

Spring Lake - Lake Board Draft Meeting Minutes

November 17, 2022

Meeting called to order by Chair, John Nash at 4:00 pm.

Members Present: John Nash, Josiah Timmermans (alternate for Joe Bush), Craig Bessenger (alternate for Vance Meyer), Roger Bergman, Brenda Moore and Samantha Verplank

Members Absent: Mike Rolf, Dave Split, Roger Vanderstelt

Additions/Corrections to the Agenda: None

Also Present: Tony Groves and Paul Hausler, Progressive AE

No public in attendance

April 20, 2022, Meeting Minutes reviewed with no corrections or changes.

Treasure's Report: Timmermans presented a Spring Lake – Lake Board financial report that indicated a current fund balance of \$46,518.50. Groves noted that the final assessment for the current three-year lake improvement project will appear on this December's tax bill and public hearings will need to be scheduled in 2023 to receive public comment on a new project scope and budget. He also indicated that Fruitport Township is planning to assess the full assessment amount for all three years of the project this year. Timmerman explained that it is difficult for his office to track revenue since he does not have information about how much is being collected from each municipality around the lake. Nash suggested that a future meeting be held with the assessors so that everyone is on the same page moving forward.

Motion by Moore seconded by Bergman that the April 20, 22 meeting minutes and current financial report be accepted and approved. Motion passed unanimously.

Consultant's Report:

Consultants Handouts: Plant Control Work Journal (detailing scope and cost of 2022 treatment program), 2022 Water Quality Data, Draft Historical Overview of Project.

Plant Control: Groves explained how plant control work is coordinated with GPS-guided surveys followed by prescribed treatments of problem areas. Treatments to control the spread of Eurasian milfoil in the lake were fairly successful this year but recent limitations placed on the use of copper products for algae control have limited the effectiveness of copper treatments.

Water Quality Monitoring: Groves explained that, since 1999, samples have been collected from multiple locations in Spring Lake in both spring and summer to evaluate water quality conditions. In recent years, water quality in the lake has shown a decline with elevated phosphorus levels, persistent algae blooms, and poor water transparency. Phosphorus levels measured in April were twice the eutrophic threshold and, during the August sampling, extremely high deep water phosphorus levels were measured indicating release of phosphorus from the deep water sediments in the lake. These data suggests that the effectiveness of the alum treatment conducted in 2005 to control sediment phosphorus release in Spring Lake is beginning to wane.

Sediment Study Results: This past year, Solitude Lake Management was retained to conduct a sediment study in which sediment samples were collected from several locations in Spring Lake. The purpose of the study was three-fold:

- 1) To determine the amount of biologically available phosphorus in Spring Lake sediments,
- 2) To measure sediment phosphorus release rates, and
- 3) To determine the amount of alum required to inactivate sediment phosphorus.

The study found that there is a large pool of available phosphorus in the sediments of Spring Lake and that the internal phosphorus release rate roughly equals the amount of phosphorus entering the lake from the watershed. This study reinforces the conclusion that the effectiveness of the alum treatment conducted on Spring Lake in 2005 is beginning to decline. Another alum treatment of Spring Lake would cost approximately 3.3 million dollars and would be conducted with both alum (aluminum sulfate) and sodium aluminate (a pH buffering solution). The effectiveness and longevity of a second alum treatment of Spring Lake may be bolstered in that the current sediment phosphorus release rate is about one-half the pre-alum treatment rate, the alum dose would be about 20% greater than the dose applied in 2005, and today's application technology is more precise than what was used in 2005.

With respect to safety and environmental impacts, alum is commonly used to treat drinking water and wastewater and hundreds of lakes have been treated with alum. Alum is also used as a food additive. If properly dosed, alum is environmentally safe.

Motion by Bergman seconded by Verplank to accept the sediment study report. Motion passed unanimously.

Motion by Moore and seconded by Bergman to submit a permit application to the Michigan Department of the Environment, Great Lakes, and Energy (EGLE) to determine what conditions and monitoring requirements will be required by the state. Motion passed unanimously.

Discussion ensued about the need to address both watershed and in-lake (internal) phosphorus loading as part of a new project. Moore offered several suggestions on what may be possible at the watershed level including a septic system point-of-sale inspection ordinance and/or wetland creation. A framework for watershed work will need to be evaluated.

Motion by Moore seconded by Bessenger that Progressive AE develop a detailed budget and scope for a new project and a specific timeline for when hearings need to be scheduled. Motion passed unanimously.

Next meeting will be scheduled after feedback received from EGLE regarding an alum treatment permit.

Meeting Adjourned at 5:20 pm.