TOWN OF SOUTHAMPTON
Department of Community Preservation
24 W Montauk Hwy, Hampton Bays, NY 11946
Ph: 631-287-5720 Fx: 631-728-1920
www.southamptontownny.gov/WQIPP

2023

COMMUNITY PRESERVATION FUND (CPF)
WATER QUALITY IMPROVEMENT PROGRAM
PROPOSAL SUMMARY

Project Applicant: Board of Trustees for the Freeholders and Commonalty of the Town of Southampton
Project Title: Engineering Design Services for the Water Mill Fish Passage at Old Mill Road
Project Manager Name: Trustee Ann Welker and Senior Environmental Analyst James Duryea

Name	Board of Trustees for the Freeholders and Commonalty of the Town of Southampton
Title	Trustee Ann Welker and Senior Environmental Analyst James Duryea
Organization	Board of Trustees for the Freeholders and Commonalty of the Town of Southampton
Address	116 Hampton Road Southampton NY 11968
Phone	631-287-5717
Email	awelker@southamptontownny.gov and jduryea@southamptontownny.gov

Property owner (if different from Project manager organization):

Name	Same
Affiliation	
Organization	
Address	
Phone	
Email	

Project Address: Underwater lands at vicinity of 50 Old Mill Road SCTM #(S) 900.114.01.27 & 900.114.2.12

Type of Project (Check all that apply):
☑ Reduction ☐ Remediation ☑ Restoration

Project Summary: (Provide a brief narrative description of proposed WQIPP project)

The Board of Trustees for the Freeholders and Commonalty of the Town of Southampton ("Trustees") will hire a qualified firm to complete engineering design of a permanent fish passage under Old Mill Road in Water Mill. The fish passage will allow for migration of diadromous fish, river herring (alewife) and American Eel from Mill Creek to Mill Pond, in order to restore critical spawning and maturation habitat for such species.

The engineering scope of work will consist of Field Assessment and Base Mapping; Preliminary Design; Permitting; Final Contract Documents; and Bid Support.

The project builds upon water quality protection improvements completed as part of the Mill Pond Restoration Project - including stormwater improvements, carp removal and the planting and installation of six floating wetland islands - and complements management recommendations prepared by Princeton Hydro in 2020. The project will restore aquatic connectivity and access to high quality freshwater spawning and maturation habitat for native fish species, enhancing their populations and increasing ecosystem resilience.

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If additional information is needed to describe the project; a project narrative can accompany the application. Please limit the narrative to approximately 3 pages of project description, provide a summary of water quality benefits/objectives of approximately 2 pages and provide a cost estimate of approximately 2 to 4 pages with supporting estimates. Any additional materials should be focused specifically on the proposed project with references to other studies that are pertinent

1. PROJECT TYPE (check all that apply)

Must meet at least one of the definitions of "Water Quality Improvement Project" per State Law Chapter 551 cited above. Check all that apply. **Note: Monitoring costs are only potentially eligible for CPF funding within Aquatic habitat restoration projects.**

- ☐ Wastewater Treatment Improvement Project
- ☑ Non-point source abatement and control
- ☑ Aquatic habitat restoration
- ☐ Pollution prevention
- ☐ Operation of Peconic Bay National Estuary Program (Grant Match)

2. PRIORITY AREA(S) (check all that apply)

Priority areas are defined in the Water Quality Improvement Project Plan (WQIPP).

- ☑ 303(d) Impaired
- ☐ Peconic Estuary Program - PEP map
- ☑ High
- ☐ Medium
- ☐ Outside High and Medium priority areas*

*If Outside High and Medium priority areas, explain how the project is relevant to WQIPP goals.

3. PROJECT DESCRIPTION

3a. Existing conditions of applicable groundwater/sub-watershed/waterbody and most recent and relevant data available (provide sources).

Mill Pond is recognized by NYSDEC as a 303d listed impaired waterbody subject to cyanobacteria blooms. NYS has documented harmful algae blooms (HABs) each year from 2013 through 2022. Mill Pond is noted within Southampton's CPF WQIPP as an impaired waterbody located within a High Priority Area that includes Mecox Bay.

3b. How the proposed solution addresses the issue in the context of Reduction, Remediation and/or Restoration as per the CPF Water Quality Project Plan. Note all remediation and restoration projects must assure that reduction measures are also addressed.

The project addresses restoration and reduction as as it will restore access to approximately 100 acres of diadromous fish habitat in Mill Pond; support watershed biodiversity; and restore aquatic connectivity in the freshwater and tidal stream corridor with long-term ecological outcomes such as enhancement of water quality and nutrient cycling within the ecosystem. See attached.

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2023

3c. Describe the proposed technology and its demonstrated efficacy in similar settings. May include published data.

