



TOWN OF BRUNSWICK, MAINE

MAQUOIT BAY WATER QUALITY TASK FORCE AGENDA

Zoom & Room 206

Thursday, October 5, 2023, 12:00 P.M.

**THERE IS AN OPPORTUNITY TO ATTEND THIS MEETING VIA ZOOM**

Members of the public who do not serve on the committee should follow this link to join via  
<https://us02web.zoom.us/j/82967402975?pwd=VDMzdGtoMUxvRHFXSDBKcFlZbGNFZz09>

Comments are allowed during the public comment period and at the discretion of the Chair. The public may provide comments via email ([jflood@brunswickme.org](mailto:jflood@brunswickme.org)) prior to the meeting or they may provide live comment at the meeting via zoom or in person.

12:00 | Call to Order & Introductions

12:05 | Overview of updates to RFPs

12:10 | Vote on Recommendation to Town Council

12:15 | Public Comment

12:30 | Adjournment

# MAQUOIT BAY | TASK 5 BUDGET ADDENDUM



**TO:** Jim Flood, Town of Brunswick  
**FROM:** Luke Frankel, FB Environmental Associates  
**SUBJECT:** Maquoit Bay Watershed Study Proposal: Task 5 Budget Addendum  
**DATE:** October 4, 2023  
**CC:** Ashley Charleson (Town of Brunswick)  
Bina Skordas, Forrest Bell, and Laura Diemer (FB Environmental Associates)

FB Environmental Associates (FBE) is pleased to share the following Task 5 Budget Addendum for the *Maquoit Bay Watershed Non-Point Source Study* proposal submitted to the Town of Brunswick on September 5, 2023. In response to a request from Town staff, this addendum provides cost information for the additional monitoring activities outlined by FBE during the interview on September 26, 2023. This cost information is presented as a menu of options to allow the Town to select the right combination of monitoring activities and number of sample events to both align with the Town's budget and meet the objectives outlined by the Maquoit Bay Water Quality Task Force. FBE is happy to work with Town staff to choose the option that best aligns with the overall goals of the project.

## TASK 5 BUDGET ADDENDUM

Cost information for the additional monitoring activities added to Task 5 of the *Maquoit Bay Watershed Non-Point Source Study* proposal is provided in Table 1. This table outlines the costs associated with the subtasks outlined in the proposal (Task 5 and Task 5a) along with the subtasks that were outlined during the interview on September 26, 2023 (Tasks 5b-d). For each subtask, the cost that was in the initial proposal (Proposal Cost) is provided along with the added cost of performing one additional monitoring event (Cost/Extra Event) which is used in the table to calculate the costs of different sample event number scenarios ranging from six to ten sample events (6 Event Cost, 7 Event Cost, etc.). Since the initial proposal outlined six sample events, the costs for Task 5 and Task 5a (which were also included in the initial proposal) are the same in the "6 Event Cost" scenario and the "Proposal Cost" column. For the subtasks that were not included in the initial proposal (Tasks 5b-d), the "Proposal Cost" is zero because they were not included in the initial proposal and the "6 Event Cost" is estimated as the "Cost/Extra Event" value multiplied by six.

Depending on the subtask/sample event number combination that the Town selects, the total cost for FBE to perform services under Task 5 of the project will range from \$25,420 (Task 5 only with six sample events) to \$66,138 (Task 5 and all subtasks with ten sample events). Totals for performing all subtasks for each sample event number scenario are provided in the bottom row. To calculate the cost of performing only some of the subtasks for any one of these scenarios, simply add together the sub-totals of the subtasks you are interested in within the corresponding column or subtract the sub-totals of the subtasks you would like to remove from the total cost provided in the bottom row of each column.

Brief descriptions of each subtask are as follows:

