
TASK ORDER NO. 23

This Task Order is issued pursuant to the Standard Master Agreement for Professional Services dated February 27, 2017 which is incorporated herein by this reference, with respect to Lake Master Planning Services ("Project").

Scope of Services

ENGINEER will provide lake master planning services as further described in Attachment A – Lakes Master Plan Proposal (July 25, 2022), which is incorporated herein.

Compensation

COMPENSATION

Compensation by OWNER to ENGINEER will be as follows:

A. COST REIMBURSABLE-MULTIPLIER (TIME AND EXPENSE)

For services enumerated in SCOPE OF SERVICES, ENGINEER's Direct Salaries multiplied by a factor of 2.70 with a capped rate of \$225, plus Direct Expenses, plus a service charge of 0.00 percent Direct Expenses and 10.00 percent of subcontracts and outside services, plus applicable sales, use, value added, business transfer, gross receipts, or other similar taxes.

B. BUDGET

A budgetary amount of Seventy-Five Thousand Dollars (\$75,000.00 USD), excluding taxes, is hereby established for services in SCOPE OF SERVICES. ENGINEER will make reasonable efforts to complete the work within the budget and will keep OWNER informed of progress toward that end so that the budget or work effort can be adjusted if found necessary.

ENGINEER is not obligated to incur costs beyond the indicated budgets, as may be adjusted, nor is OWNER obligated to pay ENGINEER beyond these limits.

When any budget has been increased, ENGINEER's excess costs expended prior to such increase will be

allowable to the same extent as if such costs had been incurred after the approved increase.

C. DIRECT SALARIES

Direct Salaries are the amount of wages or salaries paid ENGINEER's employees for work directly performed on the PROJECT, exclusive of all payroll-related taxes, payments, premiums, and benefits.

D. SALARY COSTS

Salary Costs are the amount of wages or salaries paid ENGINEER's employees for work directly performed on the PROJECT plus a percentage applied to all such wages or salaries to cover all payroll-related taxes, payment, premiums, and benefits.

E. DIRECT EXPENSES

Direct Expenses are those necessary costs and charges incurred for the PROJECT including, but not limited to: (1) the direct costs of transportation, meals and lodging, special OWNER approved PROJECT specific insurance, letters of credit, bonds, and equipment and supplies; (2) ENGINEER's current standard rate charges for direct use of ENGINEER's vehicles, laboratory test and analysis, and certain field equipment; and (3) ENGINEER's standard project charges for special health and safety requirements of OSHA and reproduction services.

Schedule

Services will commence upon execution of the Task Order through December 31, 2023 unless modified otherwise through written amendment.

The Authorized Representatives designated below are authorized to act with respect to the Task Order. Communications between the parties, including their consultants and subconsultants, shall be through the Authorized Representatives or their designates.

FOR THE OWNER:

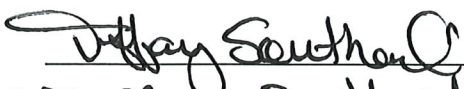
Name: Tiffany Southard, Mayor
Address: 2829 Minerva Lake Road
Columbus, OH 43231
Telephone: 614.882.5743
E-mail: mayor@minervapark.org

FOR CH2M HILL ENGINEERS, INC.:


Name: Mike Flickinger, Village Engineer
Address: 2 Easton Oval, Suite 500
Columbus, OH 43219
Telephone: 614.825.6720
E-mail: mike.flickinger@jacobs.com

This Task Order No. 23 is effective this 9 September 22.