The design and permitting for this project will be completed by a qualified consulting firm with demonstrated experience in the design and installation of fish passage projects. Fish passages have proven to be an effective way to support migration of diadromous fish and provide access to freshwater habitat when other alternatives, such as dam removal, are not feasible.

3d. How the project supports Town of Southampton, Suffolk County, NYSDEC, Long Island Nitrogen Action Plan (LINAP) or other adopted goals/policies (provide references with pages numbers).

The project is supported by Southampton WQIPP, Long Island Diadromous Fish Restoration Strategy, NYS Sustainable Fishery Management Plan for NY River Herring Stocks, NYS Ocean Action Plan, and LINAP. It will restore access to an historic spawning area in Mill Pond. See attached narrative.

3e. Review the following statements and indicate whether they are applicable to your project. For all "Yes" responses, please indicate how your project addresses the requirements indicated.

YES	N/A	
☐	☑	**If stormwater system or drainage is proposed:** The project must indicate compliance with the New York State Stormwater Design Manual (2015 and as updated).
☐	☑	**If project is related to farmland:** Describe any Agricultural Stewardship Plan or other long term strategy for Nitrogen abatement.
☑	☐	**If the project is for habitat restoration:** The narrative must address how underlying causes are being ameliorated and expected outcomes for local species populations or other ecological considerations are given.
☐	☑	**If project is a Sewage Treatment Plant (STP) or cluster treatment system:** Fund allocation request is based on cost for reduction of pre-existing conditions and not for purpose of accommodating new density (describe pre-existing density and associated flow (gallons per day) and total projected nitrogen reduction in narrative). Include detailed information on how many homes the system would treat as well as potential for formation of Sewer District, if required by Suffolk County Health Department or Town Law.
☐	☑	**If the project is requesting grant match:** Include information related to funding program source and purpose of application and any relevant items on this checklist. Note: A Town Board resolution will be required in order to encumber matching funds for grant applications.

4. WATER QUALITY BENEFIT

4a. Identify Nitrogen, Pathogen or Pollutant of Concern (POC) including Existing Condition and Target Reduction.

The project will contribute to ongoing Mill Pond restoration efforts. The fish passage project will contribute to development of a healthy balance of fish biomass and, together with planned biomanipulations (e.g. stocking), will restore native fish populations and reduce negative impacts of invasive species such as common carp. See Princeton Hydro's 2020 report for further detail on the role of common carp and other invasives on nitrogen and phosphorous loading.

4b. Describe plans for collecting and reporting on water quality over time.

The Trustees have secured funds through the CPF to implement a water quality monitoring plan as a contracted service. The monitoring plan will be implemented in coordination with the proposed fish passage project.

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4c. Indicate useful life of proposed technology (must meet or exceed five years).

The design engineering work will provide plans and specifications to address useful life. It is expected that the materials and equipment used for construction of the fish passage will have a useful life of 50 years.

5. COST FACTORS

5a. Explain how you have confirmed that the proposed budget is reasonable, appropriate and necessary. If available, provide third party estimates or other documentation of how costs were determined.

The Trustees solicited four quotes from qualified engineering firms that are known to have experience and expertise in the design, planning and construction of fish passages. Three quotes were received. The grant scope of work and budget are based on our analysis of these quotes. See attached narrative.

5b. Describe any matching funds to be provided.

N/A

5c. Explain: i. Why project cannot proceed and intended benefits cannot be achieved without external funding.
ii. if funds are awarded at a lower level than requested, or if there are cost overruns, explain how the project will proceed.

The Trustees' annual budget is not sufficient to support all necessary water quality improvement initiatives identified under its jurisdiction. If funds are not awarded by CPF, or are awarded at a lower level than requested, the project may be delayed while funding for the balance of the project is identified.

6. MANAGEMENT, EXPERIENCE, ABILITY

6a. Describe applicant's experience in completing similar projects.

Working with state and regional partners, the Trustees have completed numerous planning and water quality projects throughout the Town. In 2022 the Trustees announced that, through their efforts, the Shinnecock Bay was designated a "Hope Spot" by Mission Blue, an international organization that supports the protection of oceans worldwide. Senior Environmental Analyst James Duryea will coordinate with the Trustees and consultants to manage this project, has he has done on prior efforts.

6b. Describe community support or opposition to project. If there is opposition, explain how this is to be addressed.

The Mill Pond community has been working for over a decade to resolve the causes of the pond's cyanobacteria blooms, and to advance aquatic restoration efforts. The Trustees have strong community support to improve water quality and aquatic habitat in the pond as well as Mecox Bay. See attached letter of support.

6c. Describe any permits needed and time frame/status of approvals. If permits are approved, indicate same.

