

Restoration Project of the Ottawa River at the University of Toledo UPDATE



Presidents Commission on the River

Chair: Dr. Patrick Lawrence
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December 2012

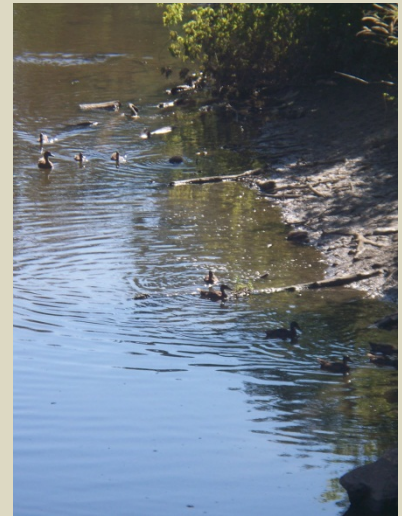
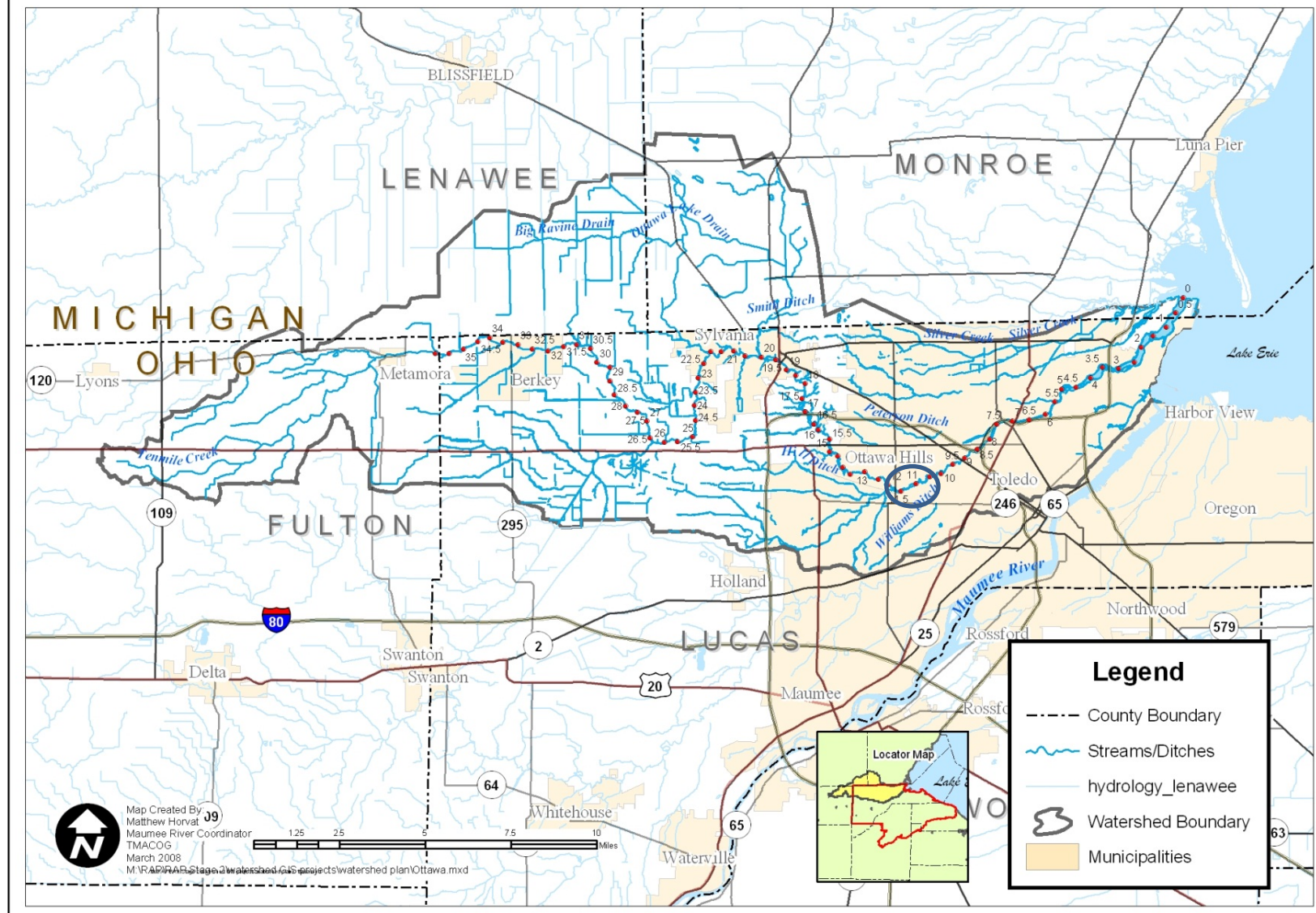


