

# Southwest Calgary Ring Road

## KGL & the Environment

KGL is committed to protecting the environment during construction and in an effort to reduce impacts we will:

- Develop project-specific Environmental Construction Operation (ECO) Plans and Environmental Management Systems (EMS)
- Provide training for workers regarding our environmental protection plans
- Provide task-specific training for employees or subcontractors involved in high-risk activities
- Encourage all employees to incorporate environmentally friendly approaches into their daily lives

The KGL document system is completely paperless! Not only does this help reduce our carbon footprint, but it also allows us to conserve considerable funds over the five-year construction period.

## 2017 Environmental Management Overview



### Land Management

All environmentally-sensitive areas, including waterbodies, wetlands and areas at risk for erosion, will be identified, monitored and protected using the following methods:

- Vegetation buffers
- Silt fencing
- Temporary seeding or protection blankets
- Use of dikes, berms or ditches to intercept and divert runoff
- Stockpiling topsoil to reuse for reclamation
- Vegetation management including:
  - » Weed control
  - » Mulching
  - » Rare plant surveys
  - » Seeding
  - » Minimizing disturbed area

*\* All requirements for wetland compensation as determined by Alberta Environment and Parks will be met*



### Spill Management

- Focus on spill prevention and response including:
  - » Safe operation of vehicles and equipment
  - » Best practices for fuel transfer, refueling and maintenance
  - » Identifying and preparing spill response materials
  - » Equipment inspections and preventative maintenance
  - » Housekeeping (safe chemical storage, waste management, etc.)
- Maintain a supply of emergency clean-up supplies on-site
- Clean-up and management of pre-existing contaminated sites
- All spills reported to proper authorities



### Waste Management

- Project-wide waste recycling programs
- Materials will be collected, categorized and recycled where appropriate
- Waste will be handled, stored and disposed of in accordance with government regulations



### Noise Management

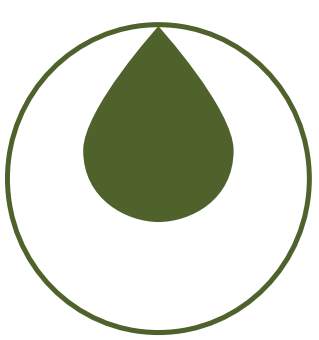
- Adhere to local noise bylaws or apply for an exemption
- Limit high noise activities to working hours, which are typically:
  - » Mondays to Saturdays 7am - 7pm
  - » Sundays and holidays 9am - 7pm

*\* There may be changes to the schedule depending on the nature of construction*



### Animal Management

- Wildlife identification cards for field observations
- Wildlife crossings preserved at key locations



### Water Management

- Water sampling
- No vehicles or equipment to cross buffers or enter waterbodies



### Air Management

- Dust monitoring and suppression:
  - » Dust mitigation activities
  - » Adherence to project speed limits
- Idling of equipment prohibited when not in use

## The Regulatory Structure



- An environmental assessment was completed identifying potential impacts and mitigation measures
- An Environmental Management System (EMS) was implemented
- Early works Environmental Construction Operation (ECO) Plan in place:
  - » Full ECO plan will be prepared for spring 2017
  - » Specific environmental protection and mitigation measures will be outlined and implemented
- Also applying for a number of regulatory permits:
  - » Elbow River Realignment – *Water Act, Fisheries Act*
  - » Fish Creek Realignment – *Water Act, Fisheries Act*
  - » Cullen Creek – *Water Act, Fisheries Act*
  - » Wetlands – *Water Act*
- All permits subject to regulatory consultation

## What is bioengineering?

Bioengineering is a technique used when realigning waterways, such as the Elbow River or Fish Creek. The process integrates living woody and herbaceous materials with organic and inorganic materials to increase the strength and structure of the soil (e.g., for streambank stabilization) while blending into the natural environment.