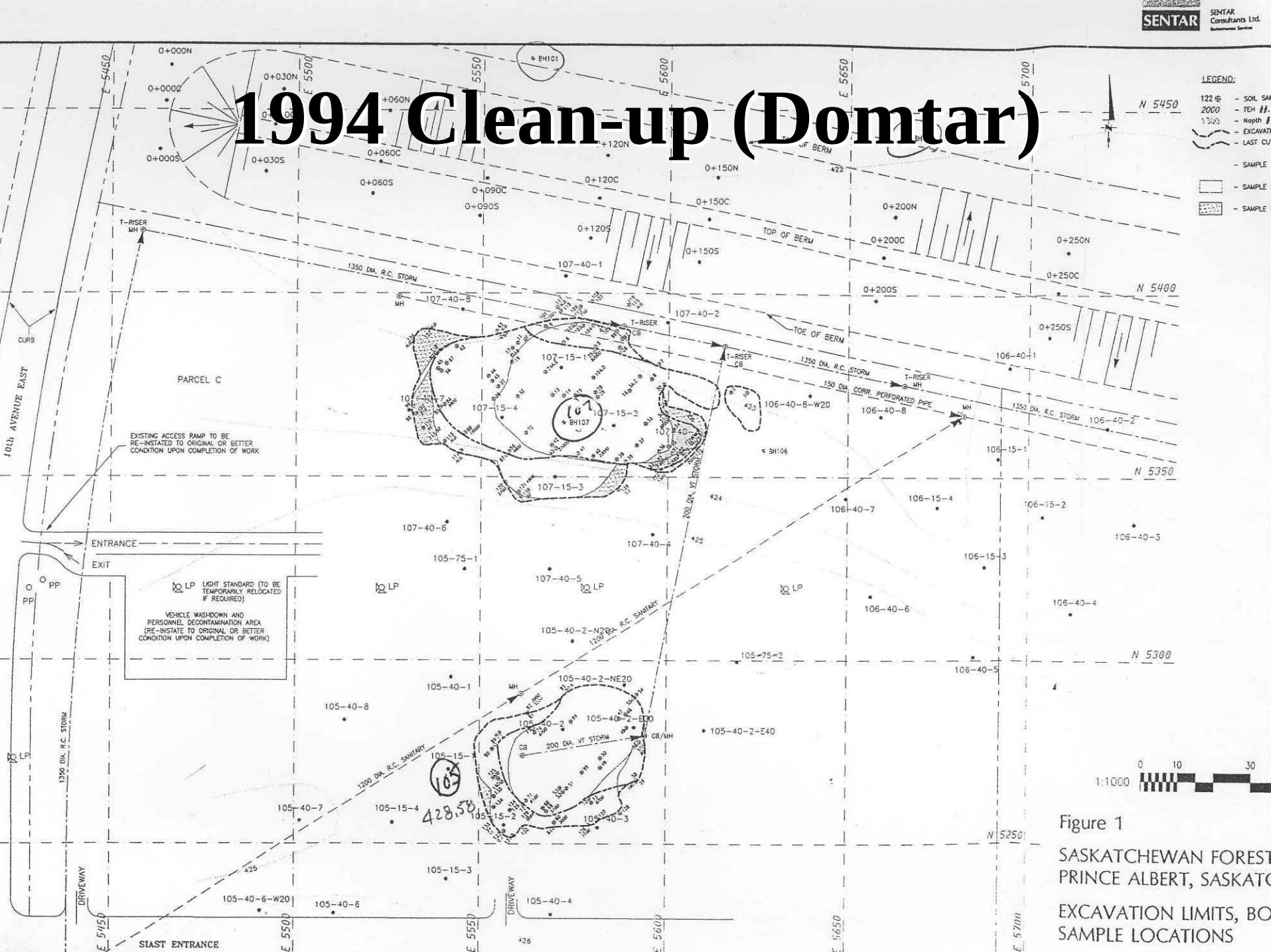
City of PA Clean up - 1999 – 2000

Centenary Fund Clean up - 2001-2004

1994 Clean-up (SFP)



1994 Clean-up (Domtar)



As Things Were Left (1994)

- Due to budget and operational constraints, soils left in Exhibition Grounds' seasonal parking area were 10x CCME guideline. City believed the land-use would never change (managed risk).

As Things Were Left (1994)

- Also CNR would not allow full excavation of the sludge pit near the railway on the south side of 15th Avenue, so the sludge pit was “encapsulated” in clay.
- Entire clean-up was done with goal of reducing the risk to the North Saskatchewan River.

