

Construction Environmental Management Plan (CEMP) for Potash Overland Conveyor

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Presentation Outline

- **Project Location and Description**
- **Environmental Setting**
- **Project Challenges**
- **CEMP Scope and Objectives**
- **CEMP Overview**
- **Ministry of Environment Site Audit**
- **Keys to Success**



Project Location and Description

Project Location

- Mosaic K3/K2 Mines – 3 miles east of Esterhazy, SK

Project Description

- Construction – 2015 start, 2017 completion
- Transfer raw ore from K3 mine to K2 mill
- Grid road and highway crossings
- Gravel service road in parallel to conveyor
- Belt turnover in transfer stations
- Wetland crossing equalization culverts
- Wildlife crossings



Environmental Setting



Land cover

- Cultivated (canola, flax, and cereal crops)
- Impacted pastureland (common grazing species and heavily grazed aspen stands)
- Native pastureland (native grass species and mature aspen stands)
- Wetlands

Species of Concern

- Northern leopard frog
- Red-bellied snake
- Hairy germander
- Barn Swallow
- American Badger

Migratory Birds

General Wildlife



Environmental Setting

Surface Water

- “Knob and Kettle” topography
- Project footprint intersects active drainage and wetlands
- Wetland classes from I-V (Stewart and Kantrud)



Project Challenges

Wetlands

- Wildlife habitat
- Water quality
- Commitments to protect

Soil Management

- Sediment and Erosion Control
- Topsoil storage and management
- Sediment release

Wildlife

- Species at Risk
- Migratory Birds
- Other wildlife

Other Environmental Considerations

- Spills
- Noise
- Air quality
- Waste Management
- Heritage Sensitivities



CEMP Objective and Scope

Objective


Ensure regulatory compliance, environmental commitments are achieved and best management practices are followed throughout all phases of project construction.

Scope

- Site Specific Environmental Constraints and Mitigation
- Regulatory and Stakeholder Commitments
- Environmental Risk and Liabilities
- Roles and Responsibilities within the CEMP
- Reporting Framework



CEMP - Overview

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- **Legislation, regulations, approvals, permits and commitments**
 - **Pre-construction ecological surveys**
 - **Monitoring Plan**
 - **Soil Management**
 - **Spill Prevention and Response Plan**
 - **Surface Water Management Plan**
 - **Material Storage, Handling and Waste Management Plan**
 - **Best Management Practices**

CEMP - Overview

Legislation and Regulations

- Saskatchewan Environmental Code 2014 (Saskatchewan Ministry of Environment)
- CCME Water Quality Guidelines 2015 (Canadian Councils of Ministers of the Environment)
- Controlled Product Regulations 1985 (Government of Canada)
- *Environmental Management and Protection Act* 2010 (Saskatchewan Ministry of Environment)
- *Hazardous Products Act* 1985 (Government of Canada)
- Hazardous Substance and Waste Dangerous Goods Regulations 1989 (Saskatchewan Ministry of Environment)
- *Heritage Property Act* 1980 (Ministry of Parks, Culture and Sport)
- National Fire Code of Canada 2010 (National Research Council)
- *Migratory Birds Convention Act* 1994 (Environment Canada)
- Migratory Birds Regulations 1994 (Environment Canada)
- Mineral Industry Environmental Protection Regulations 1996 (Saskatchewan Ministry of Environment)
- Municipal Refuse Management Regulations 1996 (Saskatchewan Ministry of Environment)
- *Oil and Gas Conservation Act* 1979 (Saskatchewan Ministry of Environment)
- *Species at Risk Act* (SARA) 2002 (Environment Canada)
- *Transportation of Dangerous Goods Act* 1992 (Transport Canada)
- *Wildlife Act* 1998 (Saskatchewan Ministry of Environment)
- Wildlife Regulations 1981 (Saskatchewan Ministry of Environment)
- Workplace Hazardous Materials Information System (WHMIS 2015) (Government of Canada)

CEMP - Overview

Approvals and Permits

- Approval to Construct (Ministry of Environment)
- Aquatic Habitat Protection Permit (Ministry of Environment)
- Drainage Regulations Approval (Water Security Agency)

Commitments

- Wetland Protection and Compensation
- Noise Mitigation
- Sensitive Species
 - Avoidance
 - Habitat Protection
 - Translocation



CEMP - Overview

Monitoring Plan

- Water Quality Monitoring
- Breeding Birds
 - Behavior monitoring
 - Nest sweeps
 - Deterrence activities
- Sensitive Species Sweeps
- Sediment and Erosion Control Inspection
- Compliance Audits
- Daily Reporting
- Post-construction Monitoring



CEMP - Overview

Soil Management

- Stripping and grading
- Stockpiles
- Sediment and Erosion Control Plans
- Re-vegetation
- Weed Control



CEMP - Overview

Spill Prevention and Response

- Provincial spill regulations
- Mosaic internal spill procedures
- Spill containment and preparedness
- Site specific spill response plan



<https://www.hss.com/hire/p/spillage-drip-tray>

CEMP - Overview

Surface Water Management

- Surface water control and diversion plans
- Water quality management
- Constructing in water protocols
- Water quality objectives



CEMP - Overview

Waste Management

- Waste Disposal and Recycling
 - Non-Hazardous Waste
 - Hazardous Waste
 - Petroleum Product Storage and Refueling
 - Transportation and Disposal
 - End of Construction Clean-up
- Concrete wash-out



