

# Mahomet Lots

21st century version of The Morrow Plots  
**aka...the Parking Plots for toMorrow**

## **Proposal to Student Sustainability Committee**

submitted September 21, 2016

presented October 4, 2016

Initiated by Mary Pat McGuire, RLA, Assistant Professor in Landscape Architecture

### Collaborators:

**Keith Erickson**, Associate Director of Utilities and Energy, Facilities & Services, Member of the iCAP Water & Stormwater SWATteam, UIUC

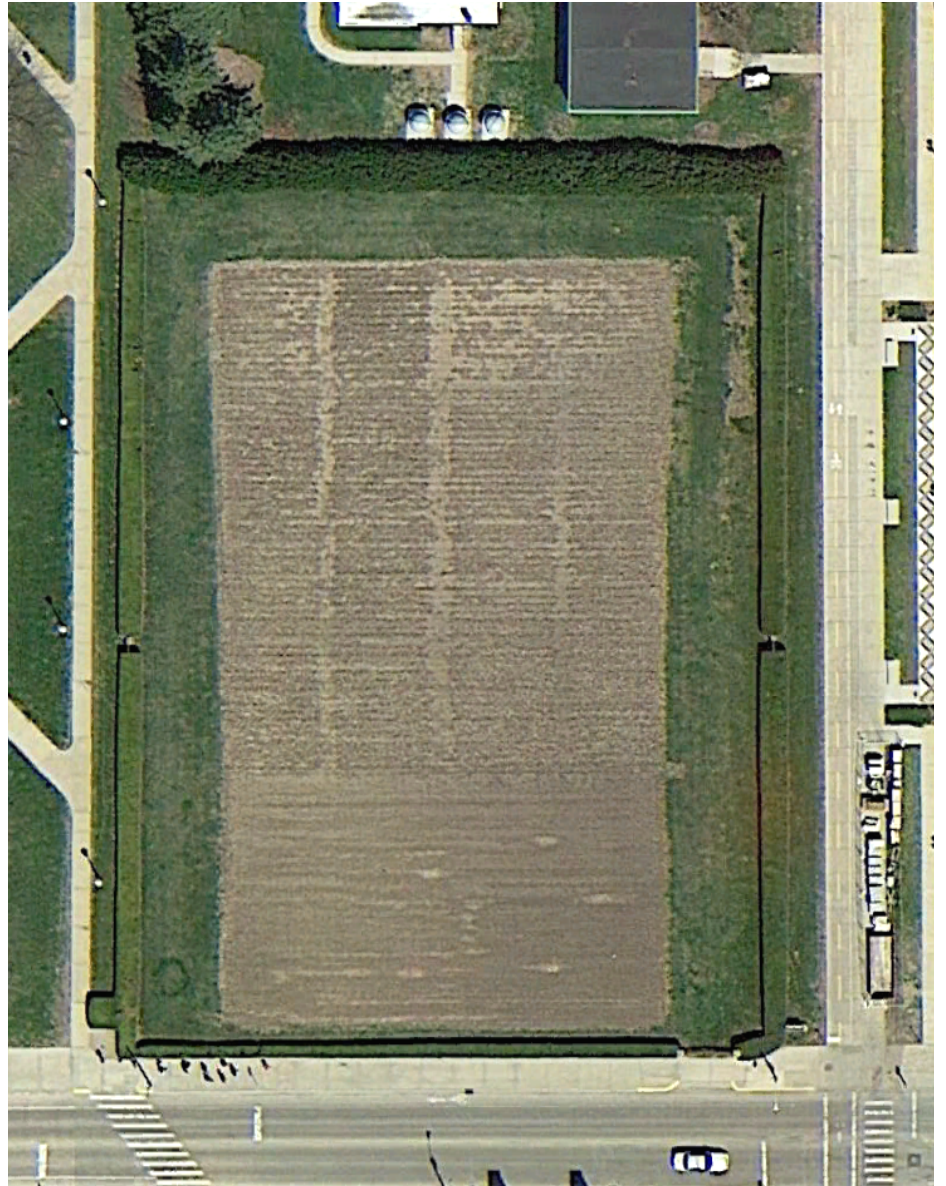
**Eliana Brown**, Stormwater Specialist, Illinois-Indiana Sea Grant

### Forthcoming:

*Collaboration with parking facilities, and*

*Faculty in environmental economics, civil engineering, environmental psychology, graphics design*