No permits are required in order for the engineering design phase to begin.

The proposed scope of work will address all permitting and regulatory requirements that will be required prior to construction.

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2023

7. MAINTENANCE, MONITORING, EVALUATION

Estimate ongoing maintenance costs and explain how these will be supported. Explain stewardship and monitoring activities planned for ensuring sustainability of the project.

N/A for the engineering design phase.

The proposed scope of work will include maintenance and monitoring activities that will be required for proper management and function of the fish passage.

8. DURATION OF PROJECT

8a. Provide a projected project timeline. Note: The Committee will only make recommendations for shovel-ready projects that can commence this fiscal year.

It is anticipated that the timeline for engineering design and preparing permit applications will be approximately 3 months. The permitting agencies could take up to another 9 months to review applications and issue permits. It is anticipated that all tasks will be completed within a 12 month period.

8b. If project is multi-year or phased, provide a breakdown of budget and milestones for each year and phase.

N/A

9. ATTESTATION

Allocation of CPF funds will not be for the purpose of accommodating new growth, as this is prohibited by State law.
Check all boxes & sign.

- ☑ We certify that funds will not be directed for projects for the purpose of accommodating new growth.
- ☑ We understand that progress reports will need to be generated as specified in our Water Quality Improvement Contract AND a final report showing qualitative and/or quantitative data will be generated upon project completion. .

Signature: Ann E. Welker Date 3/15/23

10. REQUIRED ATTACHMENTS Confirm that the following required documents are attached to this application:

- ☑ Photos of existing conditions
- ☑ Location Map
- ☐ State Environmental Quality Review Act (SEQRA) Long or Short Environmental Assessment Form (EAF) https://www.dec.ny.gov/permits/6191.html - N/A For an engineering project
- ☐ Completed EPA Spreadsheet Tool for Evaluating Pollutant Load (STEPL) https://www.epa.gov/nps/spreadsheet-tool-estimating-pollutant-loads-stepl or similar standardized methodology (describe)
- ☑ Project budget (see attached template)
- ☑ Ownership commitment is provided via letter of intent (LOI) for non-municipal owners or municipal resolution for municipal owners
- ☐ Public agencies must complete SEQRA on the project and submit determination of significance and associated documentation.

11. OTHER ATTACHMENTS

List other attachments provided, including cost estimates, bids, plans, documentation of matching funds, and other as appropriate to demonstrate project readiness, quality, feasibility, and cost effectiveness Letter of Support

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BUDGET PROPOSAL

Is the applicant a municipality? ☑ Yes ☐ No
If yes, please enter the request date or anticipated request date of RFP (Request for Proposals) Summer 2023.

PLANNING/ENGINEERING/DESIGN	Town CPF Request	Matching Funds Committed	Matching Funds Pending	Estimated Total Project Costs
Task 1-Field Assessment and Base Mapping	$-15,000.00	$-	$-	$-15,000.00
Task 2-Preliminary Design	$-87,300.00	$-	$-	$-87,300.00
Task 3-Permitting	$-37,250.00	$-	$-	$-37,250.00
Task 4-Final Contract Documents	$-26,000.00	$-	$-	$-26,000.00
Task 5-Bid Support	$-4,000.00	$-	$-	$-4,000.00
Task 6-Reimbursables	$-5,000.00	$-	$-	$-5,000.00
	$-	$-	$-	$-0.00
Planning/Engineering/Design Cost Total	$-174,550.00	$-0.00	$-0.00	$-174,550.00

Contractual Services				
	$-	$-	$-	$-0.00
	$-	$-	$-	$-0.00
	$-	$-	$-	$-0.00
	$-	$-	$-	$-0.00
	$-	$-	$-	$-0.00
	$-	$-	$-	$-0.00
	$-	$-	$-	$-0.00
Contractual Services Cost Total	$-0.00	$-0.00	$-0.00	$-0.00

Construction & Site Improvements				
	$-	$-	$-	$-0.00
	$-	$-	$-	$-0.00
	$-	$-	$-	$-0.00
	$-	$-	$-	$-0.00
	$-	$-	$-	$-0.00
	$-	$-	$-	$-0.00
	$-	$-	$-	$-0.00
Construction & Site Improvements Cost Total	$-0.00	$-0.00	$-0.00	$-0.00

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2023

Equipment/Materials/Supplies	Town CPF Request	Matching Funds Committed	Matching Funds Pending	Estimated Total Project Costs
	$-	$-	$-	$-0.00
	$-	$-	$-	$-0.00
	$-	$-	$-	$-0.00
	$-	$-	$-	$-0.00
	$-	$-	$-	$-0.00
	$-	$-	$-	$-0.00
	$-	$-	$-	$-0.00
				$ 0.00
				$ 0.00
				$ 0.00
				$ 0.00
				$ 0.00
				$ 0.00
				$ 0.00
				$ 0.00
Equipment/Materials/Supplies Total	$-0.00	$0.00	$-0.00	$-0.00