Figure 1

Ottawa River/Ten Mile Creek Watershed

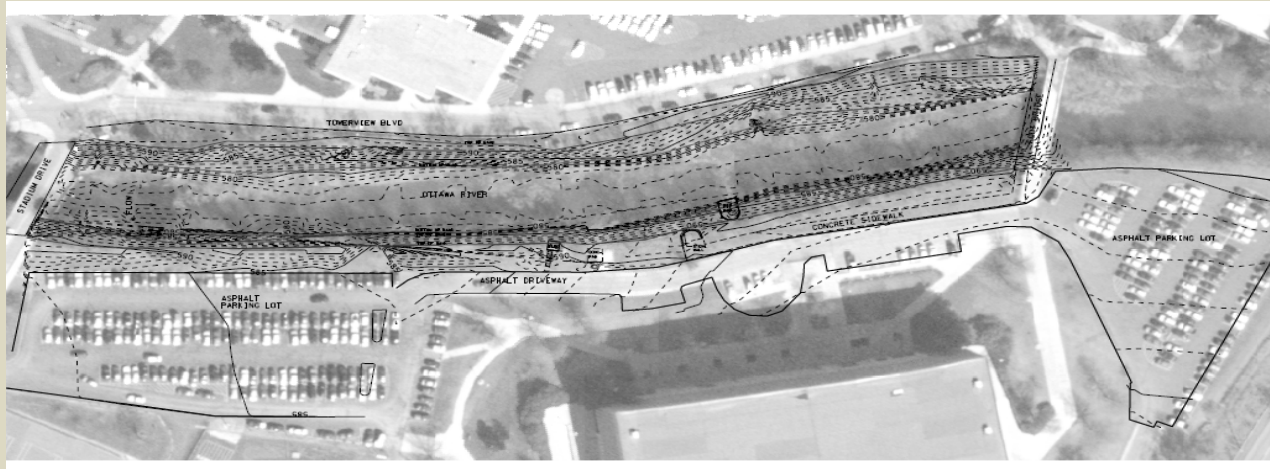
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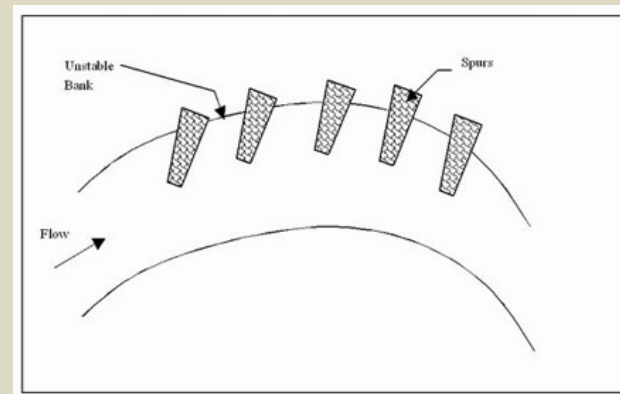
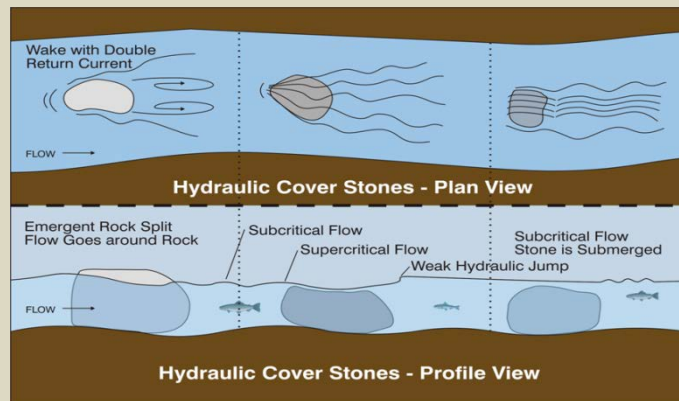
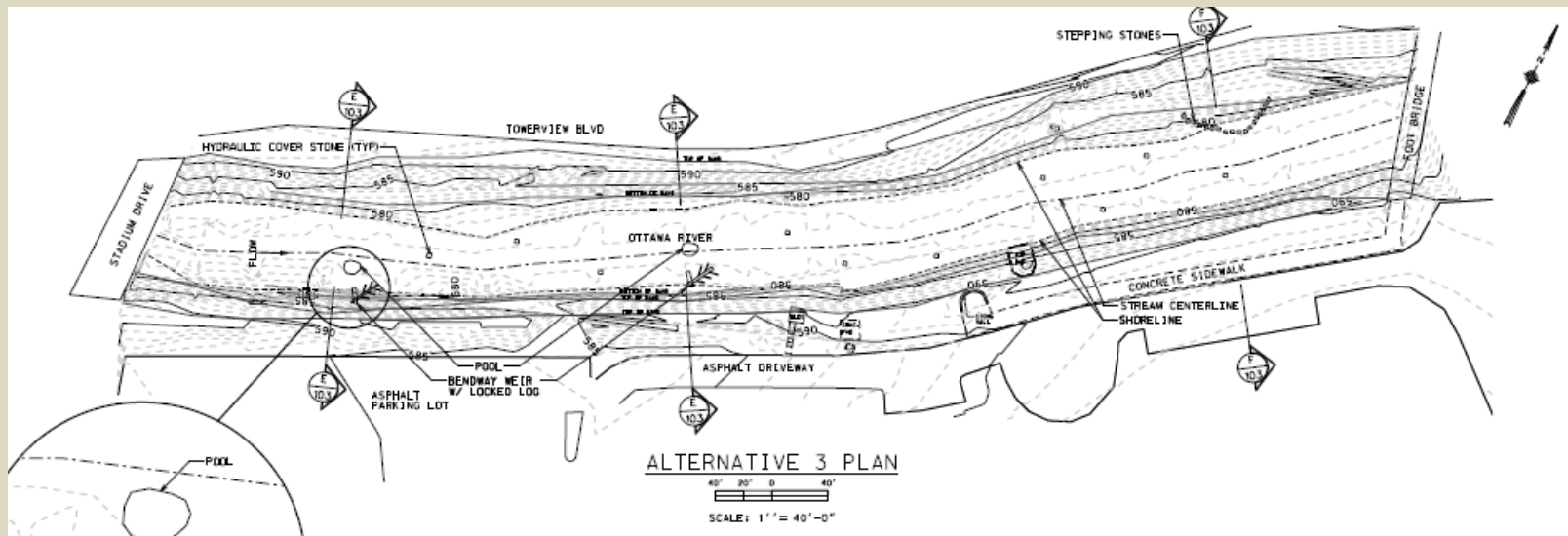
Tenmile Creek/Ottawa River Watershed



