

June 17, 2011

Ms. Susan Graham  
Wisconsin Department of Natural Resources

Re: Scope modification for Rock Lake Improvement Association Lake Planning Grants  
MARS Project Number: 1511

VIA: EMAIL

Dear Susan,

On behalf of the Rock Lake Improvement Association, this letter summarizes proposed changes to the scope of two Lake Planning Grants (LPL-1412-11 and LPL-1413-11) for the Miljala Channel Tributary on Rock Lake. These grants requests were submitted on August 1, 2010 and subsequently approved by the Department of Natural Resources. The intent of these changes is to make the best use of grant funds for additional data collection, design and working with stakeholders.

#### Proposed Project Approach and Schedule

The Association has recently been offered the opportunity to work with the University of Wisconsin – Madison Water Resources Management practicum in 2011-2012, under the direction of Professor Ken Potter. The UW students and faculty would collect and analyze additional data at a reduced cost, allowing more data to be collected to support development of an engineering solution. The workshop would run from September 2011 through August 2012, with most data being available in the summer of 2012.

Engineering design development by a consultant would proceed in parallel with the students' work. The consultant will evaluate design alternatives, will work with the Association and stakeholders to select a preferred alternative, and will develop a design suitable for permit applications by the end of the grant period (December 31, 2012). Future tasks to be funded separately will include obtaining the necessary permits, revising the design based on regulators' comments, developing construction documents (contracts, a revised drawing set, and specifications), construction, maintenance and monitoring.

Engaging landowners and other stakeholders throughout the process will be critical to develop a solution that has the support necessary for implementation. This process has already begun, and we proposed to maintain this involvement throughout the project.

#### Grant Scope Details

Proposed revisions to the scope and implementation details are summarized below, with the original scope description included in italics.

### Grant 1 - Additional Data Collection

- Collect additional bed load sampling to determine the annual quality of sediment that is entering the Miljala Channel and Rock Lake. This information will be needed to determine a maintenance program for the management practices that may be selected.

UW-Madison students and possibly volunteers will expand upon this data collection to increase the information gained on the amount of sediment and phosphorus transported to the navigation channel, including:

1. Automated monitoring of ditch water level and automated turbidity monitoring at the Cedar Lane culvert
  2. Manual sampling of sediment and phosphorus loads at different ditch stages/discharges (especially runoff events)
  3. Systematic surveys of the thickness of sediment accumulating in the channel
  4. Review of historical information on sediment accumulation and dredging in the channel since its construction in the 1950's.
- Conduct additional bacterial sampling to determine the source of the fecal bacteria using RNA and other testing.

UW-Madison students and possibly volunteers will conduct bacterial source tracking for several ditch water samples to determine the presence / absence of human sewage contamination (indicating sewer or septic system leaks). The number of sample locations and dates will depend on analysis costs.

- Prepare a detailed topographic survey of the drainage channel, which is necessary to prepare the design of the management practices.

A consultant will conduct a survey in areas where detailed topographic data is needed to evaluate design effectiveness and/or to develop final design plans. Limiting the area to be surveyed would save funds.

- Conduct wetland delineation to determine federal, state and local jurisdiction for potential permits.

A consultant will conduct a wetland delineation in areas where control measures are proposed; limiting the area to be delineated would save funds.

- Conduct an inventory of birds, mammals and herbivores in the Miljala tributary watershed to assist with the identification of opportunities to incorporate wildlife habitat into the final project designs.

To be conducted by a volunteer.

- Conduct a private well monitoring program to identify if nitrates are a local public health problem.

This task would be beneficial for public health, but results would not be available to the Association, unless provided to the Association by the homeowners. It would be conducted by volunteers.

- Review local regulatory ordinances on erosion and water pollution control to determine their effectiveness.

This can be a brief evaluation; Jefferson County staff can work with volunteers (and possibly the students) to summarize this information.

### Grant 2 - Management Plan Development

- Conduct tile survey along stream channel.

Volunteers have begun a tile survey and will conduct additional surveys, as necessary. UW-Madison students could assist this effort.

- Conduct a feasibility study to determine and design the preferred management alternative(s).

A consultant will evaluate the feasibility of potential control measures, work with the Association and stakeholders to select a preferred alternative, and develop design details suitable for permit applications. Obtaining permits, revising the final design accordingly, and preparing final construction documents will be completed in the future using an additional funding source.

- Convene a technical advisory committee made of local, state and federal agencies and local interest groups to develop and over see long-range management of Rock Lake.

The Association will engage outside technical advisors and a cost lower than included in the original grant, because there has already been significant input from experts.

- Prepare a trophic state model of Rock Lake.

A trophic state model of Rock Lake was completed by DNR in the 1990s; the opinion of experts consulted (including the original modeler) is that this previous work is still relevant and that additional modeling is not needed. A review of the previous modeling should be included in the UW student's report to add perspective on the impact of the ditch on Rock Lake.

- Identify potential federal and state funding sources that may assist with the installation of the preferred management alternative(s).

This task has been partially completed. The Association and County staff (and potentially the students) can complete additional evaluation.

- Conduct an open house with affected landowners to determine interest in participating in the implementation of the proposed management alternatives.

The consultant and Association volunteers will expand public participation to engage stakeholders throughout the project. This will require many meetings to gather information and opinions and to discuss potential solutions. We anticipate that the UW students will assist this effort.

Proposed Budget Changes

The proposed changes to the scope of the Lake Planning Grants are summarized below.

Activity	Budget	
	Approved Grant including Amendment 1	Proposed
<b>Grant 1) Additional pollutant source identification and collection of site data</b>		
Additional sediment & nutrient sampling	\$2,000	\$1,000
Additional bacteria sampling	\$2,000	\$3,000
Secchi Disc monitoring	\$0	\$0
Topographic survey	\$4,000	\$3,000
Wetland delineation	\$5,000	\$3,000
Bird and herbivore inventory	\$0	\$0
Private well monitoring	\$0	\$0
Regulatory ordinance review	\$1,920	\$0
UW WRM workshop report publication	\$0	\$500
Design alternatives evaluation	\$0	\$3,420
Public participation	\$0	\$1,000
<b>Total</b>	<b>\$14,920</b>	<b>\$14,920</b>
<b>Grant 2) Development of management plan</b>		
Rescope of project	\$3,000	3,000
Tile survey	\$2,460	\$0
Management plan development	\$6,000	\$9,900
Technical advisory committee interaction	\$500	\$500
Lake trophic state modeling	\$2,000	\$0
Funding source identification	\$0	\$0
Public participation	\$500	\$1,560
<b>Total</b>	<b>\$14,460</b>	<b>\$14,460</b>

Thank you for considering these proposed changes, and please contact me at 608-223-9585 with any questions.

Sincerely,

Montgomery Associates: Resource Solutions, LLC



Stephen J. Gaffield, PhD, PE  
Hydrologist