

RemTech 2023 Kim Lamontagne, WSP Emily Kabotoff, Strathcona County



Topics of Discussion

- Setting the Stage: Contaminated Sites Management Program and Regulatory Context
- *The Journey*: Phases of the Contaminated Sites Management Program
- A New Approach: Development of the Guidance Document and Action Plan(s)
- Case Studies
- Lessons Learned
- Questions



Setting the Stage

Contaminated Sites Management Program (CSMP)

- The CSMP actively manages the confirmed contaminated sites owned by the County and includes 9 sites:
 - 5 decommissioned landfills/nuisance grounds
 - 2 active service yards
 - 1 active storage yard
 - 1 historic snow dump
- Ongoing work includes environmental monitoring, environmental site management, and remediation

https://www.strathcona.ca/agriculture-environment/environmental-initiatives/contaminated-sites-management-program/



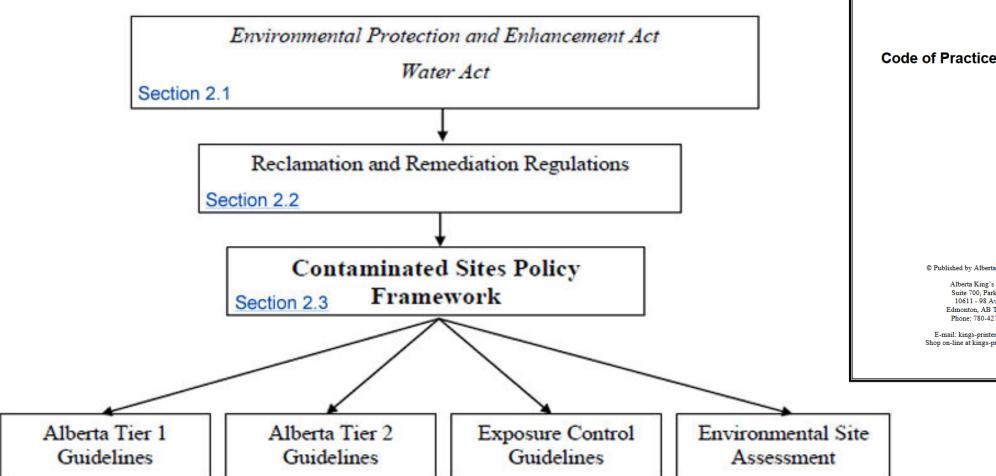
Josephburg Salt Storage Former Josephburg Nuisance Ground Josephburg Public Services Yard (JPSY) **FORT** SASKATCHEWAN (831) Elk Island National Park Tawayik Lake Strathcona Public Services Yard (SPSY) Ardrossan Bethel Snow Dump Former Ardossan Sherwood Park Former High Ridge EDMONTON Former Highway 21 **Former Cooking Lake Nuisance Ground** Cooking Lake Hastings Lake

Site Locations



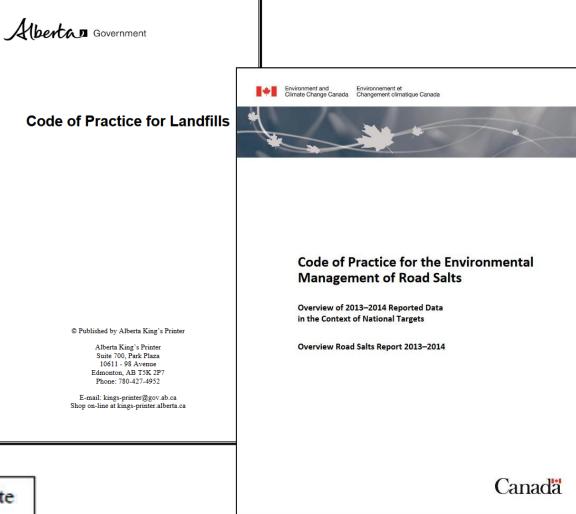
Setting the Stage

Regulatory Context



Syntheses of Best Practices Road Salt Management







The Journey



Late 1990s-2015

Initial investigations
Annual monitoring
Historic Program



2019-2021

Catching Up

Phases 1, 2, 3: annual monitoring program
Phases 4, 5, 6: outstanding recommendations
from the 2016-2018 program
Phase 7: other related environmental work

risp

STRATHCONA COUNTY

DECEMBER 2021

CONTAMINATED SITES ACTION PLAN

/ Phase

STRATHCONA COUNTY

2017 ANNUAL SUMMARY
ENVIRONMENTAL REPORT

DECEMBER 2

Learning and Understanding



2016-2018

Holistic and Proactive



2022-2024

MAIN CONTRACT FOR THE TOTAL T



A New Approach

- Phase I & Phase II ESAs
- Ongoing environmental monitoring
- Hydraulic Conductivity Testing
- EM Surveys

