



Green Technology Research and Pilot Initiatives in Southern Alberta

Noon to 4 p.m.

Friday, September 21, 2018

Town of Okotoks Operations Centre
1118 North Railway Street, Okotoks

Join us for this free event celebrating local initiatives

Congratulations to the Town of Okotoks, which received the Federation of Canadian Municipalities' 2018 Sustainable Communities Award in the category of [Water](#) for the Operations Centre initiatives.

THE PRESENTATIONS

BIORETENTION / BIOSWALES / RAIN GARDENS FOR URBAN STORMWATER QUANTITY AND QUALITY
MANAGEMENT

EVAPOTRANSPIRATIVE FINAL COVERS FOR METHANE MITIGATION IN LANDFILLS – WATER BALANCE
MODELLING

PHOSPHORUS-SORBING MATERIALS FOR AGRICULTURAL APPLICATIONS

THE AGENDA

We will begin with lunch just after a noon check-in. Presentations will run from 12:45 to 2:30 p.m. Following a break we will head outside for a walking tour of the projects at the Operations Centre until dismissal at 3:45, followed by informal discussion.

In addition to the projects, we will include an update on the development of the national Canadian Standards Association Bioretention Design and Construction standards, as well as provide an overview of the drivers for implementation of bioretention in the urban stormwater sector in Alberta.

WHO SHOULD ATTEND

This event is open to anyone interested. The emphasis will be on urban stormwater with the opportunity for cross-sector learnings. Design and construction professionals, scientists, academics, students, municipal staff and stewardship specialists in the land and water sectors will find something of interest and will have something to contribute.

The ALIDP equips Albertans to create vibrant, ecologically functional landscapes within the built environment through comprehensive stormwater management. alidp.org

WHY IS RESEARCH AND MONITORING NECESSARY?

We need to understand the performance of solutions that can be built under our local soil, vegetation, and climatic conditions using, ideally, materials that are locally available. With this knowledge we will be able to inform design, construction, investment and policy decisions by both government and industry.

THE PROJECTS

Full-scale green infrastructure demonstration: Enjoy a lazy wander along the pedestrian path at the Operations Centre while observing the **bioswales** that convey runoff from the site, ending in a half-hectare **rain garden** nestled in the riparian area of the Sheep River. Along with the **design and construction** of the full-scale stormwater features, you will hear about the **groundwater monitoring** that is in the process of getting set up. You will have lots of opportunity to see the many **native plant species** that have been used in this installation.

Urban stormwater bioretention research beds: 24 beds compare the **performance of three media types** and the influence on and response of **native perennials and woody species**. Two of the media under investigation meet the specifications set out in the **City of Calgary Bioretention and Bioswale Design and Construction Module**. The third media is loam amended with a large proportion of organics. Let the trials begin! This long-term research site is **fully monitored** for **water quantity** and **quality** with a synthetic water application and contaminant-dosing regime. These beds were planted last year and experimental runs began in earnest this year. **Preliminary findings** will be shared. See the beds in person to **make your own visual assessment** of vegetation performance. Observe a **demo** of how the beds are flooded and samples are collected.

Vegetated landfill cover research beds: Evapotranspirative (ET) covers are vegetated earthen final covers on **landfills** that **balance the storage of water in the soil with ET losses** such that **leachate** generated from percolating rainfall is minimized while, at the same time, **oxidation of methane to carbon dioxide** in the soil is promoted. There are 8 test beds on site. Hear about the **numerical modeling approach** for the key processes which define the ET-cover system and **tour** the beds.

Media sourcing and selection for dissolved phosphorus removal: Alberta Agriculture and Forestry worked with Oklahoma State University to assess a number of **sorptive substances** found in Alberta, from fly ash to red shale, before settling on a **proprietary product** to trial at a **pilot site** in the Lethbridge area. Hear about their journey to final media selection and their pilot experience and what they are planning next. What learnings are there for sorptive amendments in rain gardens and bioretention?

REGISTER AT EVENTBRITE –
<https://gro18.eventbrite.ca>

Lunch is included.

This event is offered free-of-charge thanks to support from the City of Calgary.



The ALIDP equips Albertans to create vibrant, ecologically functional landscapes within the built environment through comprehensive stormwater management. alidp.org