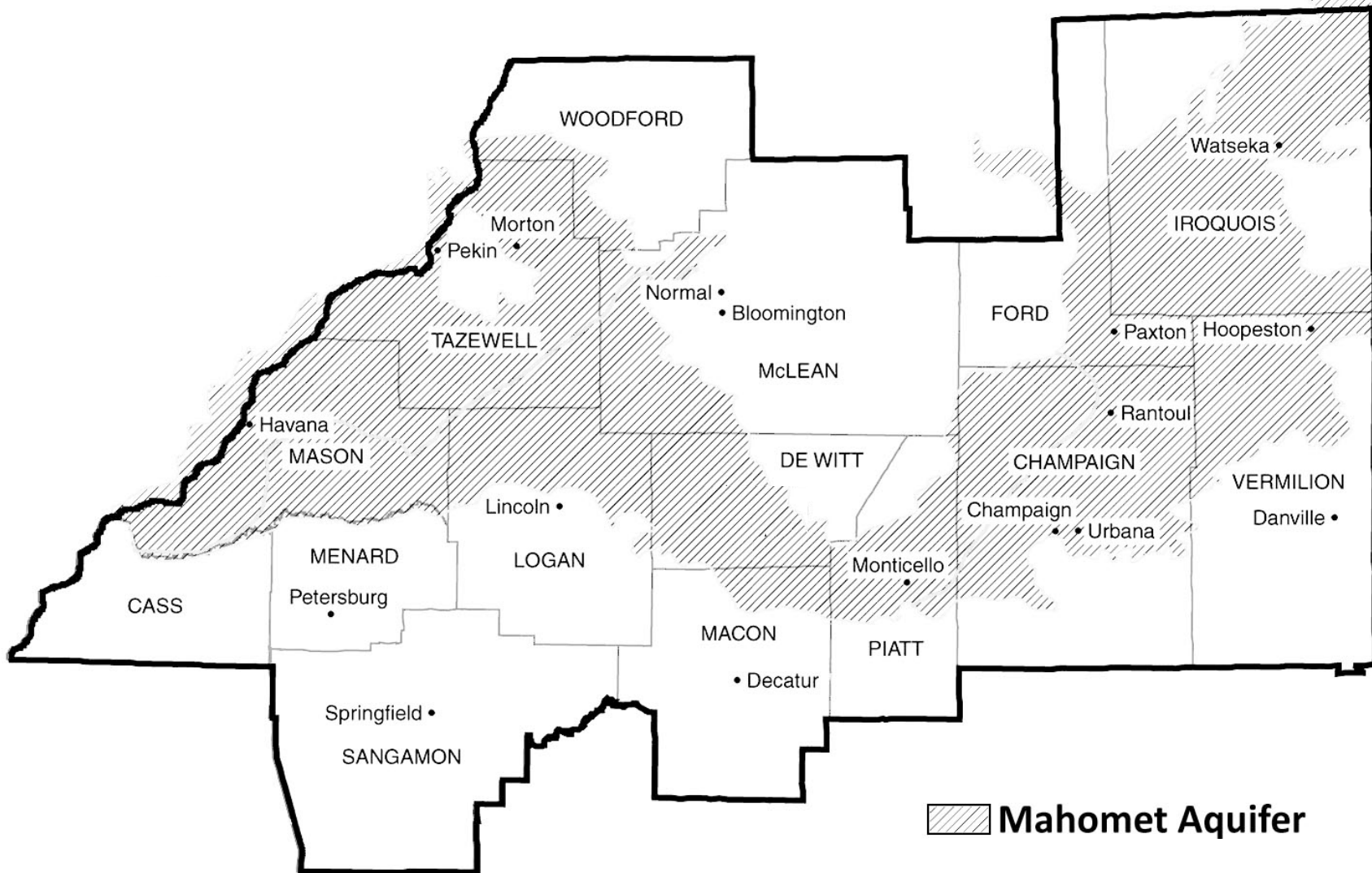
# Parking Plots for toMorrow



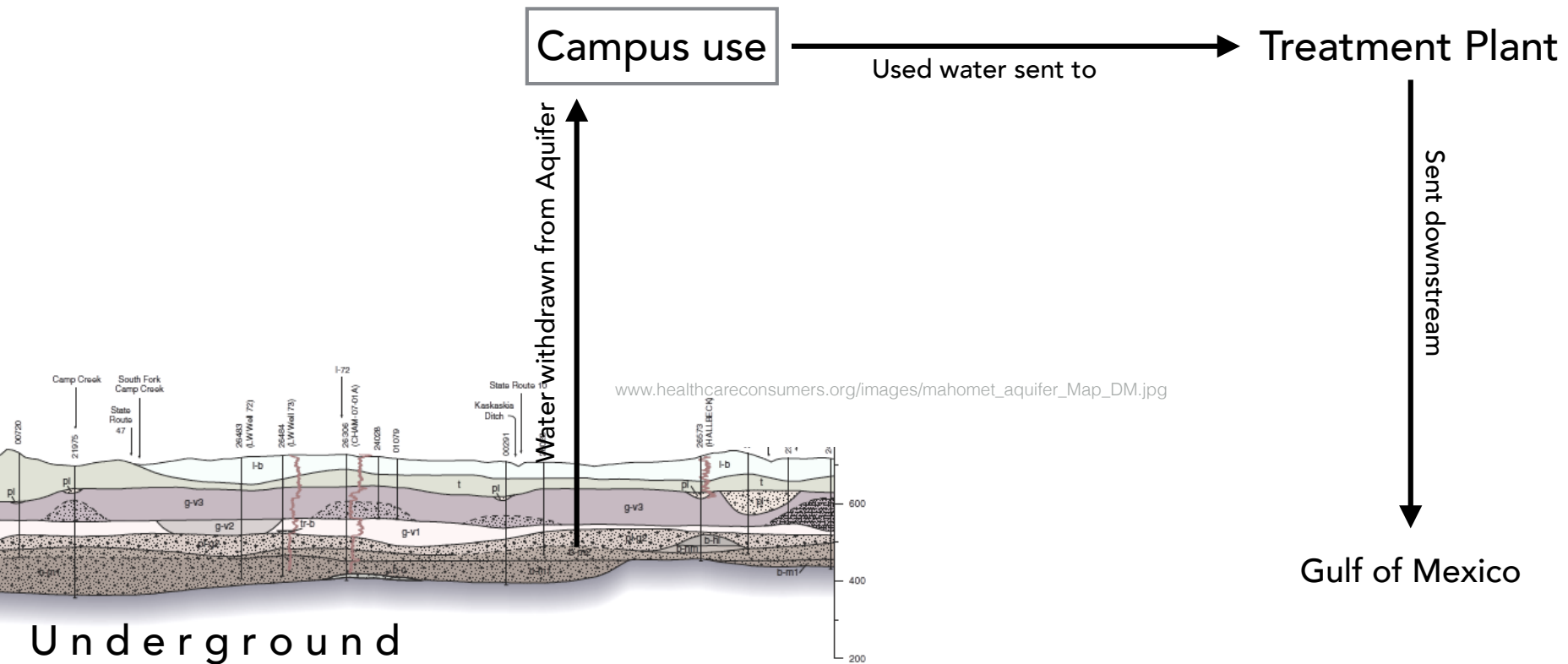


University of Illinois depends on this Aquifer.

