

# CLEAN RESOURCES

## ENVIRONMENTAL INNOVATION

### WATER INNOVATION PROGRAM

## FUNDING DETAILS

## A Systems Engineering Approach for Precision Irrigation

InteliRain is developing an adaptive closed-loop irrigation control system for improved irrigation water management that can be used for both turf and agriculture irrigation. The closed-loop system will receive input data from electronic weather forecasts and proprietary imaging hardware to determine the correct precipitation rate required through specialized algorithms. This calculated precipitation delivery rate will then be formatted for each sprinkler area based on topography and soil type to further enhance water savings.

It is expected that the control system will increase efficiency in irrigation systems and lead to significant water conservation.



**RECIPIENT:**  
InteliRain Inc.



**PARTNERS:**  
NSERC, University of Alberta



**TOTAL BUDGET:**  
\$409,739



**AI FUNDING:**  
\$99,768



**PROJECT DATES:**  
MAY 2018 – MAY 2021



**PROJECT TRL:**  
Start: 1  
End: 8

## APPLICATION

This adaptive closed-loop irrigation control system is targeted at two markets. Firstly, for agricultural pivot irrigation and secondly turf irrigation markets such as golf courses, sports fields and municipal parks.



# ALBERTA INNOVATES CLEAN RESOURCES

## ENVIRONMENTAL INNOVATION

### WATER INNOVATION PROGRAM

## PROJECT GOALS

The key goals of this project are:

- Developing an adaptive closed-loop irrigation control system
- Developing an automated variable rate irrigation control system
- Validating benefits

## BENEFITS TO ALBERTA

The successful implementation of this technology will result in:

- Reduced water consumption by 8% - 12%
- Increased crop/turf health
- Increased yield
- Growth of a small Alberta based company



**2 Publications**



**6 Students  
Trained**



**2 New  
Products/Services**



**25-50 Future Jobs**



**10-14% ↓ Project  
GHGs**



**15-20% ↓ Future  
GHGs**

## CURRENT STATUS

### APRIL 2020

Initial field testing was completed in August 2019 and early stage results provided a positive proof of concept. Further refinement and field testing are ongoing.