Site-specific monitoring, investigations, reports

Site Specific Action Plan (SSAP)

- Current impacts
- Historical data review
- Conceptual Site Model
- Recommendations for future actions

- Establish Priorities from all SSAP action items
- Short, Medium, and Long-term action items
- Prepare a plan, budget, and schedule



Case Studies

• Josephburg Nuisance Ground: Groundwater Interceptor Trench

• Strathcona Public Service Yard: Remedial Options Assessment

• Bethel Snow Dump: Risk Management Plan





Josephburg Nuisance Ground

Site-specific monitoring, investigations, reports

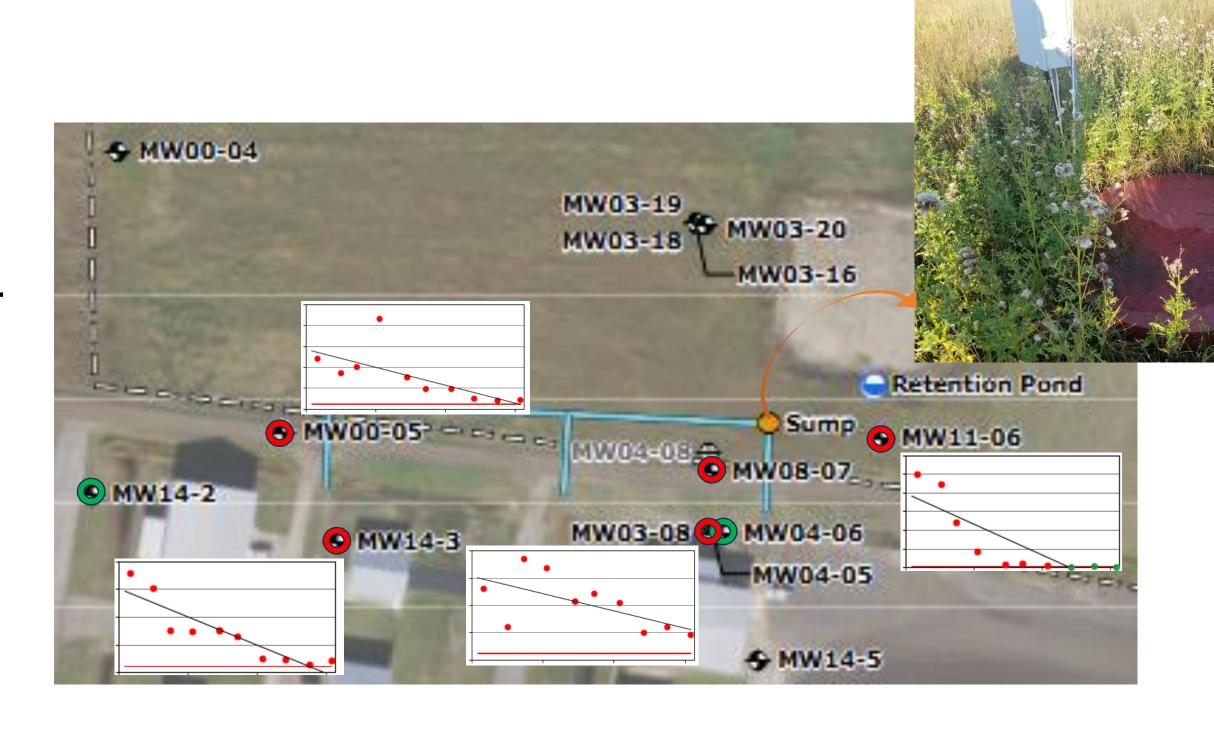
Phase I ESA
Phase II ESA
Annual Monitoring Program

Site Specific Action Plan (SSAP)

- CoPC
- Primary: Salinity, Dissolved Hydrocarbons
- Secondary: Dissolved Metals assessed with no impacts confirmed
- Ongoing groundwater monitoring from 2000 - present
- Remediation through operation of the interceptor trench system

- **Priority 2.** Complete and manage the monthly sump pumping program every second year
- Priority 2. EM survey
- Priority 3. Risk Management Plan