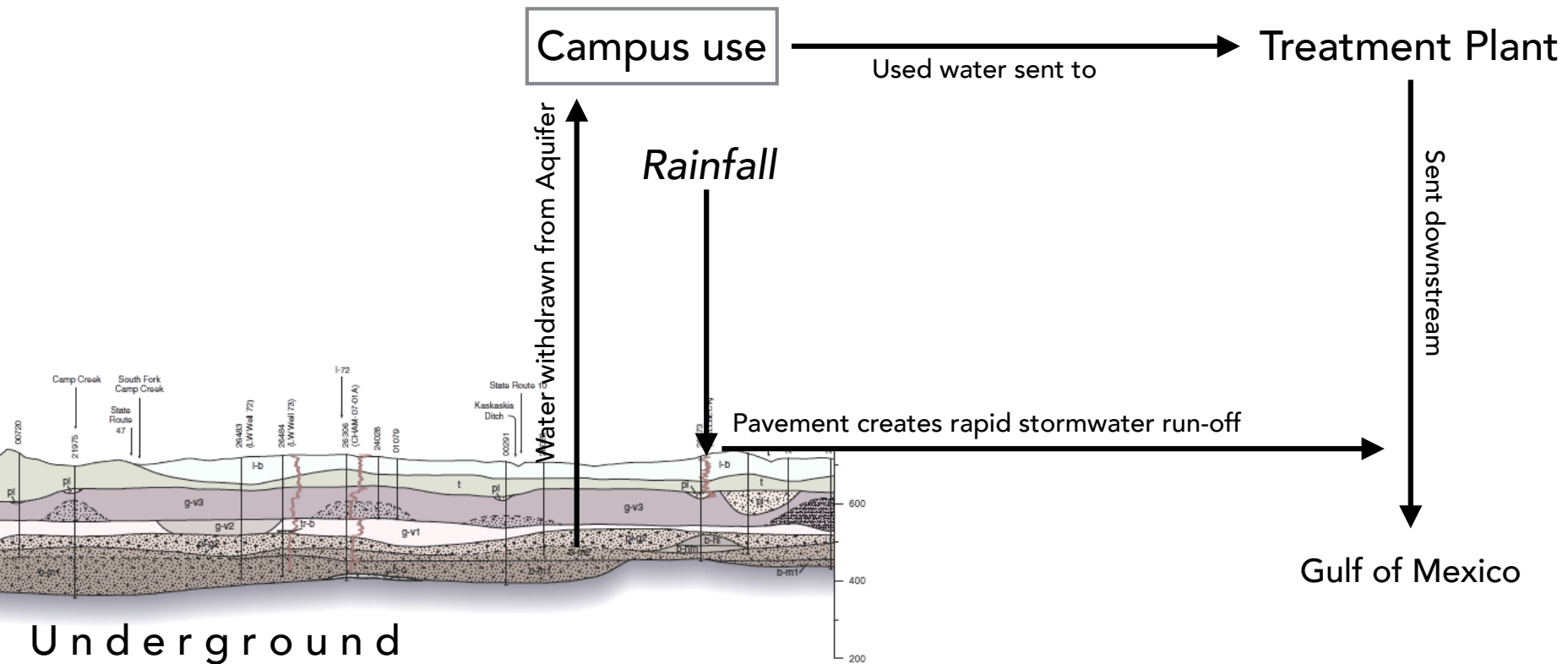
*And it is the Sole Source of drinking water for many counties in Central Illinois.*