Additional Cost				
	$-	$-	$-	$- 0.00
	$-	$-	$-	$- 0.00
	$-	$-	$-	$- 0.00
	$-	$-	$-	$- 0.00
	$-	$-	$-	$- 0.00
	$-	$-	$-	$- 0.00
	$-	$-	$-	$- 0.00
Additional Cost Total	$- 0.00	$- 0.00	$- 0.00	$- 0.00

Planning/Engineering/Design Cost Total (from page 7)	$- 174,550.00	$- 0.00	$- 0.00	$- 174,550.00

Total Project Cost	$-174,550.00
Applicant matching funds committed	$-0.00
Applicant matching funds pending approval (e.g. grant request submitted pending determination)	$-0.00
Total CPF Funds Requested	$-174,550.00

Source of matching funds	Amount

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COMMUNITY PRESERVATION FUND (CPF)
WATER QUALITY IMPROVEMENT PROGRAM
LETTER OF INTENT

APPLICANT'S INFORMATION

Owner: Board of Trustees for the Freeholders and Commonalty of the Town of Southampton
Contact First and Last Name: Trustee Ann Welker and Senior Environmental Analyst James Duryea
Contact Address: 116 Hampton Road Southampton NY 11968
Contact Phone: 631-287-5717
Contact Email: awelker@southamptontownny.gov and jduryea@southamptontownny.gov

CONTRACT RECIPIANT INFORMATION

Name/Organization: Board of Trustees for the Freeholders and Commonalty of the Town of Southampton
Contact Person/Officer: Trustee Ann Welker and Senior Environmental Analyst James Duryea
Contact Address: 116 Hampton Road Southampton NY 11968
Contact Phone: 631-287-5717
Contact Email: awelker@southamptontownny.gov and jduryea@southamptontownny.gov

PROJECT INFORMATION

Project Title: Engineering Design Services for the Water Mill Fish Passage at Old Mill Road
Project Location: underwater lands at vicinity of 50 Old Mill Road
Project Description (1-3 sentences):

Engineering design of a permanent fish passage under Old Mill Road in Water Mill. The fish passage will allow for migration of diadromous fish, river herring (alewife) and American Eel from Mill Creek to Mill Pond, in order to restore critical spawning and maturation habitat and improve water quality.

ANTICIPATED PROJECT TIMELINE

Begin: Summer 2023
Complete: Summer 2024
Notes:

2023 Community Preservation Fund
Board of Trustees for the Freeholders and Commonalty of the Town of Southampton
Engineering Design Services for the Water Mill Fish Passage at Old Mill Road
Application Narratives

3b. Project Description

The Board of Trustees for the Freeholders and Commonalty of the Town of Southampton ("Trustees") will hire a qualified firm to complete engineering design of a permanent fish passage under Old Mill Road in Water Mill. The fish passage will allow for migration of diadromous fish, river herring (alewife) and American Eel from Mill Creek to Mill Pond, in order to restore critical spawning and maturation habitat for such species, and to achieve water quality improvements in Mill Pond. The engineering scope of work includes the following tasks:

Task I. Field Assessment and Base Mapping
Task II. Preliminary Design
Task III. Permitting
Task IV. Final Contract Documents
Task V. Bid Support

These tasks are detailed in the attached proposal provided by L.K. McLean Associates, P.C. In addition, the following tasks will be added to the consultant's scope of work.

- Investigation necessary to form a comprehensive understanding of water heights specific to Mecox Bay, Mill Creek and Mill Pond. Tidal action, rain, drought and other weather events result in highly variable water heights at the fish passage area. These considerations must be incorporated into the design to ensure that the passage will function properly.

- Preparation of pollutant load reduction estimates and other technical information required for grant applications that will be submitted to state and local sources for construction funds.

3d. How the project supports Town of Southampton, Suffolk County, NYSDEC, Long Island Nitrogen Action Plan (LINAP) or other adopted goals/policies.