UT Tenmile Creek/Ottawa River Project Site



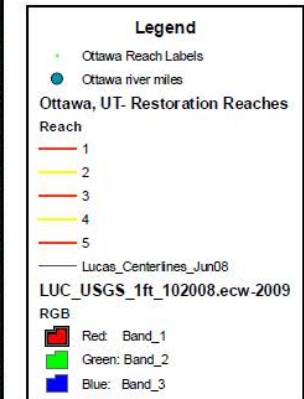
With funding secured from Stranahan Foundation in 2009 planning started on proposed in-stream and bank restoration for selected reach on UT campus, 900 feet adjacent to Savage Area, UT entered into agreement with ACOE Buffalo in FY11 to complete necessary survey, hydrological modeling and draft concept plans



Initial concept plans for river restoration of river reach 5 (900 feet adjacent to Savage Arena) as presented by ACOE Buffalo at March 2011 workshop

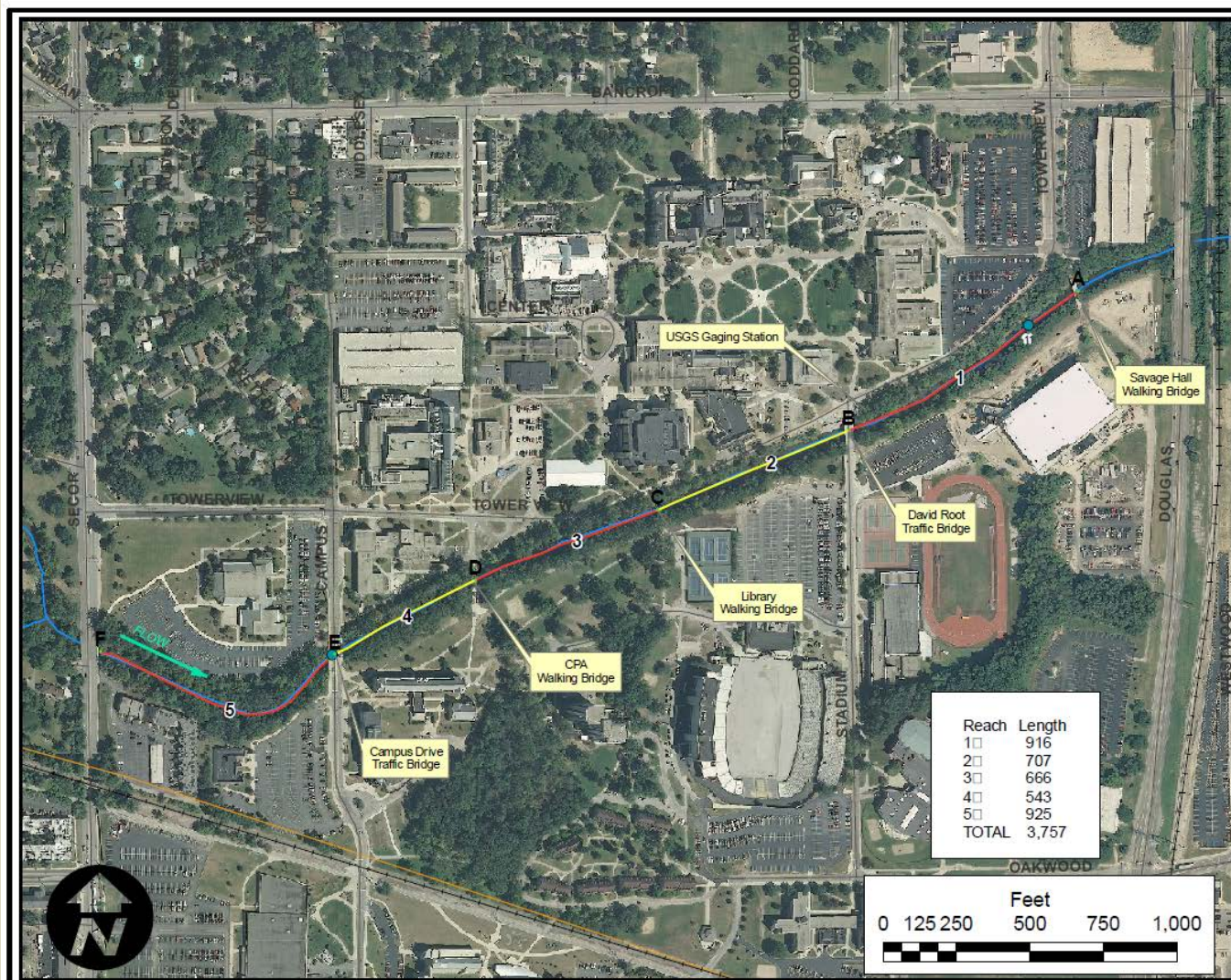
Habitat Restoration at University of Toledo Ottawa River Reach Map

Toledo, Ohio



Map Created By:
Matthew Horvat
Maumee River Coordinator
TMACOG
3-3-2011

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2011: Additional funding secured from Ohio EPA (\$235,195) and U.S. Fish and Wildlife Service (\$114,132) in 2011 allowed for expansion of river restoration to include entire length of Ottawa River on the main campus of the University of Toledo, ACOE Buffalo District under agreement with University of Toledo for FY 2012 to complete design concepts and final plans for all 3,700 feet on campus.