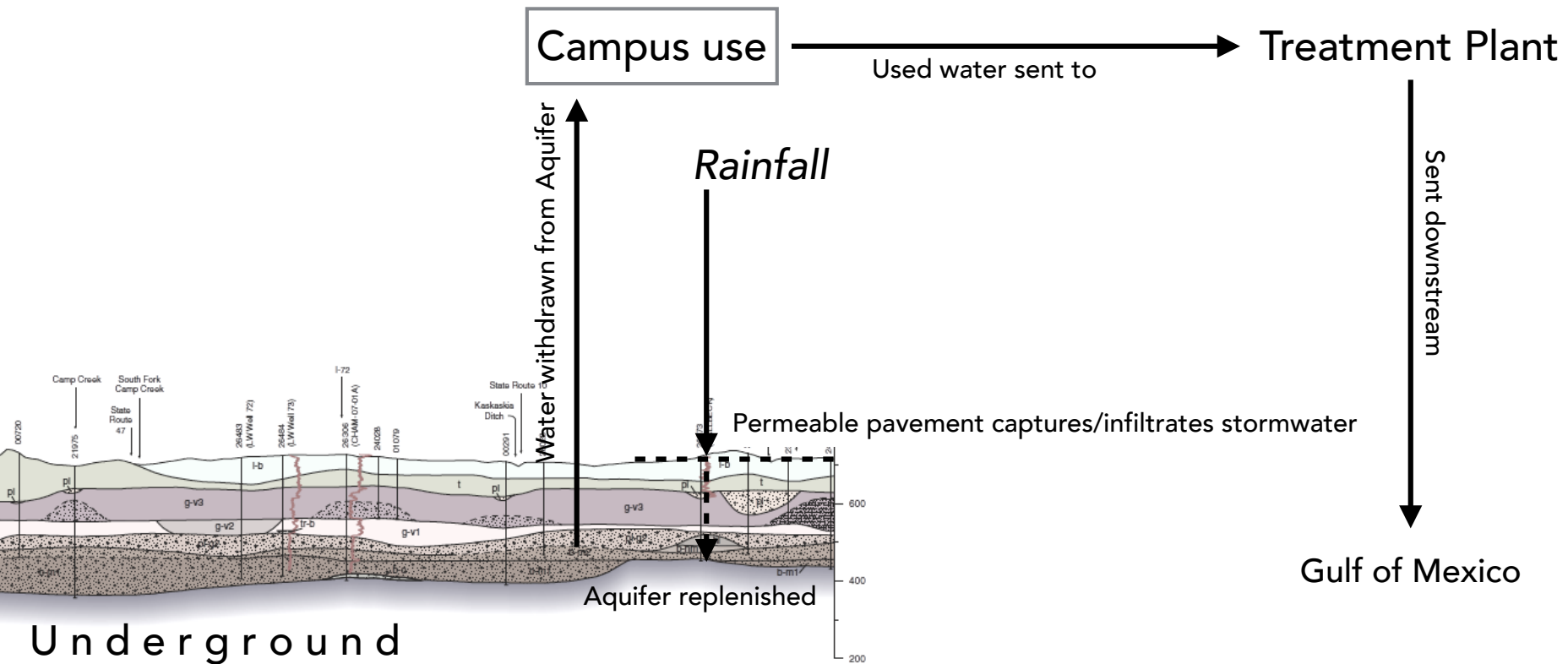
# Water going to the wrong place.