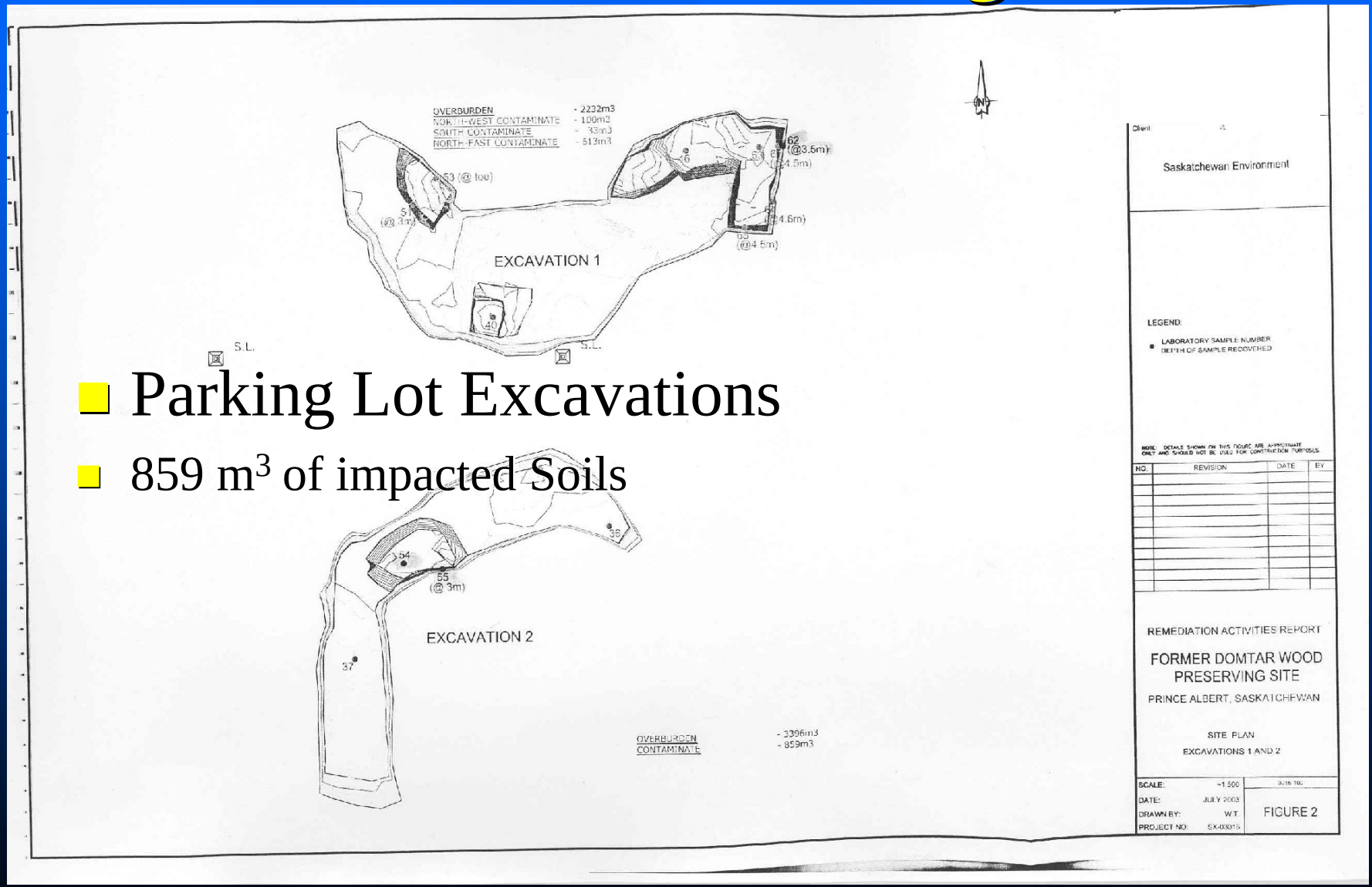
Centenary Funding

- In 1999, the Premier announced a funding program to celebrate the province's centennial.
- Funding was to go to projects that would provide environmental, economic, or social improvements to the province.
- The City of Prince Albert submitted an application under the Centenary program to remediate contamination at "Woodlands Campus" as the project was called.