In order to determine the best choice of aquatic and bank plant species to install at the UT river restoration site, a series of test plantings were installed at a selected sample site with a mix of species including live stakes and plants placed in May/June 2011 with monitoring of their growth success ongoing from the Summer of 2011 to Summer 2012

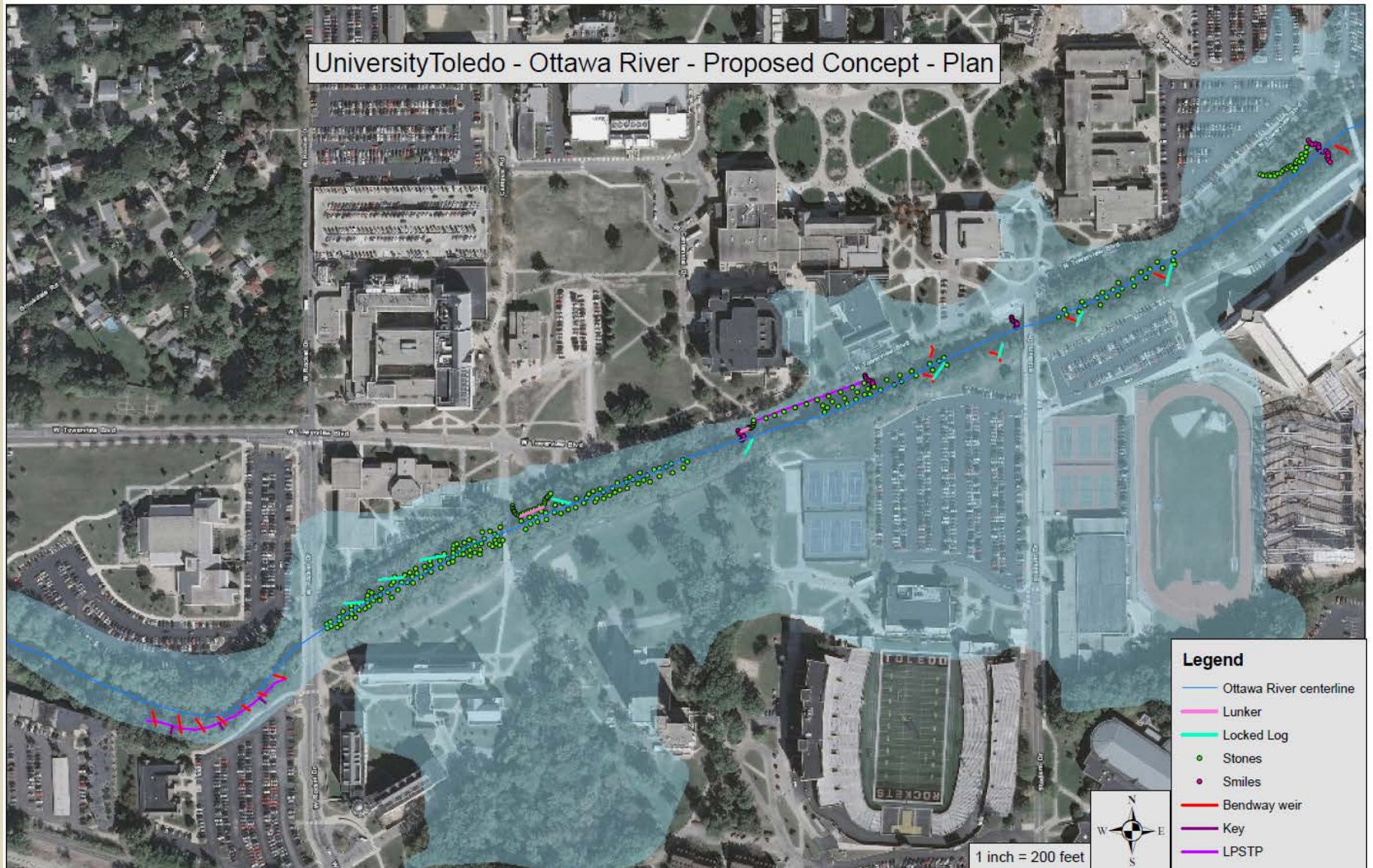
Species planted included Button Bush, Dogwood, Sycamore, Pin Oak and River Bank Wild Rye



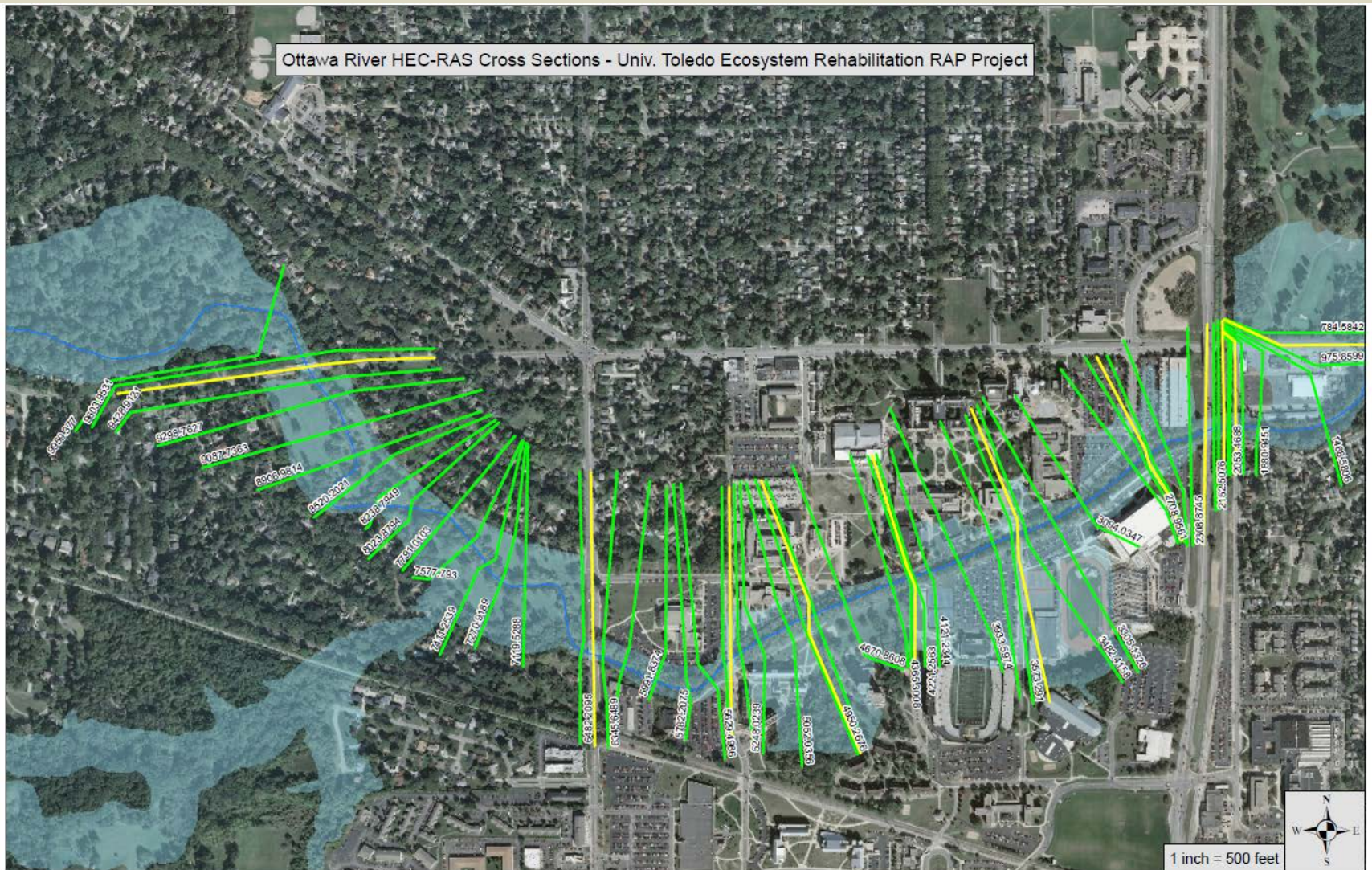
In the summer of 2011 OEPA conducts sampling within the Tenmile/Ottawa River watershed including on the UT campus and for pre-assessment of existing aquatic ecosystem conditions at the UT 319 river restoration project