ACCEPTED FOR OWNER BY:

Signature 
Name (printed) Tiffany Southard
Title Mayor
Date 9-9-22

**ACCEPTED FOR CH2M HILL ENGINEERS, INC.
BY:**

Signature 
Name (printed) Chad Roby
Title Manager of Projects
Date 09-12-22



**Challenging today.
Reinventing tomorrow.**

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July 25, 2022

The Honorable Tiffany Hughes, Mayor
Village of Minerva Park
2829 Minerva Lake Road
Columbus, OH 43231

Attachment A - Lakes Master Plan Proposal

Project Name: Village Engineering Services
Project No: 690666CH

Subject: Lakes Master Plan Proposal

Dear Mayor Hughes,

This proposal details the proposed scope of services to develop a series of technical memoranda to develop an improvements plan for the Village of Minerva Park's (CLIENT or Village) lake system, which consists of two urban storm water drainage ponds connected by a culvert under Minerva Lake Road. The memoranda will serve as guiding documents for the Village to plan future projects to improve the overall quality of the lake system, creating a community asset that can be used for recreation.

The scope of services is divided into three major tasks as described below. A summary of the estimated cost and an estimated schedule to complete the work detailed in the proposal is also included.

Task 1 – Chartering and Goal Setting

The first task includes a chartering and goal setting meeting with Village administration, staff, and council to establish the Village's goals and critical success factors for the lake system. These conclusions will help determine the full extent of the data collection and analysis needs as well as recommendations for ways to improve the lake system's water quality and overall appearance.

Task 1 Assumptions

- Due to the potential attendees representing the Village, Jacobs understands the chartering and goal setting meeting may be a public meeting in accordance with state and local laws. However, Jacobs assumes the meeting is with the Village administration, staff, and council rather than an "open house" style meeting with public input.
- The meeting will be a combination of in-person and virtual attendees. Jacobs' local project staff will attend in person while non-local staff will attend virtually using meeting software to be determined.

Task 1 Deliverables

- Meetings notes summarizing the meeting and documenting the Village's goals and critical success factors.

Task 2 – Data Collection and Analysis

The purpose of Task 2 is to determine the existing conditions of the lake system – physically and chemically – to establish the baseline from which to recommend water quality improvements.

Task 2.1 – Topographic Survey of Lake Area

Jacobs will assist the Village in procuring and coordinating professional surveying services to provide a topographic survey of the lake area. The survey area will include the area that feeds the north lake, south of the area affected by the recent 2021 Storm Sewer Improvements project. The survey area will include the area that feeds the south lake, south and west of the municipal building.

Task 2.1 Assumptions

- Jacobs will prepare scope of services for the topographic survey of the lake area and will solicit proposals on behalf of the Village.
- The firm providing professional surveying services will contract directly with the Village. The Village will provide a draft version of the proposed agreement to be included with the scope of services.

Task 2.1 Deliverables

- Scope of services for professional engineering services to be included with the Village's standard professional services agreement.

Task 2.2 – Bathymetric Survey of Lake System

Jacobs will assist the Village in procuring and coordinating professional surveying services to provide a bathymetric survey of the lake system. Although itemized again below, Jacobs will coordinate with the Village and local companies providing professional surveying services to determine if both surveys can be performed by one company under one professional services agreement.

Task 2.2 Assumptions

- Jacobs will prepare scope of services for the bathymetric survey of the lake system and will solicit proposals on behalf of the Village.
- The firm providing professional surveying services will contract directly with the Village. The Village will provide a draft version of the proposed agreement to be included with the scope of services.

Task 2.2 Deliverables

- Scope of services for professional engineering services to be included with the Village's standard professional services agreement.

Task 2.3 – Water Quality Sampling and Lab Analysis

Jacobs will provide water quality sample collecting services and will procure and coordinate lab analysis services. Temperature, pH, and concentration of dissolved oxygen and nutrients, among other factors, heavily influence the chemical composition and quality of lake water and the lake's ecosystem.

Determining the lake system's current chemical composition and water quality is essential in determining the range and extent of water quality improvements to recommend. The anticipated parameters to be analyzed are shown in Table 2.3-1.

Table 2.3-1: Sampling Parameters

Parameter	No. of Samples	Notes
Total phosphorus	8	One lake
Chlorophyll-a	8	One lake
Total hardness	4	One lake
Dissolved organic carbon	4	One lake
Sulfate	4	One lake
Total aluminum	4	One lake
Secchi disk	8	Both lakes
Vertical profiles at 1-ft intervals		At deepest point
Temperature	8	Both lakes
pH	8	Both lakes
Dissolved oxygen	8	Both lakes

Task 2.3 Assumptions

- Sampling and analysis to be performed during summer season.
- Sampling to occur once per week for eight (8) weeks, although a compressed sampling plan will be considered.

