

Drilling into the Saskatchewan Environmental Code for Environmental Site Assessments

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Ministry of Environment

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Overview

Impacted Sites Process

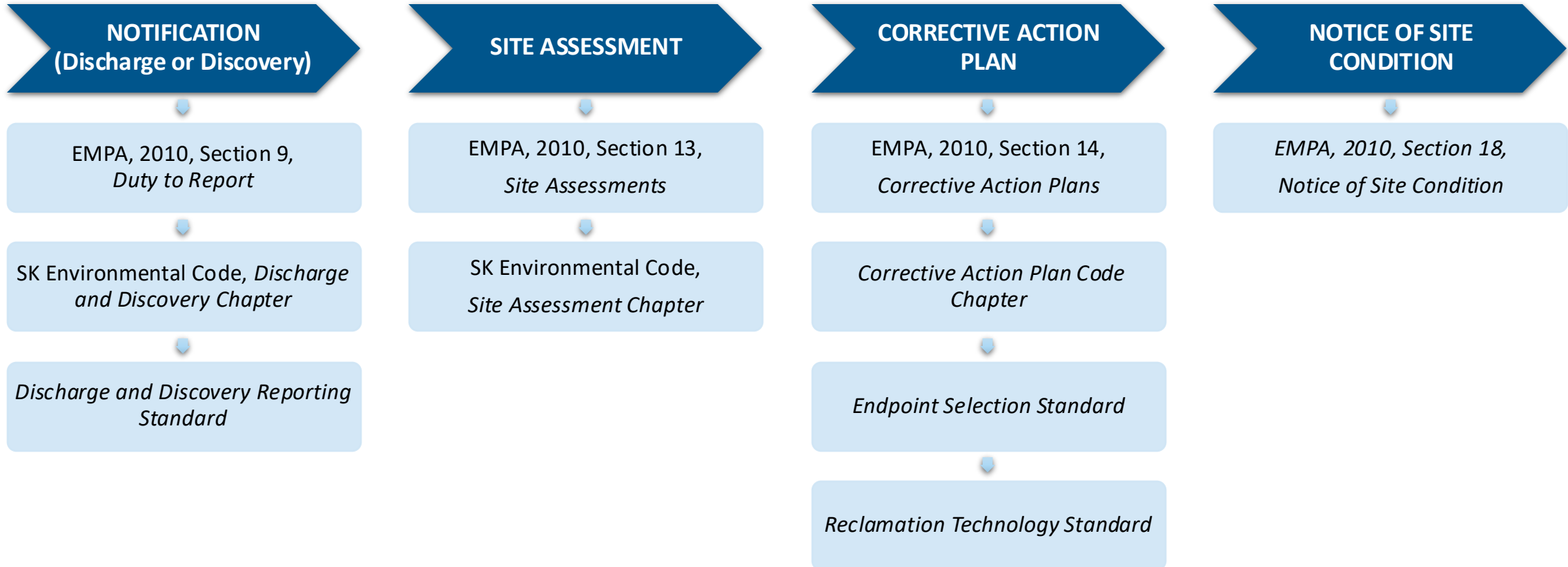
Directed v. Self-Directed

Acceptable v. Alternative Solutions

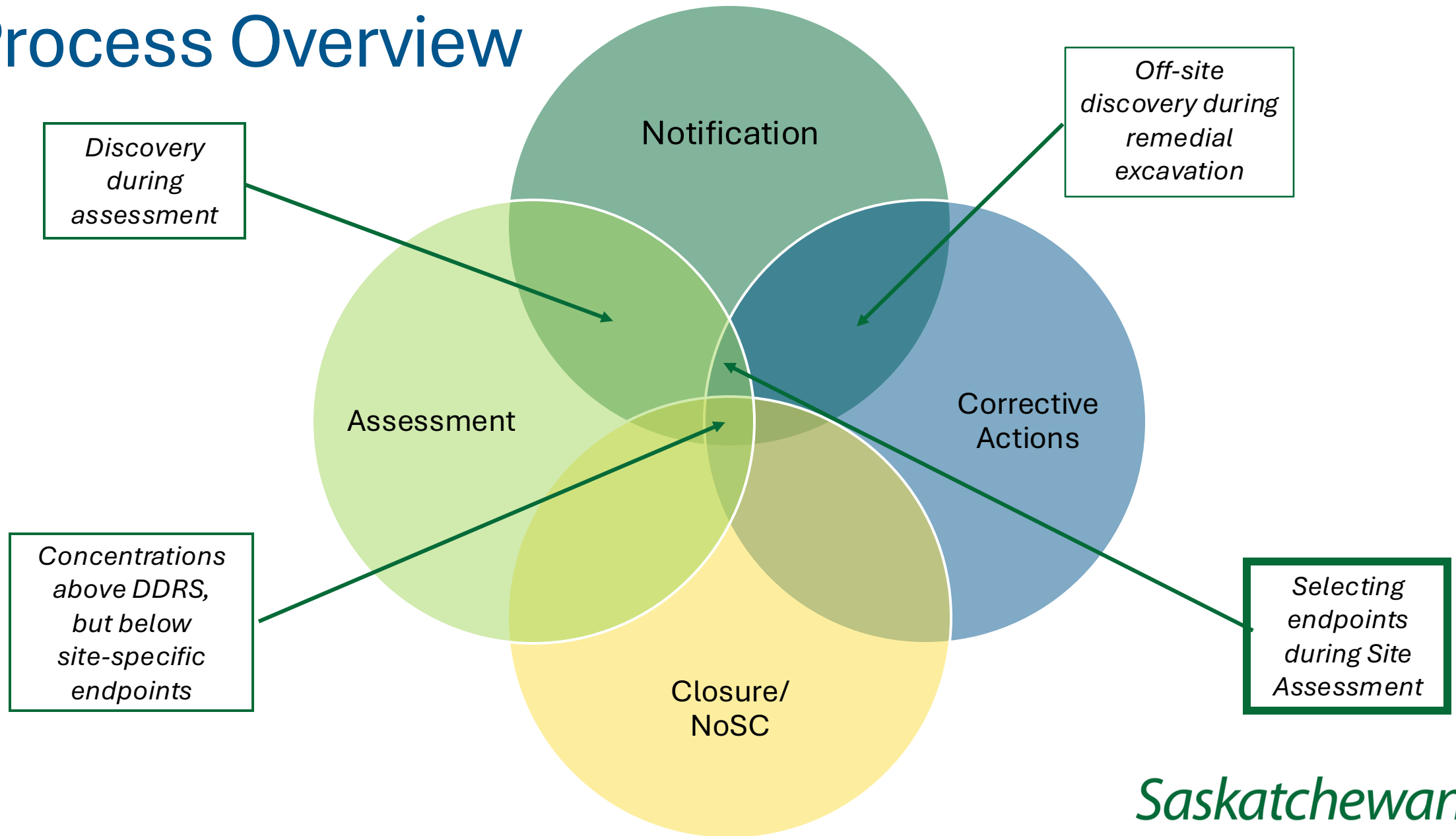
Common Environmental Site Assessment Deficiencies

Impacted Sites Process

Code Process & Legislation



Process Overview



Environmentally Impacted Site

"An area of land or water that contains a substance that may cause or is causing an adverse effect"



Directed v. Self-Directed Process

Directed Process

EMPA, 2010, Section 13(1)

The Minister may require a person who is or may be a person responsible to conduct a site assessment

Minister can require a site assessment if reason to believe a site is impacted:

Public complaints

Observable spills

Stressed vegetation

Other indicators of adverse

Other factors to consider:

Site activity (or not)

High or missing NCSCS score

Compliance factors considered:

Is the RP aware of contamination?

Is the RP educated on the requirements?

Will the RP voluntarily complete the work?