Proposed In-stream habitat design concepts and plans (January 2012)

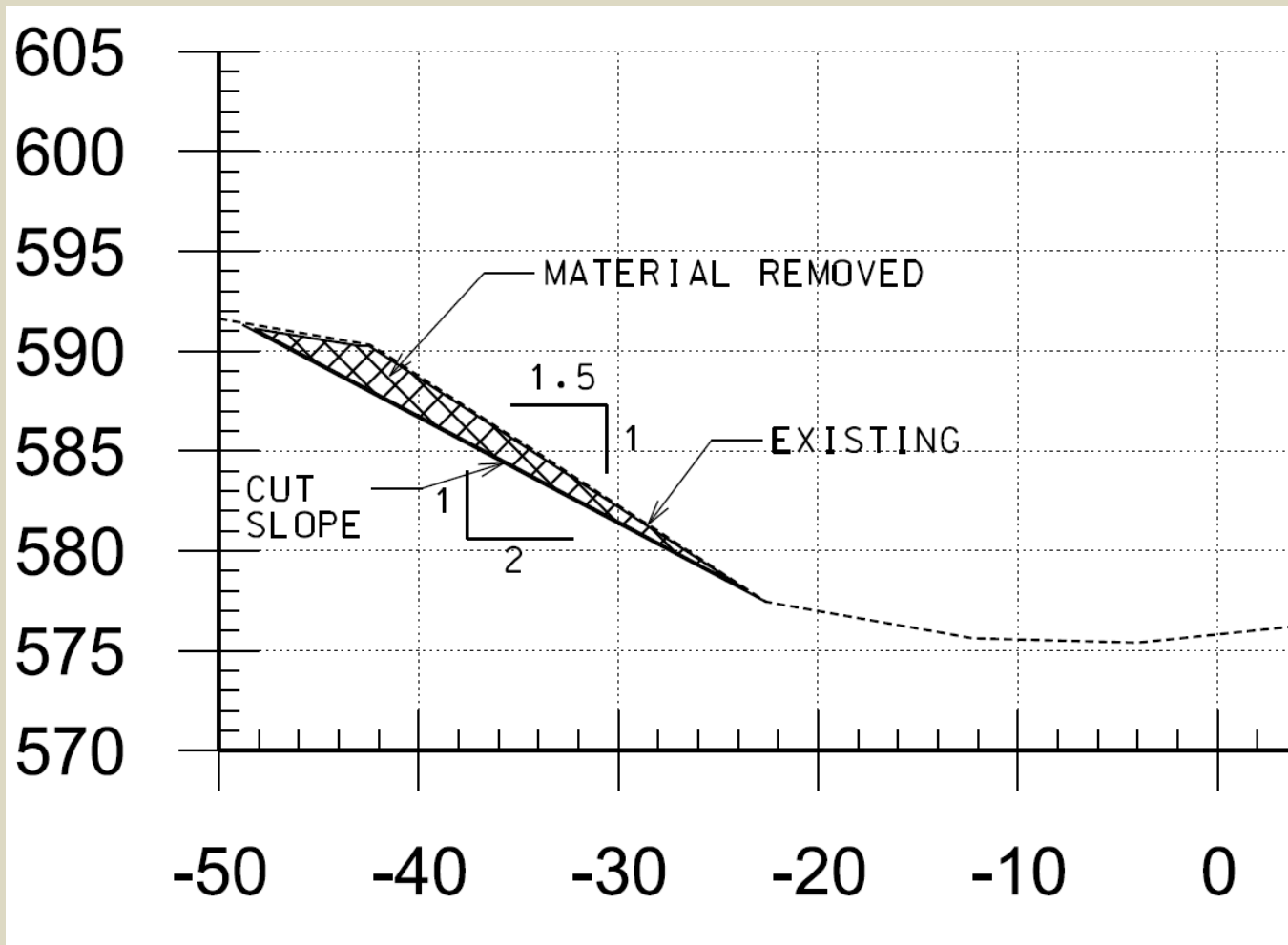


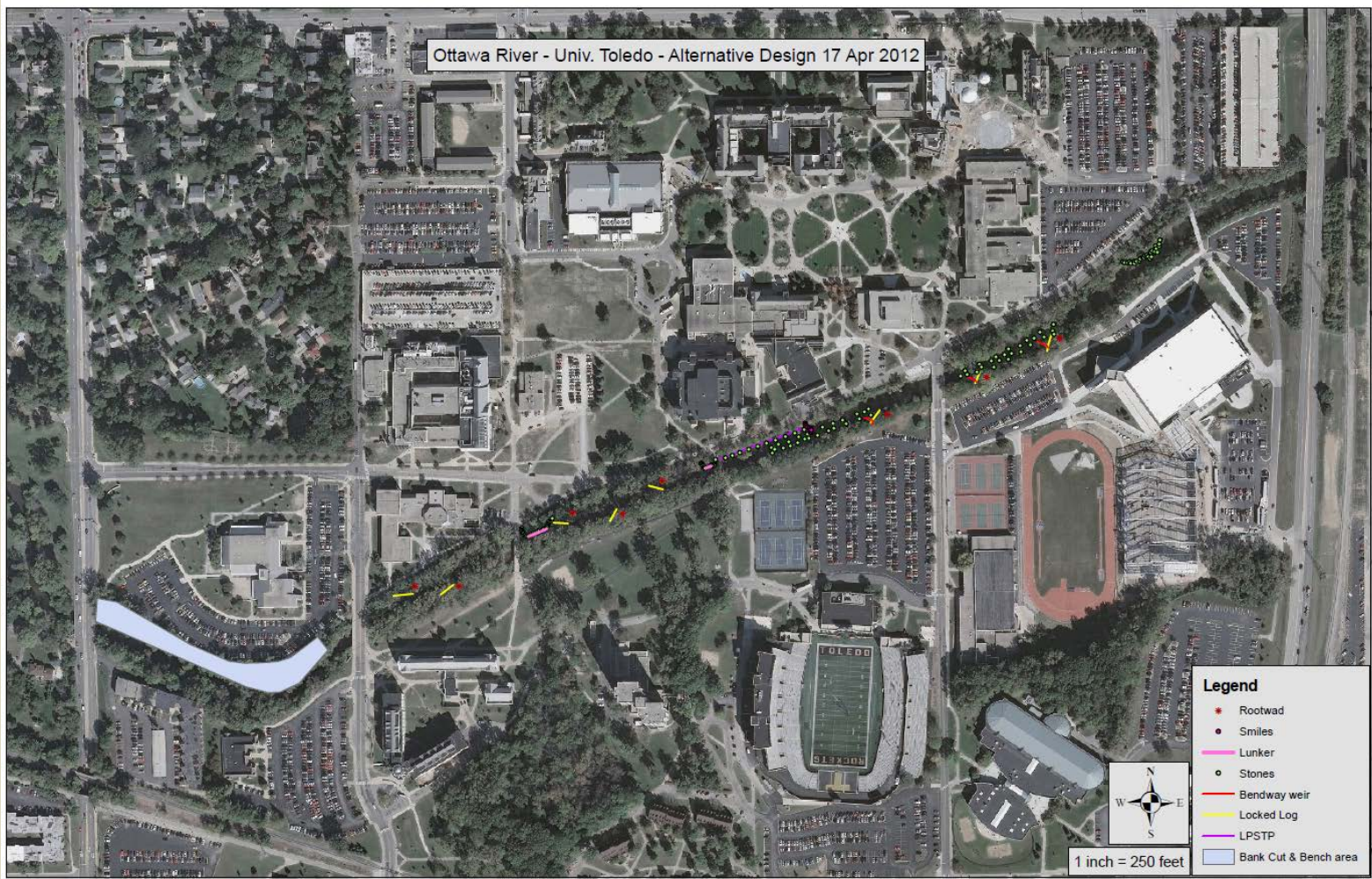
In February 2012 ACOE Buffalo conducts hydrological modeling of stream flow conditions with proposed in-stream restoration features in place following Reach 1-5 concept plans



Reach	Existing	Original Concept	W.S.E. rise
	(ft NAVD88)	(ft NAVD88)	(ft)
1	594.88	595.12	0.24
	594.48	594.71	0.23
2	594.18	594.31	0.13
	594.11	594.24	0.13
3	593.76	593.87	0.11
	593.46	593.55	0.09
4	593.21	593.28	0.07
	593.16	593.22	0.06
5	593.08	593.14	0.06
	592.69	592.68	-0.01