- Southampton CPF WQIPP: The project implements a Coastal Habitat Restoration project within a high priority area (p.89).[1]
- Seatuck Environmental Association's Long Island Diadromous Fish Restoration Strategy: The project implements a fish passage, identified as a restoration strategy (p.6).[2]

[1] https://www.southamptontownny.gov/DocumentCenter/View/7318/Water-Quality-Improvement-Plan-CPF-Referendum-PDF?bidId=
[2] https://seatuck.org/wp-content/uploads/2020/06/Seatuck-Diadromous-Fish-Restoration-Strategy.pdf

- NYSDEC Sustainable Fishery Management Plan for New York River Herring Stocks: The project is aligned with state and Atlantic States Marine Fisheries Commission which supports barrier mitigation to benefit river herring (p. 10).[3]
- NYS Ocean Action Plan: Lists Mecox Bay as a priority fish passage project for the Southern New York Region (p. 97).[4]
- Long Island Nitrogen Action Plan: supports hydromodification for the purpose of mitigating water quality concerns, including barrier removal and connectivity (p.30)[5]

In addition, the project complements management recommendations contained in the 2020 Mill Pond Restoration Project report prepared by Princeton Hydro.[6]

5. Cost Factors

The grant budget includes costs that are reasonable, appropriate and necessary to complete the proposed scope of work. The Trustees solicited four quotes from qualified engineering firms that are known to have experience and expertise in the design, planning and construction of fish passages. Three quotes were received. These were from Cashin Associates, L.K. McLean Associates, P.C. (LKMA), and Nelson, Pope & Voorhis (NPV). Following review of the proposals, it was determined that the scope of work prepared by LKMA was the most responsive to the Trustee's requirements. This firm has recent experience in the design and construction of fish passages in Southampton and other areas of Long Island, including Alewife Creek. Costs were well described and itemized.

An evaluation of the three cost proposals is shown below.

Quote Analysis	Cashin	LKMA	NPV	Grant Budget Request
Review of Prior Work, Kickoff, Project Mgmt	$ -	$ -	$ 33,800	$ -
Infrastructure Protection	$ -	$ -	$ 4,300	$ -
Visualizations and Aesthetic Design	$ -	$ -	$ 10,200	$ -
Field Assessment and Base Mapping	$ 15,000	$ 15,000	$ -	$ 15,000
Preliminary Design	$ 22,000	$ 60,000	$ 114,600	$ 87,300
Permitting	$ 10,000	$ 20,000	$ 54,500	$ 37,250
Final Contract Documents	$ 12,000	$ 26,000	$ -	$ 26,000
Bid Support	$ 16,000	$ 4,000	$ -	$ 4,000
Reimbursables	$ -	$ -	$ 5,000	$ 5,000
Totals	**$ 75,000**	**$125,000**	**$ 222,400**	**$ 174,550**

[3] https://www.dec.ny.gov/docs/fish_marine_pdf/nyherrsfmp.pdf
[4] https://www.dec.ny.gov/docs/fish_marine_pdf/nyoceanactionplan.pdf
[5] https://www.dec.ny.gov/docs/water_pdf/linapscope.pdf
[6] https://www.southamptontownny.gov/DocumentCenter/View/22510/MILL-POND-RESTORATION-PROJECT-2020-REPORT---DRAFT

The grant budget was determined by reviewing each quote and assessing the relevance of each cost item. As shown in the above table, several proposed line items were determined to be not necessary for the project, and are not included in the grant budget. Tasks included in the LKMA quote were preserved, and a line for reimbursable costs was added. The line item costs for preliminary design and permitting were then calculated by averaging the two highest quotes. By averaging the two highest quotes, we allow for some cost increases that may occur relative to the costs proposed by LKMA. These may include:

- Future inflation/market conditions
- Additional investigation regarding water heights
- Tasks added for pollutant load reduction calculations and other technical support for grant applications

Proposed Water Mill Fish Passage at Old Mill Road
Existing Conditions

Photo 1. Bulkhead and existing culvert. Fish passage will be built within the culvert area.

Photo 2. Inside the culvert.

Photo 3. Culvert opening

Photo 4. On top of bulkhead, facing South.

Attachments:

- **WQIPP Location Map**
- **Letter of Support**
- **Consultant Cost Proposal**

Town of Southampton CPF Water Quality Improvement Project Plan

WATER MILL

Prepared By: The Town of Southampton Dept of Geographic Information Systems Date: 7/5/2016 - MAP ID: 2514

Letter of Support for Fish Passage at Mill Pond Dam in Mecox Bay

March 13, 2023

To Whom It May Concern:

I have been working with fish passage efforts on Long Island for the past 28 years. We have completed several major fish passage efforts, by Long Island standards and several smaller project, non-the-less important. This project at the head of Mecox bay would potentially provide access to a freshwater pond and increase access to alewife spawning habitat inside Mecox Bay. Alewives have been reported in Mecox Bay almost annually by local Baymen and near this proposed project location. While Mecox Bay presents some unique challenges for alewives this project would be beneficial to their continued success and usage of this system.