Centenary Funding

- Budget for the city project was $1,000,000.00.
  - $300,000 for 2001-2002.
  - $350,000 for 2002-2003.
  - $350,000 for 2003-2004.
- City is required to commit in-kind funding through labour, machinery, etc.

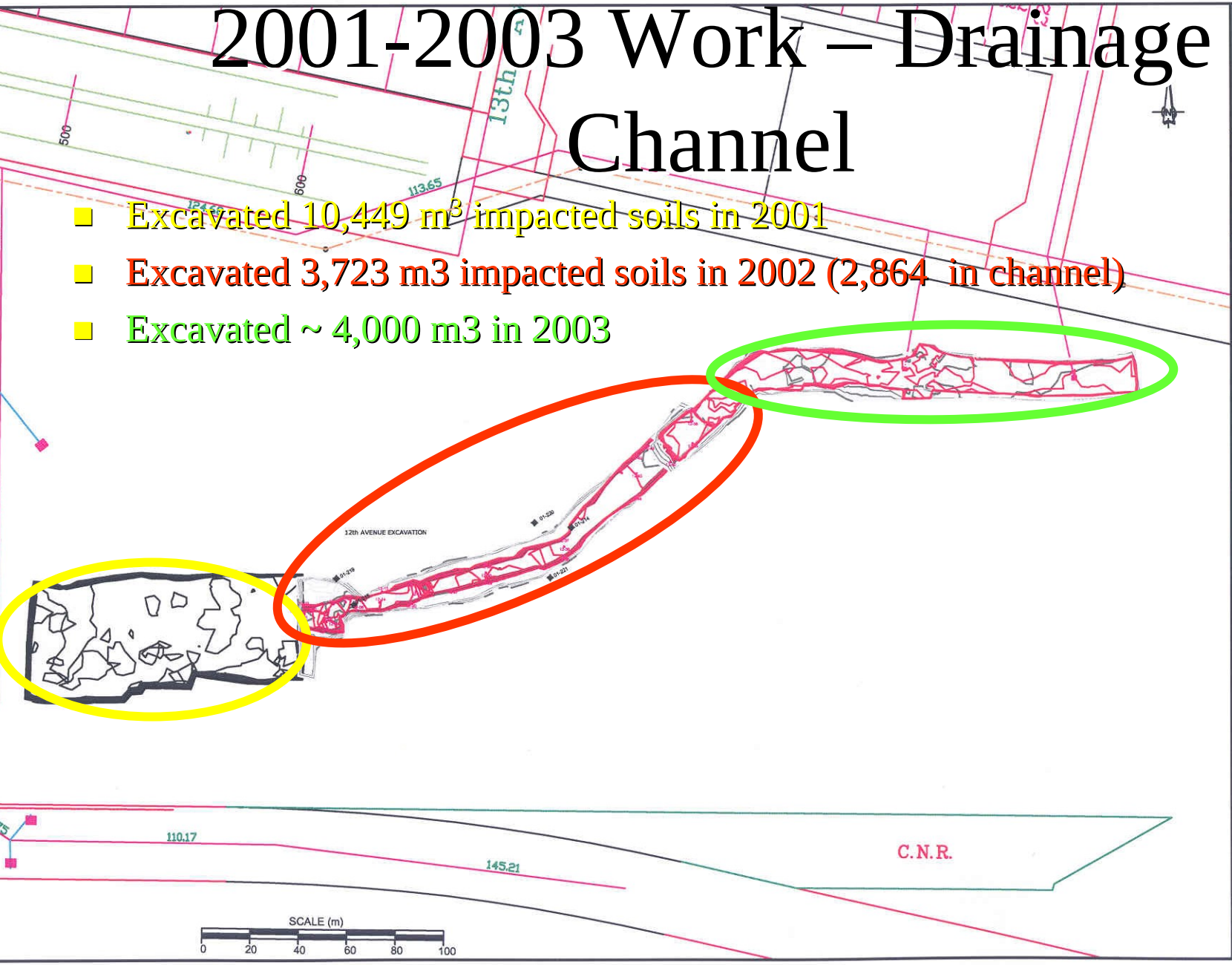
2002 Work – Parking Lot

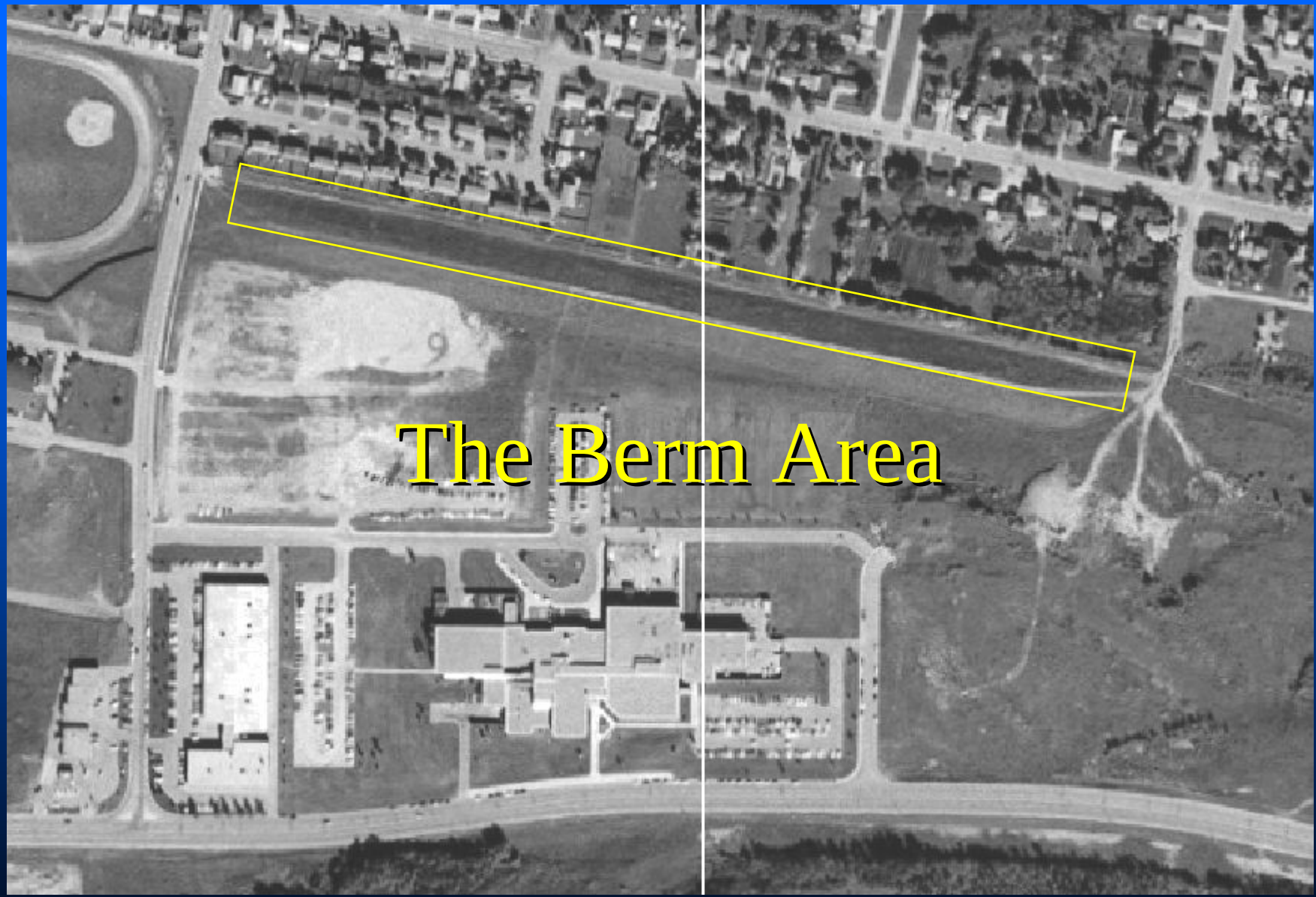


- Parking Lot Excavations
- 859 m^3 of impacted Soils

2001-2003 Work – Drainage Channel

- Excavated 10,449 m^3 impacted soils in 2001
- Excavated 3,723 m3 impacted soils in 2002 (2,864 in channel)
- Excavated ~ 4,000 m3 in 2003




The Berm Area

How the Berm Was Created

- 3 separate events:
  - Decommissioning of SFP and Domtar sites (site leveling).
  - Construction of 15th Street.
  - Construction of SIAST Woodland Campus

- Due to the method of creation, the berm is very difficult to characterize.

Contamination in the Berm

- Because of it's structure, the berm is working effectively to isolate any encapsulated contaminants from the environment.
- The mounded shape of the berm, combined with a well established vegetative cover, effectively limit any precipitation from penetrating the berm.
- There is therefore no "motive force" to cause the contaminants to move out of the berm.