

Memorandum

To: Steve Gallo, Business Administrator, Borough of Freehold
From: Chris Mikolajczyk, CLM, Princeton Hydro
cc: J. Smith, Princeton Hydro
Date: 15 February 2023
Re: Lake Topanemus Project – Progress Memo

Princeton Hydro (PH) continues to progress on the Lake Topanemus project currently funded by the NJDEP 319(h) program. Specifically, Princeton Hydro is contributing Professional Engineering and Certified Lake Manager Services. An update on specific tasks is listed below:

Task 1 – Collection of Background Information. This task will be a work in progress for nearly the length of the project. To date, PH has reviewed previous reports from the NJDEP specific to the Lower Raritan River watershed region, as well as historical reports from the NJDEP specific to the lake itself. Lastly, previous fish stocking efforts have been reviewed. Princeton Hydro will continue to review any reports from agencies such as the NJDEP or USGS, as well as review any reports or data the County and/or Municipalities may have. This task is approximately 24.5% complete.

Task 2- Quality Assurance Project Plan (QAPP). Princeton Hydro authored the QAPP, which was then approved by the NJDEP in March 2022. A copy of the final QAPP has been previously supplied, but an additional copy can be supplied upon request. This task is 100% complete.

Task 3- Bathymetric Survey. Princeton Hydro completed the bathymetric survey in December 2021, which was also supplied to the NJDEP in June 2022. A copy of the final maps have been previously supplied, but additional copies can be supplied upon request. This task is 100% complete.

Task 4- Watershed-Based Modeling. Princeton Hydro has continued with the preliminary mapping, specifically the watershed has been delineated and the data layers downloaded from the NJDEP GIS database. Much of this task has been scheduled to be completed after the field data collected as part of Task 5 and 6 has been completed. The watershed assessments for nutrient removal techniques occurred in January 2023. The writeup of that field event is currently underway. Currently, this task is 19% complete.

Task 5- Field Based Lake Water Quality Monitoring. This task has been completed for the growing season of 2022. Specifically, boat based water quality monitoring occurred in March, June, July, August, September and October of 2022. Currently, this task is 99% complete. The final data is currently being worked in the final report.

Task 6- Visual Watershed Assessment and Modeling. Princeton Hydro previously conducted a preliminary watershed assessment in March of 2022, specifically the visual assessment. Watershed based inlet stream sampling has since occurred in July, August and September of 2022. Currently, this task is 100% complete.

Task 7- Fine Tuning of Hydrologic and Pollutant Load Models. Princeton Hydro has begun this task. This task was scheduled to be completed after the field data collected as part of Task 5 and 6, as well as the models completed as part of Task 4 have been completed. Currently, this task is 28% complete.

Task 8- Final Report. Princeton Hydro has begun this task. This task is scheduled to be completed after Tasks 1-7 have been completed or nearly completed. Currently, this task is 11% complete.