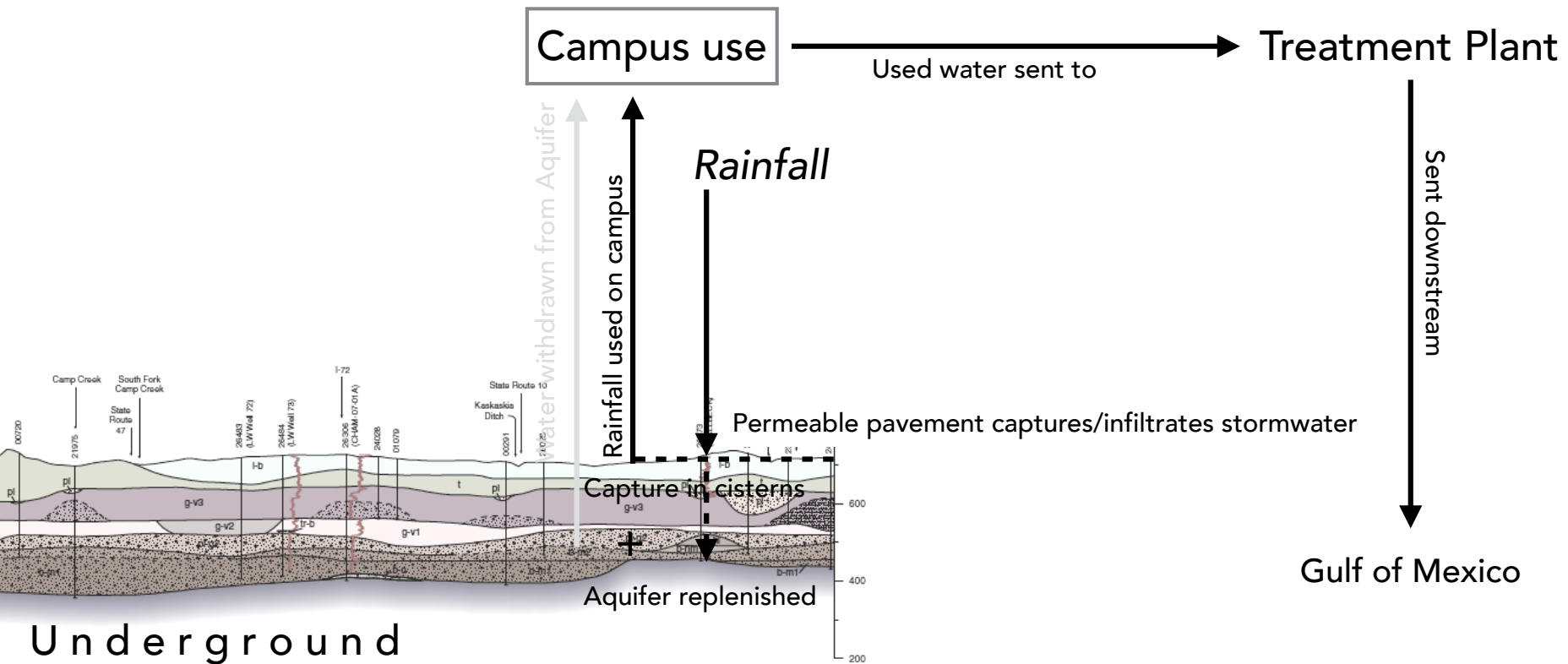
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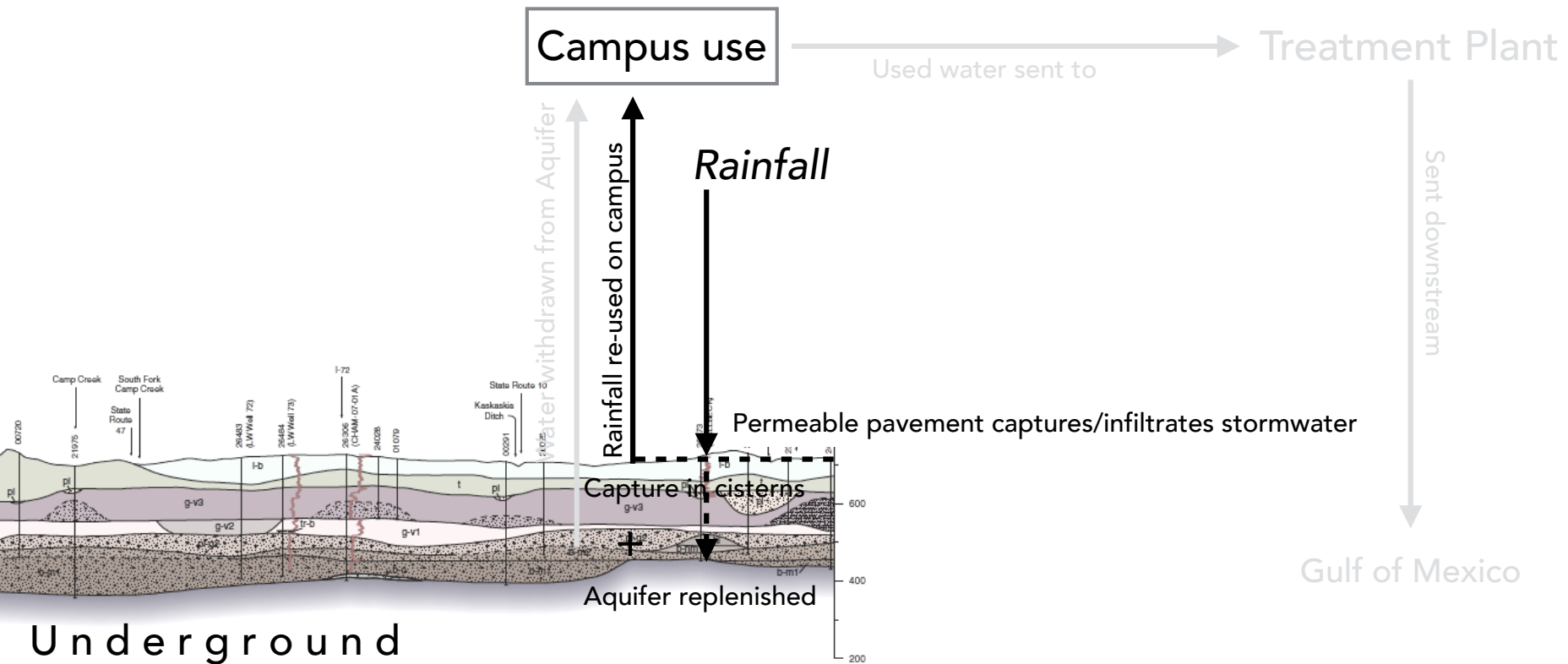
Water going to the right place.