Task 2.3 Deliverables

- Water quality technical memorandum describing existing water quality and recommendations for improving overall water quality.

Task 3 – Water Quality Improvements

Being urban storm water drainage ponds impounded by a dam, the lake system's water quality is affected by the chemical composition of the water as well as water depth, vegetative growth along the water's edge and inlets, residential lawn chemical use, and trash and debris in the storm sewer system. Jacobs will assist the Village in addressing water quality improvement strategies as described below.

Task 3.1 – Geochemical Augmentation

Geochemical augmentation employs a season long, continuous dose of alumina at soluble concentrations to scavenge phosphorus from the water column and sequester it permanently in sediments. It is ecologically safe because the dose conforms to the United States Environmental Protection Agency's *Final Aquatic Life Ambient Water Quality Criteria for Aluminum 2018* (EPA-822-R-18-001). Based on Jacobs' project experience it is the most cost-effective means of improving water quality in lakes or ponds heavily affected by stormwater.

Task 3.1 Assumptions

- Data from Task 2 will be available to finalize recommendations.
- The Village and Jacobs will participate in a workshop to review the preliminary conceptual design report before Jacobs submits the final conceptual design report.

Task 3.1 Deliverables

- Conceptual design report on a geochemical augmentation system to include equipment specifications (chemical storage, dosing pump, piping, air compressor, and air diffusers), schematic design, Class 5 opinion of probable construction cost, and operations cost estimate.
- Conduct a site assessment for suitability of geochemical augmentation equipment.

Task 3.2 – Lake System Dredging and Shoreline Shaping

Dredging is the removal of sediments and debris from the bottom of water bodies. Although the Village has performed a dredging program previously, bathymetric survey information collected as part of the dam replacement project indicates the lakes are generally too shallow to support a healthy ecosystem as well as potential recreational uses. Additionally, when the lakes were drained during the dam replacement project, the lake bottoms were covered in sediments, primarily organic material from nearby vegetation.

Because dredging is often expensive and is dependent on the type of dredging method applicable to the site-specific conditions, the extent of dredging – both in location and in depth – should be carefully and clearly defined to optimize the Village's spending. Jacobs will prepare an overall dredging recommendation, with an opinion of probable construction cost, identifying the type of dredging method and extent of dredging necessary to meet the Village's goals and critical success factors.

Professional design services associated with a dredging project are not included in this scope of services. As part of the review process for the dredging recommendation, Jacobs will coordinate with the Village on procuring professional design services, including adding a task order to the Jacobs master services agreement or assisting in procuring those design services from another design professional.

Task 3.2 Assumptions

- The Village will provide topographic and bathymetric survey information collected for the project as described above.

Task 3.2 Deliverables

- Dredging recommendation technical memorandum including Class 5 opinion of probable construction cost.

Task 3.3 – North Feed to North Lake

The primary inflow into the north lake is a channel originating in the rear yard of 2865 East Shore Court. The inflow consists of storm water flow from one 36" storm sewer from the north, one 15" storm sewer from the north, and one 24" storm sewer from the west plus any privately-owned storm sewers draining roofs and yards of properties along the channel. The channel sides are generally vertical walls, formed by masonry or wooden retaining features depending on the property owner's preference, while the channel bottom includes earth and stone materials. Debris from retaining features is frequently found in the channel.

In June 2022 the Village completed a storm sewer improvements project that included constructing a new endwall for the pipes described above with new channel protection at the pipe outlets. As part of its long-range mobility and connectivity goals, the Village has considered constructing a multiuse path along the channel and portions of the north lake to provide access to the Village's pool facility.

Under this task, Jacobs will prepare a recommendation for channel improvements including a preliminary alignment for the multiuse path along the channel.