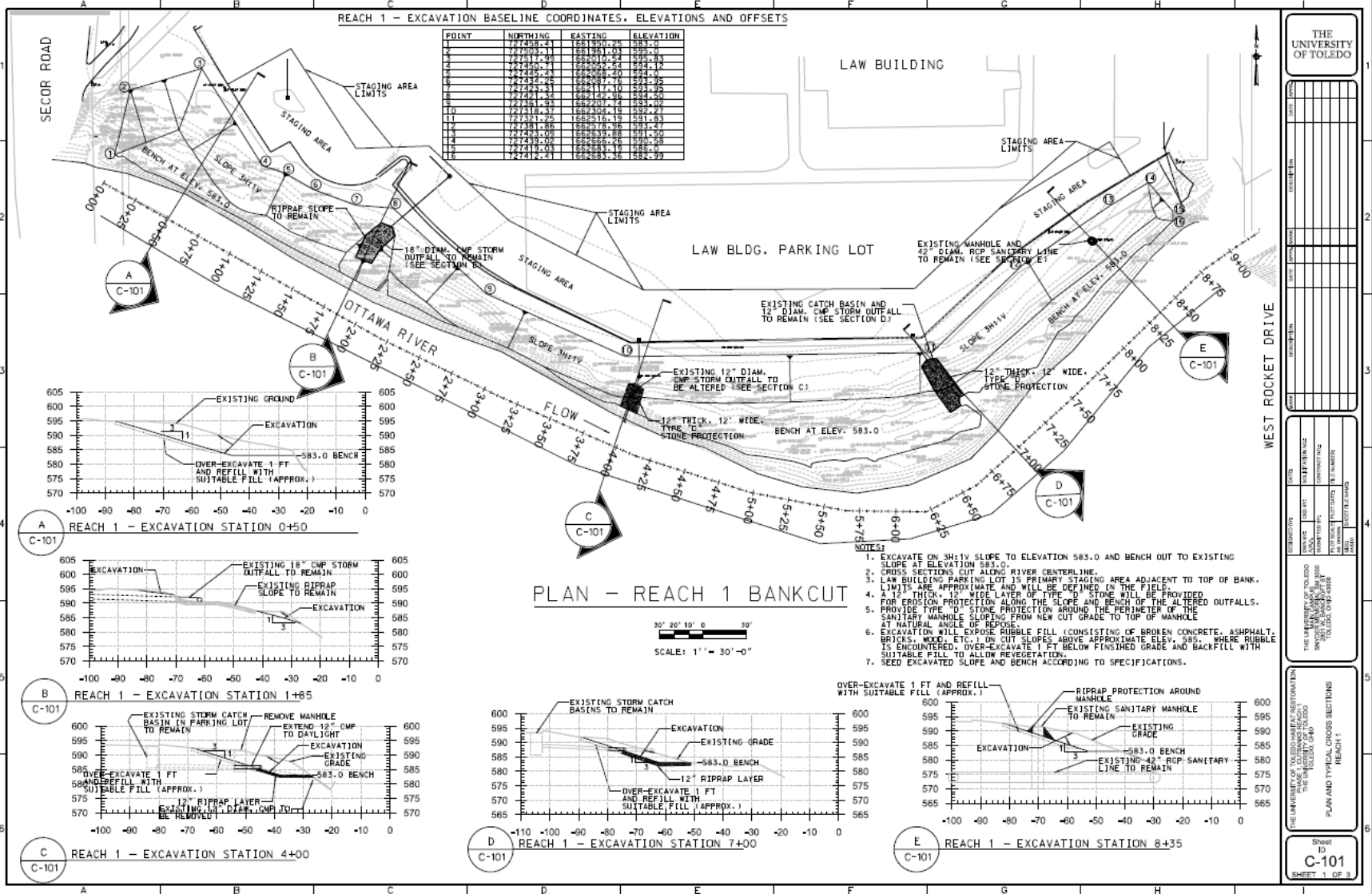
Another approach is proposed by ACOE Buffalo to create a series of cut bank features (see concept below) in reaches s 1-3 to provide for additional excess flood capacity storage in addition to continued reduction in the number, type and size of in-stream structures especially in reaches 1-3.





In April 2012 ACOE Buffalo completes final analysis and proposes a 900 foot cut bank in reach one along with alternative plan for in-stream restoration structures in reaches 2-5.

Draft design plans for Phase II: In-Stream Restoration features, currently in final review with scheduled construction in August 2013



**Final design for Phase I of the UT Ottawa River Restoration Project:
construction of a cut bank in reach 1, north bank adjacent to the UT
Law School (June 2012)**



Artistic rendering of the cut bank feature



Site of Cutbank feature (April 2012)

A detailed black and white illustration of a bat in flight. The bat is shown from a side profile, with its head turned slightly towards the viewer. Its wings are fully extended, revealing the intricate structure of the wing membrane and the underlying bone structure. The bat's fur is depicted with fine lines, and its ears are large and pointed. The background is plain white, making the bat the central focus of the image.





Tree removal completed at the cut bank site June 2012 funded by grant from USFWS

Stages of the Construction of the Cutbank (June to August 2012) photos below



Approximately 4,700 cubic yards of concrete fill (placed in late 1950s) was removed, screened on site with all concrete, woody debris recycled; clean sediment reused on site as topsoil



An additional benefit to the project were improvements to two existing stormwater outfalls