# Water going to the right place, captured and used....



# Water going to the right place, and eventually...recycled





# University of Illinois drains stormwater away from the Aquifer.

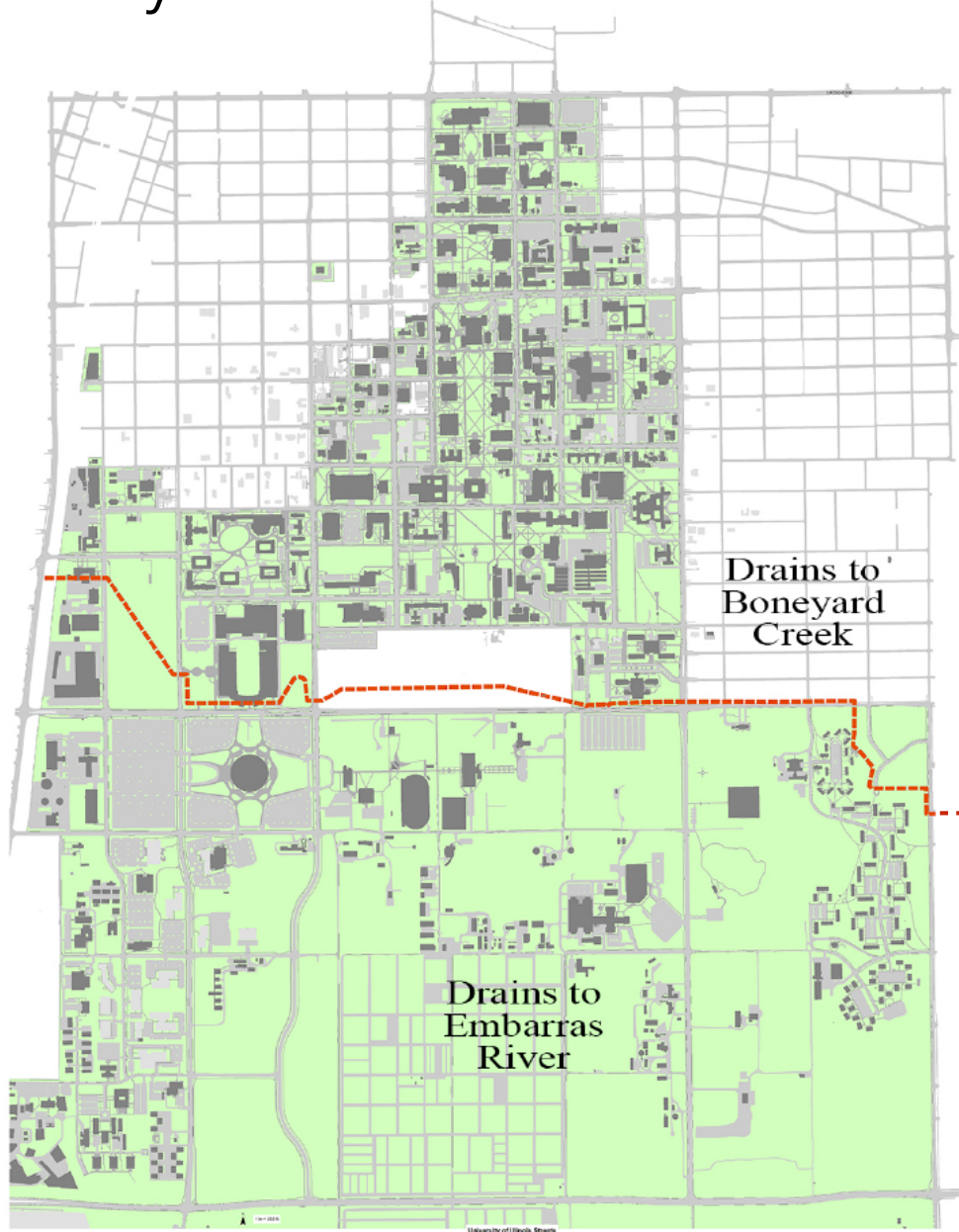


Table 4: Total Quantities of campus surfaces that drain to Boneyard Creek

Total to Boneyard Creek			
Total	SF	Acres	Percent
Parking	3,810,222	87.47	12.6%
Service Drive	432,893	9.94	1.4%
Sidewalk	3,533,343	81.11	11.7%
Building	5,381,826	123.55	17.8%
Street	3,029,897	69.56	10.0%
<b>Hardscape</b>	<b>16,188,182</b>	<b>371.63</b>	<b>53.6%</b>
Unpaved	14,005,890	321.53	46.4%
Total area	30,194,072	693.16	Acres

**87.47 acres = 90M gal/annual run-off,**  
from parking lots alone, in the northern campus

**Parking Lots are a good target Surface because:**  
They drain directly to sewers  
They are for low-speed traffic  
They can be transformed to multifunctional uses

Figure 1: The UIUC campus and the demarcation line between the Boneyard Creek and Embarras River watersheds.