The Southampton Town Trustees have been very active in protecting alewife spawning runs and supporting passage efforts in Southampton. This is just another example of their efforts to protect and enhance the natural resources of Southampton. It is for those reasons that I support this Grant Application which would provide The Town Trustees with a detailed assessment of the Mill Pond Dam and engineer designed options for fish passage at this location.

Sincerely,

Byron Young
53 Highview Lane
Ridge, NY 11961

Mobile Phone: 631-294-9612

LKMA

L. K. McLean Associates, P.C.

❖ 437 South Country Road • Brookhaven • New York • 11719
❖ 25 Newbridge Road • Suite 212 • Hicksville • New York • 11801

(631) 286-8668 • FAX (631) 286-6314
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RAYMOND G. DiBIASE, P.E., PTOE, PTP, PRESIDENT and CEO
ROBERT A. STEELE, P.E., EXECUTIVE VICE PRESIDENT
JAMES L. DeKONING, P.E., VICE PRESIDENT

Associates
CHRISTOPHER F. DWYER
STEVEN W. EISENBERG, P.E.
ANDREW B. SPEISER
MATTHEW C. JEDLICKA, LEED AP
KEITH J. MASSERIA, P.E.
VINCENT A. CORRADO, P.E.
TAMARA L. STILLMAN, P.L.S.

March 6, 2023

Ann Welker
Town of Southampton Trustees

Re: Town of Southampton – Water Mill Fish Passage at Old Mill Road
Proposal for Professional Engineering & Surveying Services

Dear Ms. Welker:

In accordance with your office's request, L. K. McLean Associates, P.C. (LKMA) is pleased to submit the following proposal for Professional Engineering and Surveying services to support the Town's efforts to construct a permanent fish passage to allow migration of diadromous fish, river herring (alewife) and American Eel from Mill Creek in to Mill Pond, Water Mill, in order to restore critical spawning and maturation habitat for such species. We understand that the purpose of this proposal is to provide a budgetary quote to the CPF Water Quality to procure funding for the design phase of this project.

The scope of work for this proposal is to provide surveying, bathymetry, engineering design, and regulatory permitting. We have provided similar services throughout Nassau and Suffolk County at the following locations:

- Forge Road Dam along the Peconic River (Town of Brookhaven)
- Woodhull Dam along the Little River (SCDPW)
- Upper Mills Dam along the Peconic River (SCDPW)
- Carolines Lake along Parsonage Creek (NCDPW)
- Southard's Pond along the Carlls River (Town of Babylon)
- Elda Lake along the Peconic River (Town of Babylon)
- Alewife Creek along Alewife Creek (Town of Southampton)
- Southaven Dam along the Carmans River (SCDPW)
- Traction Boulevard at Canaan Lake (Town of Brookhaven)

Below please find a detailed description and cost associated with the tasks we propose to undertake to complete the project's scope of work.

SCOPE OF SERVICES

Task I – Field Assessment & Base Mapping

Under this task, LKMA will provide a full topographic and bathymetric survey of the area shown in Figure 1. Prior to performing the field survey, Gary Gentile, RLA will flag any freshwater and tidal wetlands limits within the project limits. All flags will be surveyed and mapped as necessary for permitting purposes. Similarly, all utility companies will be contacted so that utility markout inside project limits can be performed prior to the start of the field survey. All horizontal surveyed data will be referenced to the North American Datum of 1983 (NAD83) and all vertical data will be in the North American Vertical Datum (NAVD88). The survey will map the existing freshwater and tidal wetland limits, bulkhead location and elevation and any existing features within the area that may be impacted by the proposed construction. An existing surface of the project area will be created using AutoDesk Civil 3D software so that existing contours can be created and earthwork calculations for proposed cut and fill required behind the bulkhead can be performed.