<http://www.seaviewtransport.com.sg/>

CEMP - Overview

Best Management Practices

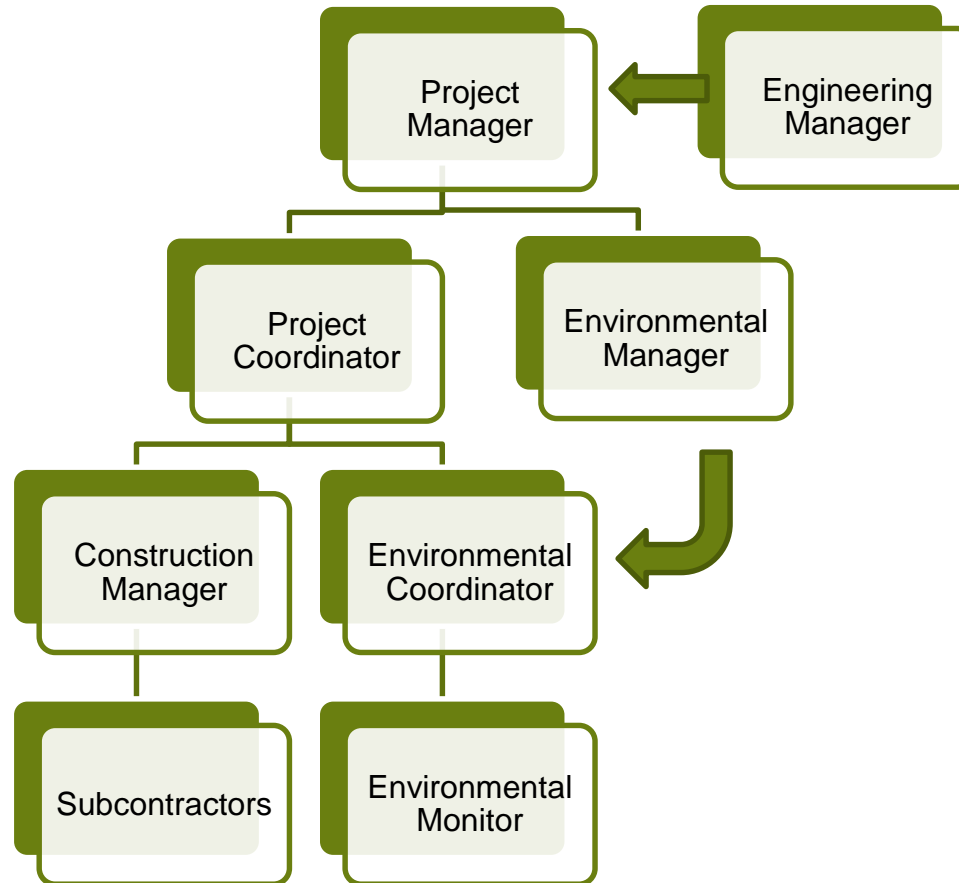
- Noise Reduction
 - Equipment Selection
 - Hours of Construction
 - Equipment Operation
- Emissions Control
- Dust Suppression
- Traffic Control and Signage
- Heritage or archaeological discovery protocol
- Wildlife observation reporting



<http://dicecontracting.com/>

CEMP – Overview

Roles and Responsibilities



CEMP – Overview

Site Plan

Ecological Sensitivities

- Location
- Setbacks
- Restrictions
- Updated Regularly

Traffic Control Plan

- Site access and conditions
- Signage
- Restrictions

Sediment and Erosion Control Plan

Stockpile and Stripping Plans

Approved Borrow Pits and Stockpile Locations



CEMP – Overview

Schedule

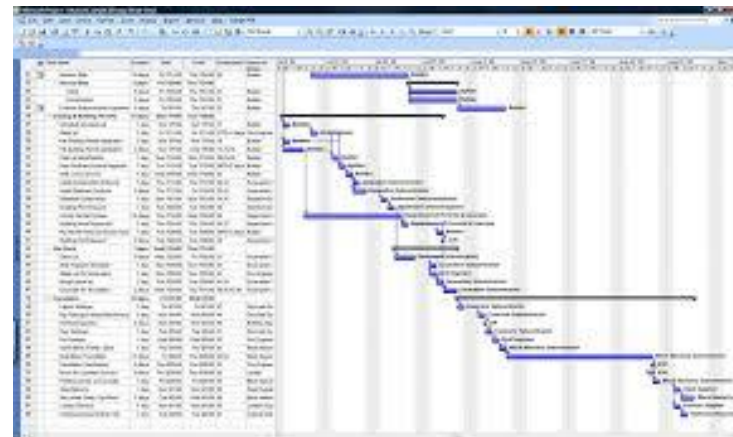
Construction Forecasting

Ecological Restrictions

- Migratory bird breeding period
- No-go areas
- Commitments schedule

Sediment and Erosion Control Plans

Mitigation Plans



http://www.b4ubuild.com/resources/schedule/project_template.shtml

Ministry of Environment Site Audit

Scope

- Aquatic Habitat Protection Permit #AHPP15-085 Destruction and Disturbance of Wetlands for K3 to K2 Conveyor Right of Way

Objective

- Verify compliance with Permit #AHPP15-085 Destruction and Disturbance of Wetlands for K3 to K2 Conveyor Right of Way;
- Compare AHPPs across multiple sectors



Ministry of Environment Site Audit

MOE audit identified:

- Zero non-compliance findings;
- Zero positive finds; and
- Zero opportunities for improvement

“Mosaic is demonstrating **exceptional commitment** to minimizing impacts to the environment during this construction project.”

– Ministry of Environment

- Comparing the condition found against the condition expected led to **zero non-compliance findings**

Keys to Success

Communication is Critical to Compliance

- Pre-Construction Kick-off
 - Review management structure, approvals, permits, and environmentally sensitive areas
- Daily On Site Tailgate Meetings
 - Review safety and environmental concerns
- Mosaic Contractor Orientations
- Weekly Progress Meetings
- Daily Reporting
 - Proper distribution lists
 - Action Items and follow up

Buy In

Consistency





Questions?

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