Task 3.3 Assumptions

- Jacobs will use existing storm water modeling data, previously used during the design of the 2021 Storm Sewer Improvements and 2022 Storm Sewer Improvements projects. New modeling is not included in this scope of services.
- Data from Task 2 will be available to finalize recommendations.
- Jacobs will prepare only a conceptual alignment of the multiuse path as it borders the channel. Detailed design of the multiuse path or conceptual alignments from the channel area to the Village's pool facility are not included in this scope of services.

Task 3.3 Deliverables

- Channel improvements technical memorandum.

Task 3.4 – Conservation Buffers, Vegetation Control, and Lawn Chemical Programming

Vegetative growth along the lake system's perimeter – including both trees and ground cover – and lawn chemicals affect the overall water quality. Jacobs, with Village coordination, will prepare site-specific educational information for the Village's use in community outreach. The educational information will generally consist of a flyer or brochure style document, suitable for distributing to Village residents or posting on the Village's website and will identify the role each factor plays, and opportunities or strategies residents can apply to assist with maintaining the lake system's water quality.

Jacobs will perform a literature survey of municipal corporation legislation governing vegetative growth near urban bodies of water for the Village's review and use.

Except for along the dam, the lake system is generally surrounded by large, mature trees. Jacobs will review the effect of these trees on the water quality and, if necessary, prepare a recommendation for a tree maintenance program.

Jacobs will perform a literature survey of municipal corporation legislation governing the use of lawn care chemicals near urban bodies of waters for the Village's review and use.

Task 3.4 Assumptions

- None

Task 3.4 Deliverables

- Site-specific educational information.
- Literature survey results, including copies of example legislation, governing vegetative growth near urban bodies of water.

- Tree maintenance program technical memorandum.
- Literature survey results, including copies of example legislation, governing use of lawn care chemicals near urban bodies of water.

Task 3.5 – Trash and Debris Control

Historically, trash and debris in and around the west feed to the south lake has been a nuisance: this litter either is deposited behind the residential properties on Minerva Lake Road and Lakewood Drive or is carried into the south lake. Anecdotally, this litter primarily originates from west of and along Cleveland Avenue, limiting the Village's ability to reduce the amount of litter because these areas are outside the Village's municipal boundaries. Jacobs will prepare a trash and debris mitigation and control strategy, focused on preventing litter from spreading along the west feed and into the south lake.

Task 3.5 Assumptions

- Jacobs will attempt to identify primary sources of litter in this area, however strategies for eliminating or reducing these sources is not included in this scope of services.
- Jacobs will coordinate with the Village regarding maintenance labor availability when developing the mitigation and control strategy and will develop the strategy accordingly.

Task 3.5 Deliverables

- Trash and debris control strategy technical memorandum.

Project Cost and Schedule

The estimated cost of services, including expenses, to complete the work described in this scope is \$75,000 on a cost reimbursable multiplier (time and expense). Should the Village accept this proposal, Jacobs will prepare a new task order as part of the current Village Engineering Services master services agreement.

The approximate delivery schedule is as follows.

- Task 1 can be completed within one (1) month of the Village executing the task order documentation and issuing notice to proceed.
- Task 2.1 deliverables for soliciting professional surveying services for the topographic survey of the lake area can be completed within three (3) weeks of completing the chartering and goal setting meeting.
- Task 2.2 deliverables for soliciting professional surveying services for the bathymetric survey of the lake system can be completed within three (3) weeks of completing the chartering and goal setting meeting.
- The schedule for Task 2.3 services will be defined in coordination with the Village.
- The schedule for Task 3 services will be defined in coordination with the Village after the outside services associated with Task 2 are complete.

We trust this proposal and scope document provides the information you need to assess the level of effort required for these services. We appreciate the opportunity to propose on this planning effort and we look

Date: 25 July 2022

Subject: Lakes Master Plan Proposal

Jacobs

forward to assisting you with this opportunity to restore the lake system to a community asset. Should you have any questions, please feel free to contact us at the numbers below.

Yours sincerely,



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