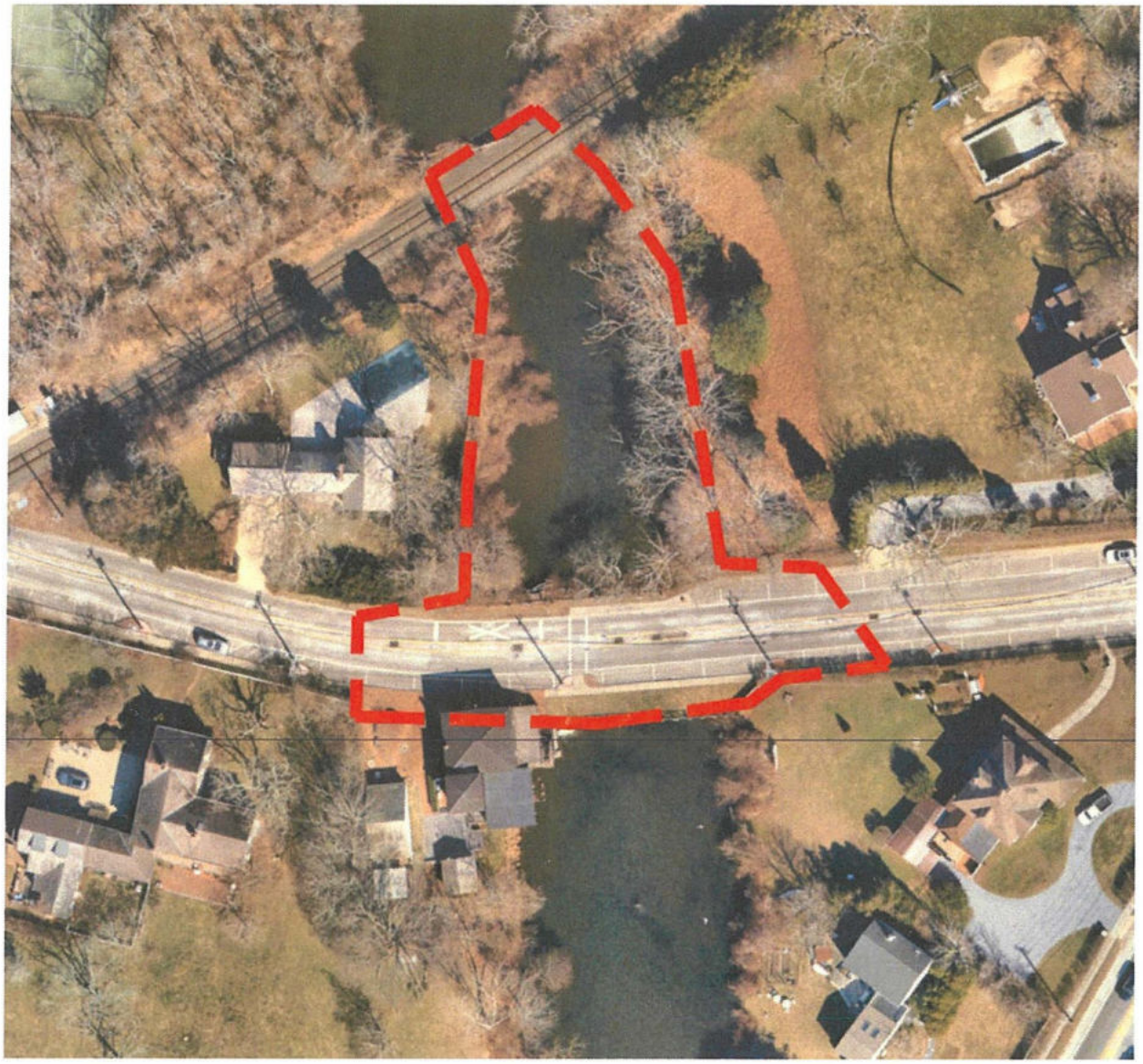

Figure 1. Proposed Topographic and Bathymetric Survey Limits.

Task II - Preliminary Design

Site Investigations

Our engineering team will perform site investigations, including documentation of the existing conditions with site photographs, evaluation of the existing dam conditions (i.e. erosion, hydraulic control structures, structural deterioration, seepage issues, vegetation), and soil boring investigations. It is assumed that approximately three soil borings, each 30 feet in depth, will be required along the top of the dam to assess/identify soil characteristics of the dam.

Watershed Mapping & Hydrologic/Hydraulic Modeling

Hydrologic and hydraulic analysis of the existing and proposed spillway/ culvert configurations will be prepared by LKMA using Autodesk Storm and Sanitary Analysis Software. This software is

capable of utilizing the USEPA Storm Water Management Model (SWMM) or TR-55 methodology as its engine for hydrologic calculations, and is a complete dynamic flow routing model that performs accurate flow and hydraulic grade line calculations. Hydrologic and hydraulic analysis of the proposed changes to the spillway/culvert will be analyzed in accordance with the *NYSDEC Guidelines for Design of Dams* to ensure that the proposed modifications do not negatively impact the upstream or downstream areas adjacent to Old Mill Road. The calculated flow velocities and depths inside the fish ladder and downstream culvert are essential for determining the feasibility of the fish passage itself for the target species' swimming ability.

A watershed map for the contributory area upland of the dam will be created using USGS contour mapping information. This watershed mapping will be necessary for hydrologic and hydraulic assessment of the dam system, which is a required component of the Dam Engineering Assessment Report. The proposed hydraulic configuration will be required to handle the peak flows of a 100-year rainfall.