When directed, RP is required to adhere to specific timelines defined in EMPA, 2010

Submit the site assessment upon completion

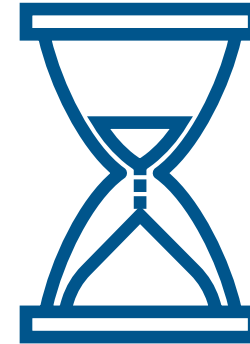
Prior approval required for alternative delineation criteria

Prepare a CAP within 6 months of site assessment

Self-Directed Process



Default process for managing an impacted site



Mandatory notification, but timeline to progress is determined by RP

Acceptable v. Alternative Solutions

Acceptable Solution Site Assessments



Complete a Visual Site Assessment (VSA)

No detailed ESA, if:

- Discharge Reported
- Precise location known
- Corrective actions overseen by QP and initiated within 72 hours
- Corrective actions completed within 30 days
- No occupied buildings within 100 m of discharge
- No groundwater withdrawal wells within 100 m of discharge
- No fish-bearing water affected



Use CSA Phase II Environmental Site Assessment Standard CAN/CSA-Z769-00



Use DDRS or Alternative Delineation Criteria



Provide QP Certificate

Results-Based Objectives for Alternative Solution Site Assessments



Confirm the presence, characterization, location and extent of any substance that is causing or may cause adverse effect

Identify sources
Geological and hydrogeological conditions
Transport pathways
Potential receptors
Develop sampling plan
Investigate based on level of complexity and severity of adverse effect



Conduct in safe manner by:

Minimizing additional adverse effects
Minimizing human contact with substances




Reasonable and prudent measures to:


Interpret, evaluate and document data
Provide scientifically defensible justification for work and interpretations
Document information in report
Include components on monitoring, recording, and reporting





Provide QP Certificate


DDRS Reportable Concentrations


 Reportable concentration indicates potential adverse effects


 Trigger for more assessment and potential corrective actions

 Sometimes only one sample has been taken, so land-use and soil type may have not been fully assessed

 Reduces need for any QP interpretation

 Ensures landowners are made aware that substances are present that shouldn't be there

 First step in engagement process for third party impacts

 Land owners must agree to the endpoints applied to their property



Delineation Criteria



Delineating to DDRS is the default, to determine reportable extents of plume (areas that may have adverse effects)

Establishes where "Notification" requirements apply
Modelling may be used
Gross delineation



Comparison to site-specific endpoints determines if there are actual adverse effects

Used to refine delineation
Used for corrective action planning



Assessment phase determines:

Soil type
Land uses
Extent of impacts



CAP phase determines:

Tier 1, 2, or 3 endpoints
Pathways of concern
Conceptual site model
Administrative or engineered controls



QP may apply alternative endpoints for delineation without prior approval from the ministry

Must meet RBOs of ESA and CAP Chapters
Impacted landowner consent required if applying endpoints as delineation criteria
Ministry can approve after-the-fact

Alternative Delineation Criteria



Tier 2 Endpoints for Delineation Criteria

Large site with source near center of property

QP predicted that reportable concentrations would not extend to property line

Third party landowner consent/consultation not required

NoSC registered for Tier 2 endpoints with land-use controls

Alternative Delineation Criteria



Tier 2 Endpoints for Delineation Criteria

Small site with impacts all over

QP predicted that reportable concentrations would extend beyond property line

Third party landowner consent/consultation was required and achieved

NoSC registered for Tier 2 endpoints with land-use controls

RMFR CAPs in place for off-site impacts remaining in place

Common ESA Deficiencies

Common ESA Deficiencies

Title page

- Ministry file reference (file number, operation ID, case number and/or notification number)
- Date

Methodology

- Description of statistical methods to support sampling frequency
- NCSCS missing or incorrect score (e.g. "known" score of 0, instead of "go to potential")
- Statement/discussion of standards used, standards setting organization
- A thorough and relevant discussion of "background" based on sampling or cited literature (when attributing elevated concentrations to background conditions)

Supporting documents

- Drawings not showing analytical results or with exceedances not clearly identified
- QP certificate missing or filled out incorrectly
- Missing NCSCS Scores

Summary

- Importance of assessing the properties with reportable plumes to confirm actual adverse effect
- Self-directed process is default and directed process imposes some timelines
- Alternative solutions can be used to reduce assessment scope and apply a risk-based approach
- Qualified Persons should provide quality reports

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