# Stormwater is a key sustainability item for our campus.

## Water and Stormwater Goals

In the 2010 iCAP, the campus established a set of water conservation targets for 2015-25 that were based on a percent reduction of the baseline water use in FY08.

Fiscal Year	Water Consumption (KGAL)	% Change from FY08	Stormwater Reuse Goals
2008	1,312,492	n/a	
2009	1,202,497	-8%	
2010	1,095,184	-17%	
2011	1,099,293	-16%	
2012	1,063,156	-19%	
2013	1,038,783	-21%	
2014	1,007,588	-23%	
2020	918,744	-30%	25%
2025	787,495	-40%	40%
2030	721,871	-45%	50%
2040	656,246	-50%	75%
2050	524,997	-60%	90%

**Table 5: Water History and Goals**

As of FY14, the campus has already surpassed the 20% water conservation goal for FY15, with a 23% reduction of annual potable water use. This was achieved by a variety of water conservation efforts around campus including the detection and repair of leaks in the water distribution system and the installation of low-flow fixtures. It is notable that these reductions in total water use were achieved despite increases in both the number of campus users and the total square footage of campus buildings. Meeting the future water use reduction goals is expected to require continued efforts on water conservation and new efforts related to water reuse that can further reduce the net influx of potable water to support campus operations. Proposed targets for further reductions in water use from FY20 to FY50 are in Table 5 (left).

Here, we also establish targets to improve the sustainability of stormwater management practices by capturing stormwater for reuse in nonpotable water applications or for increased infiltration and recharge of groundwater, which better reflects natural hydrologic processes. Currently, the majority of stormwater is discharged directly to surface waters like the Boneyard Creek, which increases pollutant loads and forfeits various potential benefits of retaining that water, such as reduced needs for irrigation. The specific proposed targets for stormwater reuse (capture and subsequent reuse or recharge) are included in Table 5. In addition, it is recommended that the campus investigate the pollutant loads associated with stormwater runoff, though no specific targets are proposed at this time.



# Mahomet Lots : beginning the water paradigm shift on campus

## Schedule

**Spring 2017 : Kick-off Student Seminar "Re-Thinking A Lot" a landscape architecture course, open to all students**  
The SSC budget supports field visits, engagement with materials manufacturers, design/constructability consultant, graduate research assistance, design supplies, and exhibition materials  
The spring course would generate a proposal for 1 Mahomet Lot.