Scoping / Conceptual Plans

Upon preliminary evaluation of the existing site conditions, LKMA will prepare conceptual plans and documents that recommend alternatives, which can achieve the goals of the project for consideration. These conceptual plans will determine suitable methods for fish passage of the targeted species and evaluate whether the proposed fish passage will be constructed adjacent to, or integral with, the existing culvert structure. Additionally, at this point potential impacts as a result of the New York State Dam Safety requirements will be identified so that additional construction costs related to meeting the requirements can be flushed out. The ultimate goal of this phase of the project will be for our design team to recommend the best approach for the fishway design and to update the project schedule and conceptual cost estimate as required. After Conceptual Plans and estimates are prepared, LKMA will meet with the Town and NYSDEC representatives to discuss the conceptual alternatives.

Development of Alternatives

After discussing the conceptual alternatives with the Town, LKMA will provide further engineering analysis of the alternatives in order to determine their suitability. This task will evaluate:

- Design geometry, identification and comparison of alignment constraints
- Environmental constraints and potential environmental impact mitigation measures
- Structures, existing culvert and spillway
- Existing and proposed structure locations
- Hydraulic considerations
- Maintenance responsibilities
- Soil and foundation considerations
- Utilities
- Right-of-way issues
- Conceptual landscaping
- Construction cost factors

Preliminary Plans

Upon approval from the Town to proceed with LKMA's recommended approach, our design team will prepare Preliminary Plans for the purpose of permit applications. All drawings will be created with AutoCAD Civil 3D software compatible with the Town's current AutoCAD version. In addition to the development of preliminary plans, a preliminary Engineer's Estimate will also be prepared.

The following plans will be developed in the preliminary design phase:

- Title Sheet
- General Notes, Legend and Index
- Existing Conditions Plan
- Soil Boring Location Map
- General Plan
- Fish Passage Details (3 Sheets)
- Miscellaneous Details (2 Sheets)
- Erosion and Sediment Control Details
- Detour Plan

LKMA will submit the preliminary plans to the Town for review and upon receiving the comments will respond in writing to the comments and make all necessary revisions to the preliminary plans. At this point in the design, permitting applications will be submitted to the appropriate agencies, as described below.

Task III - Permitting

Using the accepted preliminary plans, LKMA will prepare and submit all necessary permit applications and obtain all regulatory permits, processes and approvals required for this project. It is anticipated that the following permits or approvals will be required for this project:

- NYS Department of Conservation (NYSDEC)
  - Article 24 – Freshwater Wetlands
  - Article 25 - Tidal Wetlands
  - Dam Safety Permit
- US Army Corps of Engineers
  - Section 404 of Clean Water Act, Section 10 of Rivers and Harbors Act
- US Fish and Wildlife
- Town of Southampton Trustees
- NYS Department of State
  - Coastal Consistency Concurrence

This task includes a $100 NYSDEC Freshwater Wetlands Permit Application Fee and a $300 NYSDEC Tidal Wetlands Permit Application Fee.

Task IV- Final Contract Documents

Once the preliminary design comments from the Town and permitting agencies have been received, LKMA will work to address the comments and progress the approved preliminary design alternative plans to the 100% completion. At this stage, final plans, specifications and engineer's estimate will be submitted to the Town. LKMA will assist the Town as requested in preparing the contract bid book.

Task V- Bid Support

During the advertisement period, LKMA will answer all RFI's in writing from potential bidders and prepare any necessary addenda in accordance with Town requirements. Upon bid opening, LKMA will review the bids received for mathematical errors, review contractor's qualifications and prepare a letter of recommendation for bid award.

Fee Payment Schedule

Our fee estimate for the above referenced services is as follows:

Task I. Field Assessment & Base Mapping	$15,000.00
Task II. Preliminary Design	$60,000.00
Task III. Permitting	$20,000.00
Task IV. Final Contract Documents	$26,000.00
Task V. Bid Support	$4,000.00
Total	**$125,000.00**

The above price is based on the following assumptions as detailed above and below:

1. Grant reporting to be performed by others.
2. A dam safety design report is required for this project.
3. The project site is on property which is owned by the Town.
4. Three borings will be performed on land to a depth of 30 feet.
5. Task III includes a $100 Freshwater Wetland Permit Application Fee and a $300 Tidal Wetland Permit Application Fee.
6. LKMA is not responsible for any construction means, methods, techniques, sequences, procedures, safety precautions or safety programs.

We want to thank you for giving us an opportunity to submit this proposal for the above-referenced services. L.K. McLean Associates looks forward to working with your office on the successful completion of this project. Should you have any questions or concerns, feel free to contact me at any time via phone 631-286-8668 or email kmasseria@lkma.com .

Very truly yours,

Keith J. Masseria, P.E., Associate
L.K. McLean Associates, P.C.

Cc: LKMA File Copy