

# Moving Environmental Responsibility Forward

## Environmental Farm Plan Certification for the Smart Farm

The Smart Farm at Olds College of Agriculture & Technology recently received a certificate for completing the Alberta Environmental Farm Plan (EFP) – a voluntary, whole farm, self-assessment tool that helps producers identify and develop plans to mitigate their environmental risks. Five years in the making, this large achievement was a truly collaborative effort between students, faculty and the Smart Farm team at the College.





Drone imagery of Olds College Smart Farm fields (left) and feedlot pens (right) located on campus.

A certified Environmental Farm Plan (EFP) shows a significant commitment to environmental sustainability and is well-recognized in the agriculture industry and rural communities. Participating in the program helps Olds College identify and address environmental risks that could affect Smart Farm operations, and increase operational efficiency while reducing farm costs. As well, an EFP completion certificate opens funding eligibility under the Canadian Agricultural Partnership.

The Alberta EFP website ([albertaeefp.com](http://albertaeefp.com)) explains the benefits of having an EFP on your farm, and reinforces that a healthy and sustainable environment is key to agriculture and producers. Since the College is publicly funded, it's also important the Smart Farm demonstrates to the public, government, organizations, donors and funders that it is managing any environmental risks.

## Certification Process

Getting a certified EFP originally began when David Johnson, Instructor, Land & Water Resources, Werklund School of Agriculture Technology, brought this idea forward in his Watershed Management class in early 2018. Since an EFP can require a significant investment of time, students initially focused on chapters relating to water and watershed issues on the farm — such as water wells, soil loss, manure management and surface water bodies.

This work-integrated learning initiative then continued into the GIS Tools course within the Werklund School of Agriculture Technology. In early 2022, students enrolled in the Environmental Farm Management course continued working on the Smart Farm EFP for a course project.

“From my perspective, a student’s skills and knowledge are best developed and proved by working them out in real-life situations,” explains Johnson. “When a student knows they will have to apply their knowledge — and report on it not just to the instructor, but to the farm team and an EFP technician — then the content in the classroom takes on new significance. Along with science and mapping-related skills being enhanced in the courses themselves, students strengthened their communication, organizational, leadership and problem-solving skills during this project.”

## Student Involvement & Work-Integrated Learning

With a focus on environmental stewardship, students who collaborated on this plan gained practical insights into managing environmental risks and factors that contribute to sustainable production of crops and livestock. This also allowed students to gain a great understanding of the behind the scenes operations on the Smart Farm and the process of building an EFP.

During the creation of the EFP, students were identifying and assessing environmental risks; interpreting and applying government standards on farming operations; developing solutions, recommendations and action plans



Environmental Farm Plan Certificate.

for mitigating risks; conducting stakeholder engagement and giving a final presentation; and recording GPS locations of key infrastructure and fields to create maps for the Smart Farm.

Bob Hoffos, GPS/GIS Instructor, Land & Water Resources, Werklund School of Agriculture Technology, and one of the subject matter experts at the College on mapping, drone technology, Global Positioning Systems (GPS) and Geographic Information Systems (GIS), worked with students to create specialized maps of the 3,600 acre Smart Farm for the certification. Updated maps were made of some of the fields, buildings, facilities, water-impacted areas and water sources. Students used a combination of existing aerial photos and GIS layers of the Smart Farm, along with new data collection using Trimble GPS technology, and inputted the data into ESRI ArcGIS mapping software to create an EFP basemap.

“Students did much of the core research related to investigating various farm and land management practices and identifying the potential environmental risks and mitigation strategies that helped build the Environmental Farm Plan,” explains Hoffos. “Farm and facility managers over the past five years have been interviewed, various historical documents reviewed, and visits to various locations around the farm were conducted as part of this investigative work.”

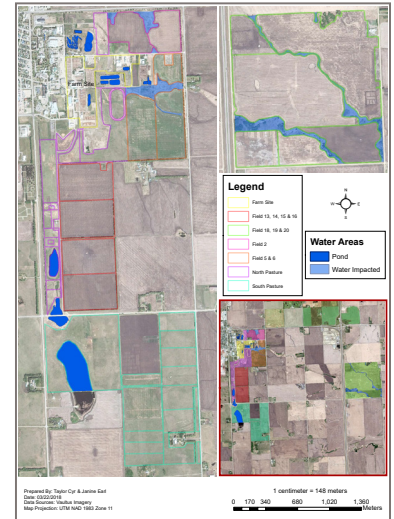
Creating the EFP allowed students to apply concepts and skills learned from their courses to a real-life situation on the Smart Farm, and the Smart Farm team is able to review the EFP final decisions and recommendations. Colin Windover, Assistant Farm Manager on the Smart Farm, highlighted how the EFP certification is useful to the farm team to see where they can make improvements.

A number of recommendations from the EFP have already been adopted on the Smart Farm such as establishing larger buffer zones between wetlands and cultivated fields, improving drainage, decommissioning abandoned water wells, collecting baseline water quality data and analyzing nutrients of manure.

Moving forward, the farm team will look to start implementing additional recommendations along with support from internal and external partners.

Getting EFP certification for the Olds College Smart Farm was a long time in the works. Although the certificate was received in 2022, there is more work to complete as the Smart Farm continues to expand and evolve.

Find more information about Environmental Farm Plans at [albertaefp.com](http://albertaefp.com).



Map created for water-impacted areas for EFP certification.

### Student feedback from creating the EFP for the Olds College Smart Farm:

*“This was a highlight of my semester — it was a wonderful experience to see a Canadian farm in action and contribute ideas to management.”*  
(international student)

*“I had no idea how large the Olds College Smart Farm actually is and how many things are going on.”*

*“It is really eye-opening to see how the management of a farm operation can affect so many aspects of the environment: groundwater, surface water quality, air quality, biodiversity and of course soil health.”*

*“Considering the practical limitations and economic costs of reducing environmental risks made it much more challenging, but also much more interesting than a simple theoretical exercise.”*

*“The EFP project gave me a much better idea of what to expect if I was to work for a county in their ag services department.”*