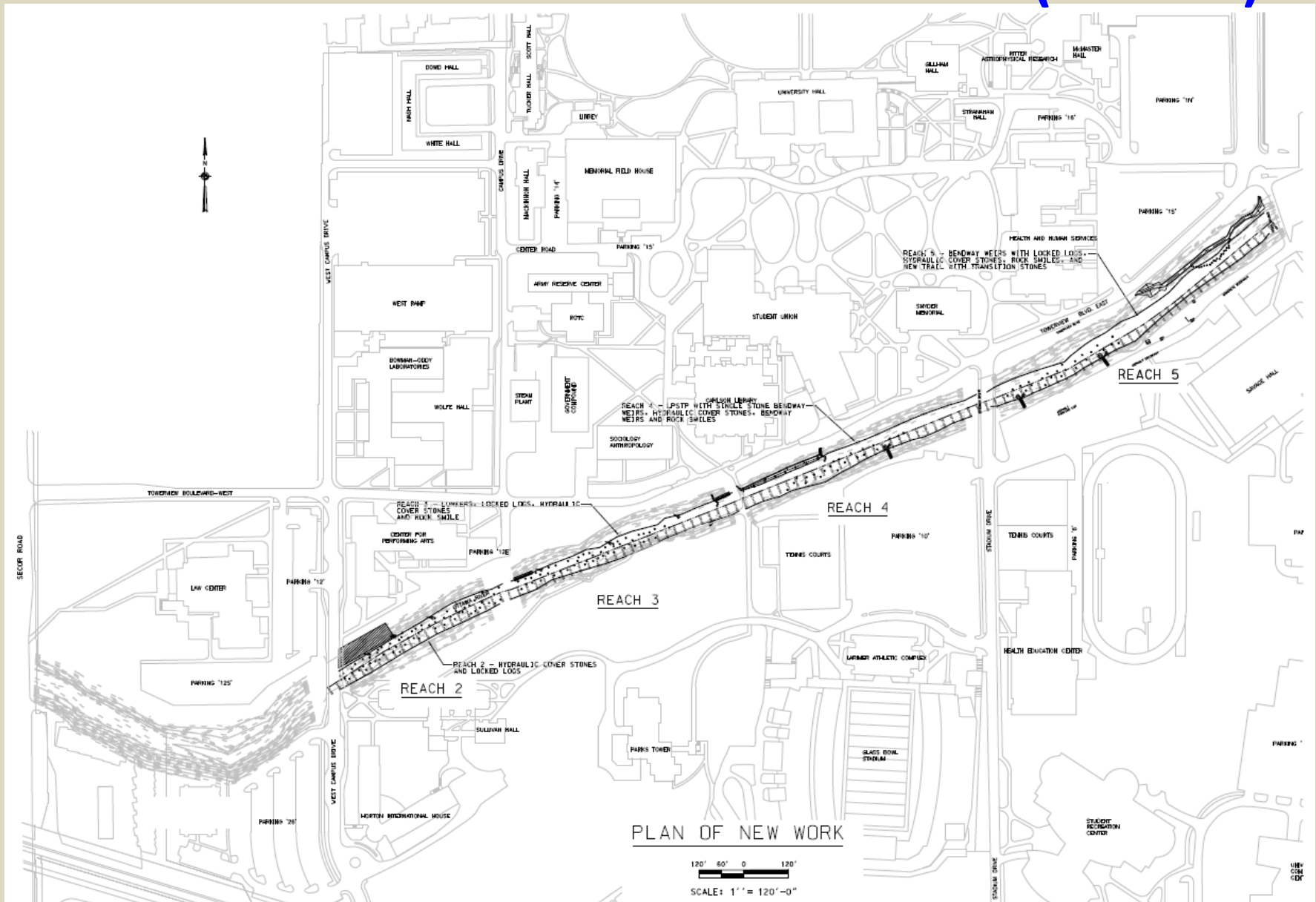
On October 1st, 2012 volunteers planted 317 new native trees and shrubs including . Species included Indigo Bush, Chokeberry, Hornbeam, Hackberry, Buttonbush, Redbud, Dogwood, Winterberry, Spicebush, Tulip Poplar, Sycamore, Black Cherry, several Oak species, Sumac, Rose, Sassafras, and Viburnum.

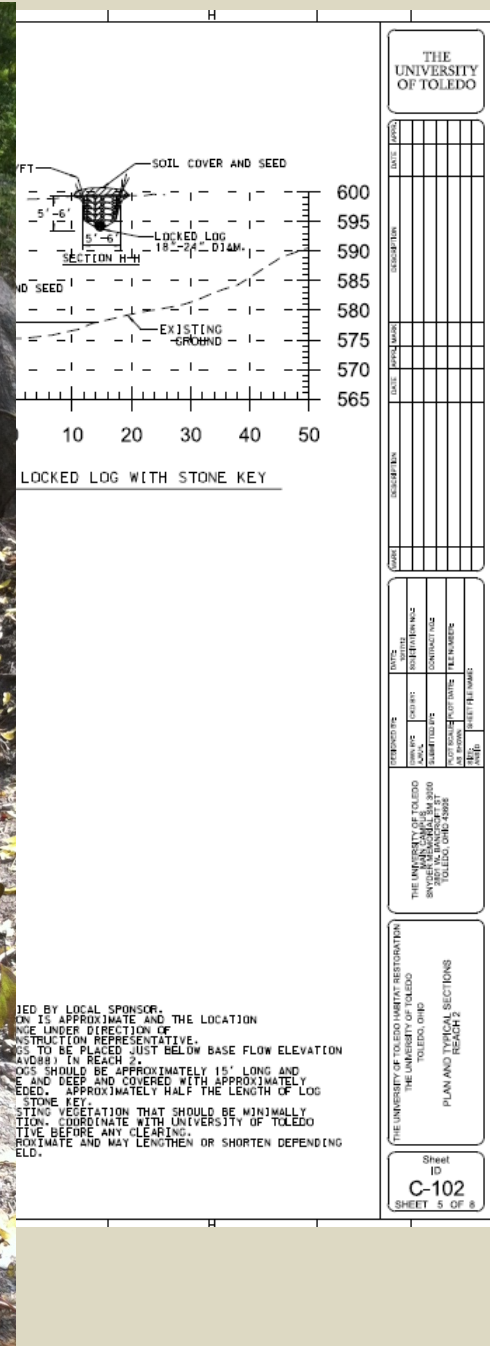
Deer repellent was applied and protective trunk wiring will be installed to prevent deer rub.



Fall 2012

Phase II: In-stream Restoration Plans (revised)









Current Project Timeline

Early 2013: Submission of Applications for federal and state permits

Spring 2013: UT issues call for construction bids

Spring/early Summer 2013: Site preparation/monitoring

August 2013: In-stream restoration features construction

Fall 2013: Additional bank and in-stream native plantings

2014: Post project monitoring

Appreciation is extended to all the
project partners and funders:





Photo By Nick Bryan

COLORFUL CATCH: Doctoral ecology student Carson Prichard held up a rainbow trout he caught in the Ottawa River on UT's Main Campus. Nick Bryan, a graduate student in ecology, also caught a rainbow trout. The recent catches show that this species has begun using this part of the Ottawa River, according to Bryan, who is a teaching assistant in the Department of Environmental Sciences. Trout are indicators of good water and habitat quality in rivers, and until now were not seen at UT, he said. The trout are examples of the improved aquatic habitat from the Ottawa River restoration project, which began earlier this year with help from a \$235,000 grant from the Ohio Environmental Protection Agency and a \$111,000 grant from the U.S. Fish and Wildlife Service.