

December 9, 2014

**TO:** Dr. Ming-Han Li and the Schob Nature Preserve Mini Grant Review Board

**FROM:** Galen Newman

**SUBJECT:** Re: The 2014-15 Schob Scholars LAUP Mini-Grant Program

**Principal Investigator:**  
Galen Newman, PhD

**Title:**  
Environmental Monitorization and Interactive Display of Schob Preserve

**Abstract (150 Words):**

The a 7.43 acre, mostly natural, David E. Schob Nature Preserve is nestled within a context characterized by mostly residential land uses. Future success in managing the property as public parkland will be highly dependent upon maintaining existing necessary features, preserving and enriching existing natural processes, and creating new programmatic functions for the populations which it seeks to serve. This proposal seeks to provide an initial measurement structure for future research and education possibilities on site which can be monitored through time. Objectives to accomplishing this vision include researching and implementing appropriate environmental monitorization equipment, creating a website platform to display and market existing on-site features and any proposed changes from future plans/designs, generating of a baseline set of data for future landscape performance studies, and streamlining the website and environmental monitorization data into an interactive app which will be developed for higher education and public use.

**Project Objectives:**

1. Inventory and digitally map all existing site conditions/future growth plans
2. Purchase and strategically locate environmental monitorization equipment
3. Create an interactive website for Schob Preserve and showcase its existing amenities
4. Initialize baseline data sets for future comparisons as Schob Preserve grows
5. Develop an interactive app which displays design program of the preserve and environmental monitorization data for higher education and public use
6. Utilize the data generated for publications in peer reviewed outlets

### **Work Plan:**

*Task 1 - Site Data Collection and Program Highlights:* This task will identify, define, spatially locate, photograph, and highlight the existing program of on-site amenities using previous research on site and linking to current and future plans for the site. All other Schob Preserve mini-grant recipients will be interacted with for data obtainment and on-site program changes. This data will be organized, visualized, and highlighted on the future website for the preserve.

*Task 2 - Website Initialization:* After the site has been thoroughly inventoried and documented, a website will be created for public viewing and education of the design program of Schob Nature Preserve and its inherent functionality. This site will need to be continually updated and will be linked to the data monitoring equipment for display as well as the future app.

*Task 3 - Environmental Monitorization Research, Equipment Purchasing and Installation:* The selection and placement of ecological and hydrological monitoring devices will require through assessment of existing options and location availability. Water quality meters, rain gauges, habit survey kits, successional growth meters, and other climatological measuring devices will be allocated and distributed within the preserve.

*Task 4 - Baseline Data Collection/Organization:* Once the environmental monitorization equipment is in place, existing conditions data will be collected, stored, and streamlined to the website for fixture landscape performance comparisons as new elements are added into the preserve over time to test their efficacy.

*Task 5 - Website Refinement and Interactive App Development:* The website will then be adjusted to be linked with tables and smart phones and an app will be developed specifically for public interational and educational functions for use4rers and researchers of the preserve.

### **Student Learning Outcomes:**

1. Develop the ability to seamlessly interchange data between digital programs
2. Understand the differences in current environmental monitorization devices and their purposes
3. Become well versed in marketing a site through design packaging and website development
4. Be able to read environmental quality assessment instruments, understand their outputs, and log data
5. Understand how to link data sets in multiple online platforms and create an interconnected application
6. Be able to operationalize data obtained and organize the information into publishable materials



	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Task 1. Site Data Collection and Program Highlights												
Task 2. Website Initialization												
Task 3. Environmental Monitorization Research, Equipment Purchasing and Installation												
Task 4. Baseline Data Collection/Organization												
Task 5. Website Refinement and Interactive App Development												

**Anticipated Deliverables:**

- David E. Schob Nature Preserve Interactive Website Launching: Fall 2015
- David E. Schob Nature Preserve Interactive App Launching: Spring 2015
- Landscape Architecture Foundation Landscape Performance Case Study Investigation Grant Proposal: Fall 2015
- Award Submissions (EPA P3 National Student Design Competition for Sustainability Focusing on People, Prosperity and the Planet Submission, TX ASLA, National ASLA, etc...): Fall 2015
- Raw Dataset of Baseline Data (Published to Research Gate): Spring 2015
- Peer Reviewed Conference Submission (CELA, EDRA, etc...) Summer/Fall 2015
- Peer Reviewed Journal Submission (*Landscape Journal, Journal of Landscape Architecture, etc...*): Spring 2016

**Budget and Justification:**

<b>Item</b>	<b>Cost</b>
1 Student Worker for 2 Semesters @ 5 hours per week for 10 weeks	\$1,000. <sup>00</sup>
Domain Name and Web Hosting	\$500. <sup>00</sup>
Environmental Monitoring Equipment	\$1500. <sup>00</sup>
Water Testing Kits	\$350.00
Hydrometers	\$400.00
GPS Spatial Location Mapper	\$250.00
Data Loggers	\$500.00
<b>Total</b>	<b>\$3,000.<sup>00</sup></b>

**Additional Note:**

This proposal, if granted, will require working with and aligned closely to all other Schob Preserve Mini Grant Winners in an effort to showcase and highlight current and future efforts on the site. It seeks to create a living research/educational testbed which is adaptive to new programs proposed within the preserve.