

SWATeam Recommendation

Name of SWATeam: Agriculture, Land Use, Food, Sequestration

SWATeam Chair: Reid Christianson

Date Submitted to iSEE: 1 May 2019

Specific Actions/Policy Recommended (a few sentences):

A redesign of the Vet Med parking lot (F27) to reduce runoff to the south, thus preventing runoff from flooding the Dairy Farm.

Rationale for Recommendation (a few sentences):

Runoff from this parking lot flows through a ditch and culvert system and frequently floods a pasture/feed lot of the Dairy Farm. This flooding is, of course, a nuisance and an animal welfare concern; however, resulting discharge mobilizes manure and causes erosion in the pasture area as well as contributing to increased nitrate concentrations to the Embarras River. Concentrations in this tributary to the Embarras have been historically high (more than 3 times the nitrate concentration where the university property ends at County Road 1100 N). Though this area only constitutes 5% of the total drainage area (2.05 square kilometers of 43.30 square kilometers), reducing these nitrate concentrations to match average watershed levels would potentially reduce the nitrate load leaving the entire South Farm drainage area at County Road 1100 N by roughly 10%. Further, new stormwater rules require post-construction runoff control for the protection of receiving waterways. Since this parking lot was installed before runoff control rules, there is no mitigation for the receiving stream so a redesign would allow for these features to be put in place.

Additional improvements could include an increase in the tree canopy, which would result in a reduction to ambient temperatures of the lot, plus an increase of carbon sequestration in campus soils. Furthermore, a sustainable redesign to F27 is an opportunity to improve the aesthetic experience of staff, students and visitors to the College of Vet Med and to their publicly accessible clinics for large animals. Thus, improvements to the parking lot support both the mission of the university as well as the mission of the college.

Connection to iCAP Goals (a few sentences):

5.6: Investigate the water quality impacts of stormwater runoff and potential ways to reduce stormwater pollutant discharges by FY18.

7.5 Increase carbon sequestration in campus soils by determining the sequestration value of existing plantings and identifying locations for additional plantings, with a specific objective of converting at least 50 acres of U of I farmland to agroforestry by FY20.

7.6: Reduce nitrates in agricultural runoff and subsurface drainage by 50% from the FY15 baseline by FY22.

Perceived Challenges (a few sentences):

The cost associated with redesigning and renovating the existing parking lot would be high.

Suggested unit/department to address implementation: Parking Department, Animal Sciences Department

Anticipated level of budget and/or policy impact (low, medium, high): High cost but low policy impact.

Individual comments are required from each SWATeam member (can be brief, if member fully agrees):

| Team Member Name | Team Member's Comments |
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| Reid Christianson | This recommendation directly aligns with three iCAP goals as well as having ancillary benefits of animal welfare and beautification. Further, there is adequate space for the implementation of stormwater management surrounding the southern corner of this parking lot. |

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| Bruce Branham | The runoff from these facilities may be an important contributor to the nitrate load into the Embarras water shed. There are other benefits that will be captured by this project as well, so I support the project but getting preliminary cost information should be the first step. |
| Joseph Edwards | Runoff from this parking lot and dairy facility is a point source for a high quantity of pollution from our operations. Implementing these changes would be a relatively simple solution that could produce an outsized impact on campus nitrate loss and make significant strides toward accomplishing this goal on the iCAP. |
| Thurman Etchison | There are several positive outcomes that would result from a redesign of this lot and they all address our iCAP goals. I fully support this recommendation. |
| Brent Lewis | I see multiple benefits from this recommendation. As the animal clinics of Vet Med also help to financially support the university, it is in our best interest to support them as well. |
| Ella Liskiewicz | I believe several positive outcomes could arise from this recommendation, and I think the issue of nitrates in agricultural runoff is something that needs to be addressed. |

Comments from Consultation Group (if any; these can be anonymous):

Explanation and Background (can be supplied in an attachment):

Plans of a redesign currently exist, and changes may be made to increase stormwater capture.