Wednesday, 8 November, 2017, 4:00 pm

358 NSRC

**SWATeam Water/Stormwater, ALUFS Meeting Minutes**

Present: Rabin Bhattarai, Reid Christianson, Joseph Edwards, Keith Erickson, Lauren Excell, Arthur Schmidt, Morgan White, Colleen Williams

I. Water Audit Updates

 A. Frank Holcomb has the app MICA:WET but some passwords are misplaced; hopefully tablets can still be used

 B. Links on Water Box under Resources: information about the app and downloading it

 C. Relation to Illini Lights Out: we could use the same group or gather a separate one to take inventory

 1. Volunteers can be hard to come by, ex. For the per-semester Bike Census (counting parked bikes)

 a. How many people volunteer for Lights Out? (Note: Fri, Nov 10 had at least several dozen)

 b. Some student groups require service hours: professional organizations; these students are a

 large part of Lights Out. APO is, for example, a service fraternity, helps install bike lights

 c. Campus members tend to only know news of their own department through newsletters. Ex.

 One business student, Bridget, wants to join SWATeams

 d. Perhaps with results (ex. The amounts of water the campus could save through the audit),

 more students would be attracted to being a part of the audit.

 D. Logistics of the Audit

1. Need keys and permissions from labs, where audits are perhaps most-needed; Lincoln Hall has some

 locked rooms

a. People with access might include volunteers in the labs, with permission from lab leaders to

 perform audit

2. Some utilities in labs may be connected to coolers/chillers.

 4. The amount of water used in NSRC from chilled water for the labs is beyond what is needed, waste

 5. Proposal could include, each semester, a target set of buildings to do

 6. Promotion

 a. announce how much more water certain buildings use than the norm, can identify

 inefficiencies to be fixed

 b. Suggest estimates on how much water could be saved per year based on an audit

 c. Measurements should be made by square foot, not per capita

II. Map of South Farms and Graph of Land Use

 A. Graph Observations

 1. Soybean and Corn are flat over the years on the graph (1995-2017)

 2. During some year in the ‘90s, Urban Development jumps and Pasture sinks, could be due to new

 measurement technique or labeling

 B. Map: Benchmark nitrate measurement

 1. Data from 1990’s (grad student of Eliana Brown): 2.7 mg/L -> 44-45,000kg/hectare- one year

 2. Goal is to decrease that by 50%, but because we don’t do much now, starting a large decrease

 shouldn’t be too difficult

 3. Note: Culverts were not taken into account when Joseph made the watershed outline.

 a. Sanitary District had pump station at Scott Park but decided to let drainage by gravity take

 place south of St. Mary Road; Vet Med and south of it included, saves ~$35,000/yr

 5. Recommendation: moving the dairy farm

a. When it rains, water would wash via ditch from Vet Med, carry pollutants from the Dairy

 Farm

 b. ACES wants to create a “Legacy Corridor”

 c. 8.6 mg/L, three-year average, in ditch south of DR toward Embarras River

 d. Dean Kidwell wants DF moved, part of Master Plan as well

e. Would be reasonable to make a recommendation to push up the date, redesign the site for

 Equine moving in to reduce pollutant runoff, same for where DF will relocate

 f. Anaerobic Digestor

 i. Idea came from 2010 iCAP, wanted to make electricity, then to make compressed gas

 ii. Feasibility study suggested it would take $10 million to have one

 iii. Are mostly used at dairy facilities

 iv. Another consideration: hydrothermal liquefaction (HTL)

III. Agricultural Runoff Reduction Recommendation

 A. Inconsistent management techniques

 1. Uses of farms includes feed for Animal Science, research, leased out

 2. Solar Farm would want 50 more acres on campus

 B. Year 2016: ALUFS wanted a constant measuring system for a single spot on Embarras River (star on Joe’s map)

 C. Requirements for such a measurement

1. Nitrate sensor might cost $30,000

 (F&S has 24-hour monitoring at $200,000)

 2. Measurements should begin before movement of Dairy Farm

 3. Living Lab ideas would be incorporated, student projects with the data

 4. Need permission from the county, road to have a station on the bridge at location in mind

 D. Alternatives

1. Human measurement requires availability to go out to measure for large rainfall events, no matter

 what time of day, although test strips would cost a few dollars per sample

 2. Colorimetric nitrate sensor is accurate to about 1 mg/L

 3. Instrumentation previously able to take data was moved to Sangamon Basin in town of White Heath

 4. A reference librarian could help find papers written on water quality by graduate students (not

 everything gets published)

 E. Illinois Strategies of Nutrient loss reduction, with Metropolitan Water Reclamation District involved

 1. Inaugural Nutrient Loss Reduction Strategies Workshop will be held at end of November

 2. Symposium in April 2018 on resource recovery would include nutrients

 F. Funding Strategies

 1. Teaching equipment funds if students use it

 2. SSC, also if used by students

 3. Who would own it?- maybe Dean of ACES; ACES would have to request funding from SSC in February

IV. Recommendation to push Parking toward sustainability

 A. Lot E14 lacks heat mitigation, stormwater management, dead ash trees have not been replaced, but doing

 these things creates a positive environment for students and faculty

 B. Ideas for improvement

 1. Asphalt costs money to maintain but not much less expensive than concrete ->permeable pavers

 for Stormwater management

 2. Rainworks example could be taken, some ideas used (trees, bioswale, rain garden)

3. Require a minimum number of trees for parking lots (ex. 20 stalls, then plant tree)

 C. Parking lot inventory

 1. Parking Department has information on meter use, the majors of students with permits

 D. Potential Monetary Savings

 1. Should apply for Stormwater credits

 2. Taxes from Champaign have gone up by six percent and will again in 2020 or 2021