Strathcona Public Services Yard

Site-specific monitoring, investigations, reports

Underground Storage Tank Removal

Phase I ESA Phase II ESA

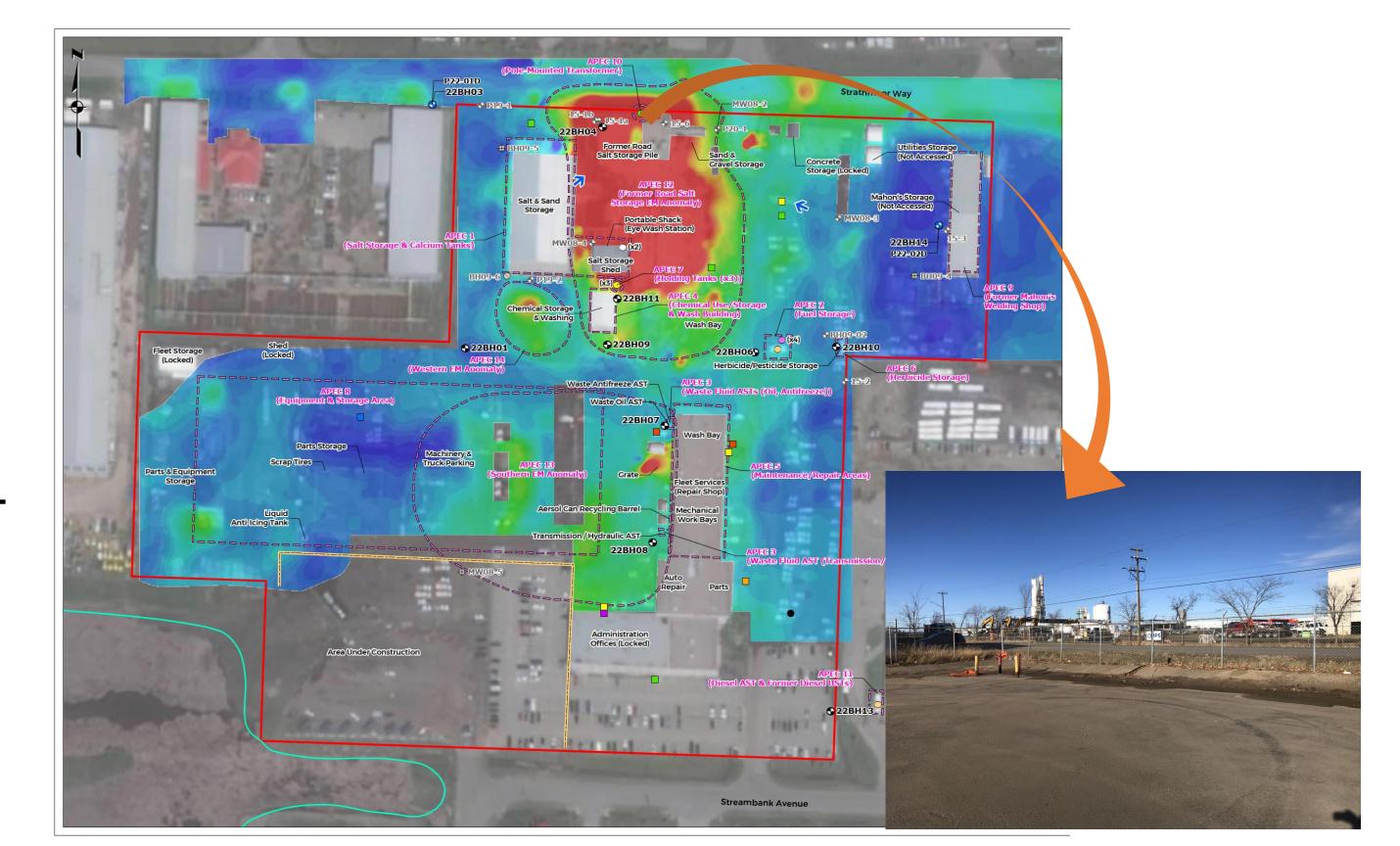
Remedial Options Assessment Annual Monitoring Program

Site Specific Action Plan (SSAP)

- CoPC
- Primary: Salinity
- Secondary: Dissolved Hydrocarbons assessed and not a concern
- Remediation is feasible, Risk Management Plan not required
- Develop a multi-stage Remedial Action Plan to mitigate and remediate off-site and on-site impacts

- Complete. Phase I ESA
- Complete. Follow-up EM survey
- Complete. Landowner discussions
- Complete. Phase II ESA
- **Complete.** Remedial Options Assessment
- **Priority 1.** Remedial Action Plan







Bethel Snow Dump

Site-specific monitoring, investigations, reports

Stockpile Characterization ESA Phase I ESA SST and RMP Aquatic Survey Annual Monitoring Program Site Specific Action Plan (SSAP)

- CoPC
- Primary: Salinity
- Ongoing groundwater and surface water monitoring from 2016 - present

- **Complete.** Phase I ESA
- **Priority 2. F**ollow-up EM survey





Lessons Learned

Successes:

Collaboration

Funding

Clear roadmap

Challenges:

Shifting expectations

Regulator requests

Unknown conditions



Thank you!

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