Summer 2017 : Bidding, permitting, coordination, led by F & S

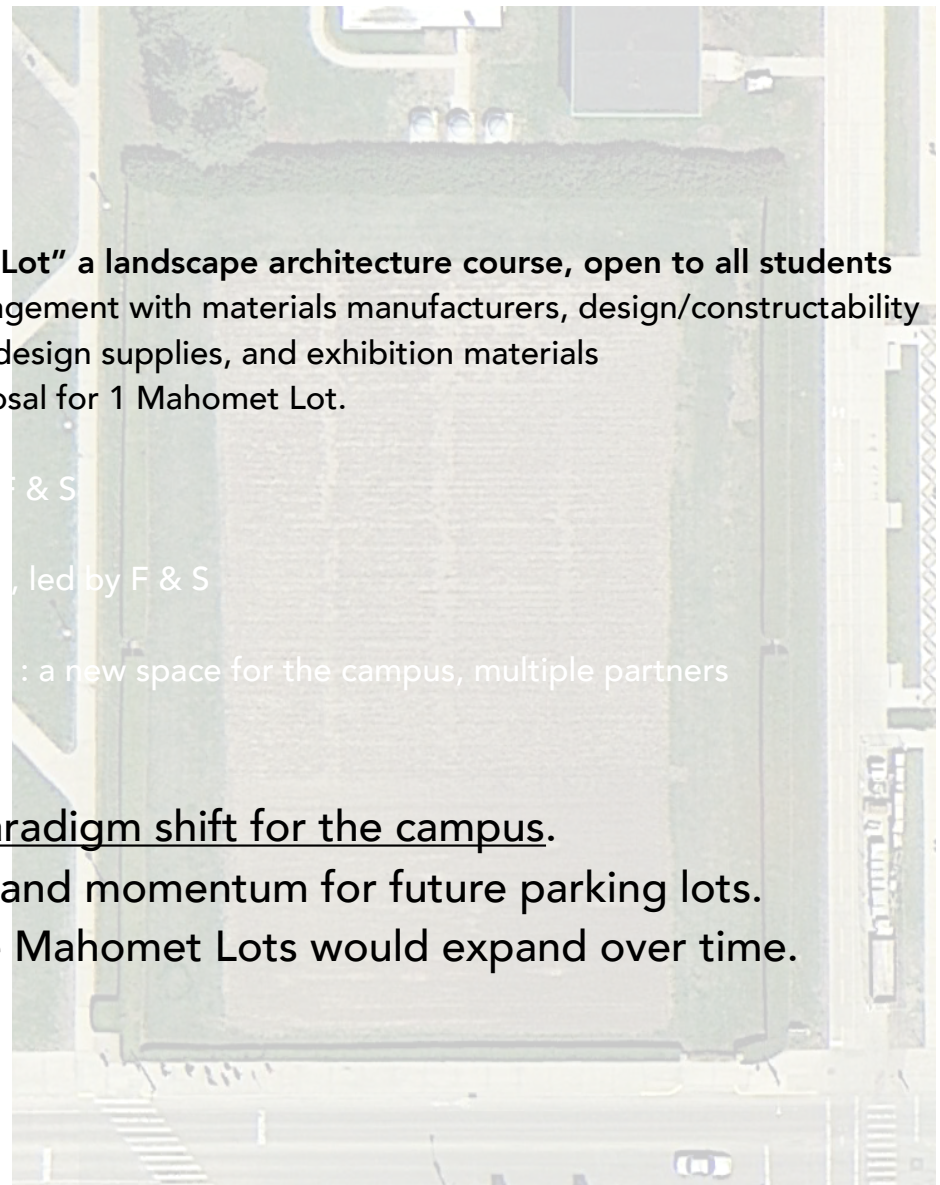
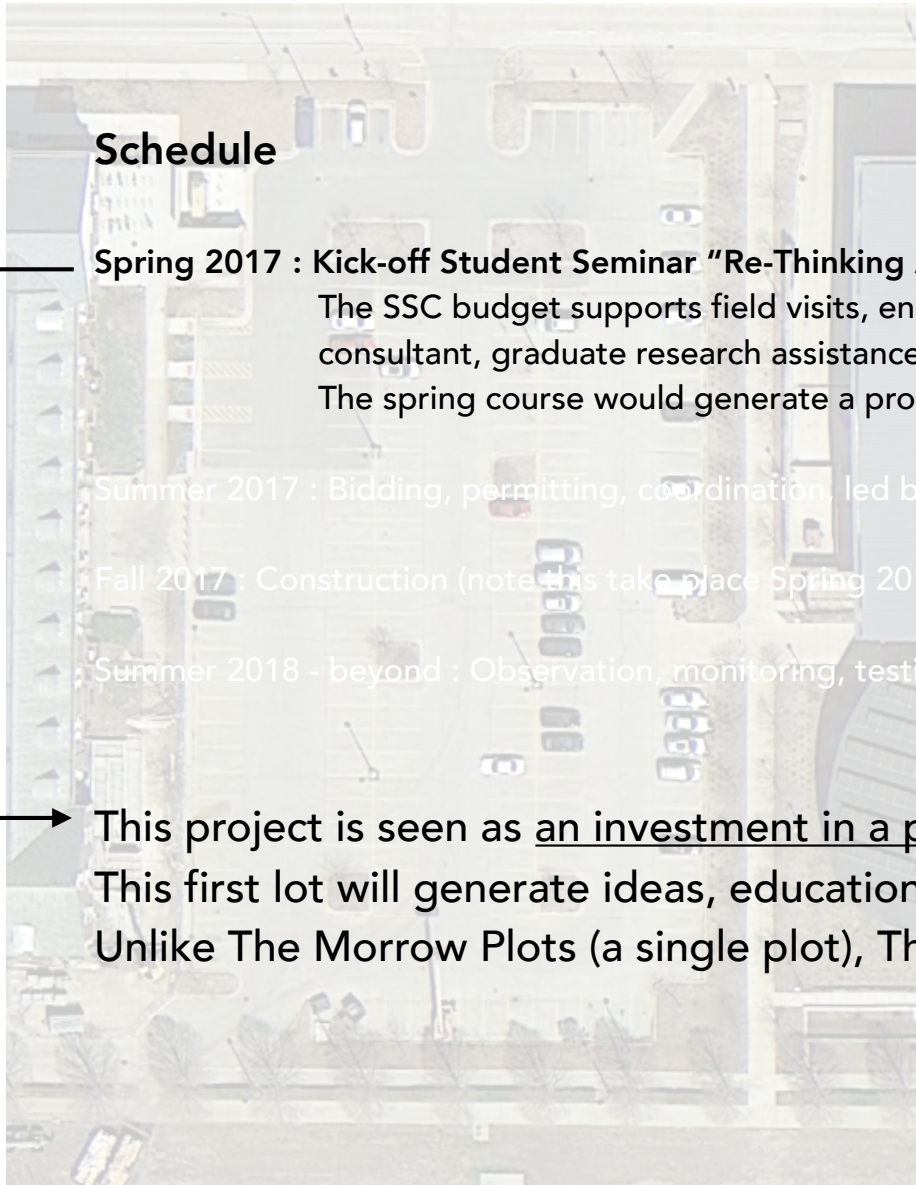
Fall 2017 : Construction (note this take place Spring 2018), led by F & S

Summer 2018 - beyond : Observation, monitoring, testing : a new space for the campus, multiple partners

This project is seen as an investment in a paradigm shift for the campus.

This first lot will generate ideas, education, and momentum for future parking lots.

Unlike The Morrow Plots (a single plot), The Mahomet Lots would expand over time.





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