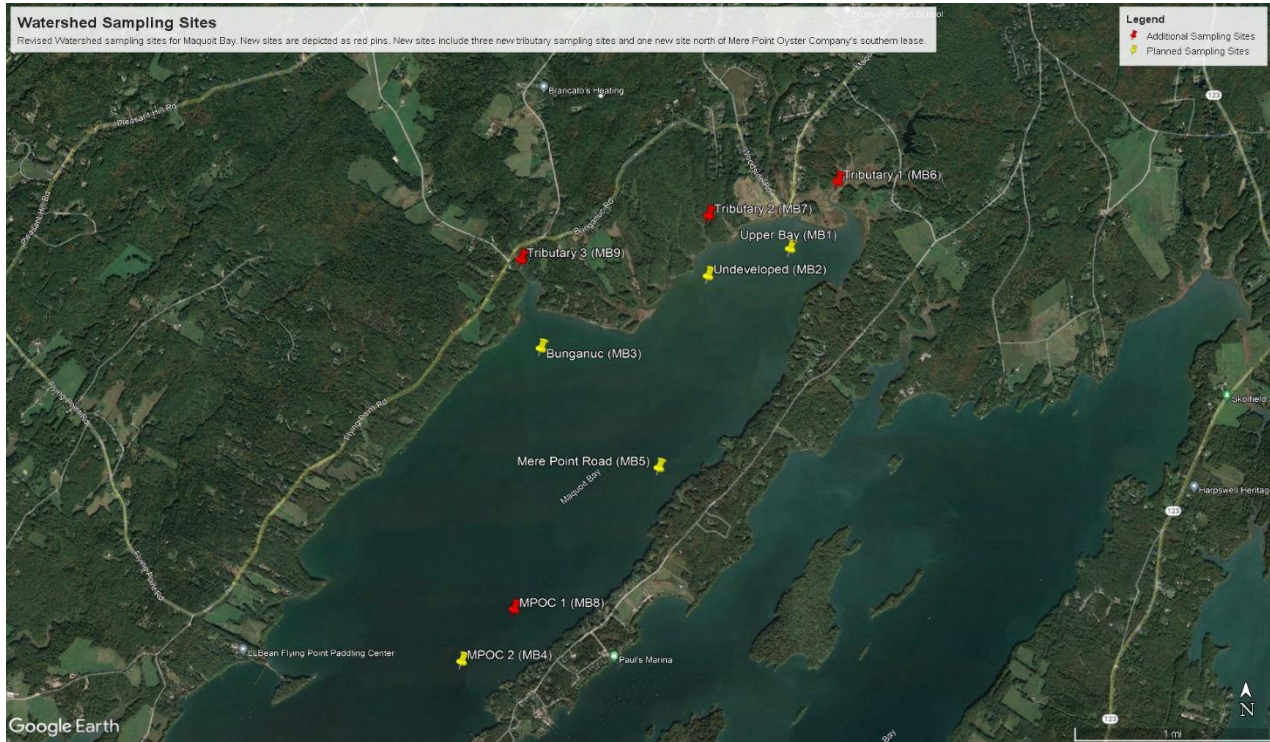
- Task 5:** Same as outlined in the proposal.
- Task 5a:** Same as outlined in the proposal.
- Task 5b:** The cost of adding an additional site to the monitoring program. Lab fees for this subtask only include nitrogen parameters and fecal coliform.
- Task 5c:** The cost of performing continuous monitoring around the Mere Point Aquaculture facility for temperature, conductivity, dissolved oxygen, DOM, pH, total algae, and turbidity. The equipment rented under this subtask is required to collect chlorophyll-a and turbidity measurements at all tidal sites.
- Task 5d:** The cost of collecting and analyzing sediment samples for TOC at two sites (inside farm, outside farm).

**Table 1.** Budget addendum for Task 5 in the *Maquoit Bay Watershed Non-Point Source Study* proposal.

Task No.	Monitoring Activity	Proposal Cost	Cost/Extra Event	6 Event Cost	7 Event Cost	8 Event Cost	9 Event Cost	10 Event Cost
<b>Task 5</b>	<b>Maquoit Bay Baseline Sampling (10 Sites; N and FC only)</b>							
	Labor	\$13,350.00	\$1,890.00	\$13,350.00	\$15,240.00	\$17,130.00	\$19,020.00	\$20,910.00
	Travel	\$667.00	\$112.00	\$667.00	\$779.00	\$891.00	\$1,003.00	\$1,115.00
	Lab Fees/Equipment Rental/Supplies	\$11,403.00	\$1,899.00	\$11,403.00	\$13,302.00	\$15,201.00	\$17,100.00	\$18,999.00
	<i>Task 5 Sub-Total</i>	<i>\$25,420.00</i>	<i>\$3,901.00</i>	<i>\$25,420.00</i>	<i>\$29,321.00</i>	<i>\$33,222.00</i>	<i>\$37,123.00</i>	<i>\$41,024.00</i>
<b>Task 5a</b>	<b>Water Level Loggers and Flow</b>							
	Labor	\$9,171.00	\$0.00	\$9,171.00	\$9,171.00	\$9,171.00	\$9,171.00	\$9,171.00
	Travel	\$158.00	\$0.00	\$158.00	\$158.00	\$158.00	\$158.00	\$158.00
	Logger Purchase/Equipment Rental/Supplies	\$1,890.00	\$0.00	\$1,890.00	\$1,890.00	\$1,890.00	\$1,890.00	\$1,890.00
	<i>Task 5a Sub-Total</i>	<i>\$11,219.00</i>	<i>\$0.00</i>	<i>\$11,219.00</i>	<i>\$11,219.00</i>	<i>\$11,219.00</i>	<i>\$11,219.00</i>	<i>\$11,219.00</i>
<b>Task 5b</b>	<b>Adding One Site to Base Monitoring (e.g., 10 Sites -&gt; 11 Sites)</b>							
	Labor	\$0.00	\$94.50	\$567.00	\$661.50	\$756.00	\$850.50	\$945.00
	Lab Fees	\$0.00	\$162.00	\$972.00	\$1,134.00	\$1,296.00	\$1,458.00	\$1,620.00
	<i>Task 5b Sub-Total</i>	<i>\$0.00</i>	<i>\$256.50</i>	<i>\$1,539.00</i>	<i>\$1,795.50</i>	<i>\$2,052.00</i>	<i>\$2,308.50</i>	<i>\$2,565.00</i>
<b>Task 5c</b>	<b>Aquaculture Monitoring (Includes Chl-a and Turbidity at Tidal Sites)</b>							
	Labor	\$0.00	\$378.00	\$2,268.00	\$2,646.00	\$3,024.00	\$3,402.00	\$3,780.00
	Equipment Rental	\$0.00	\$279.00	\$1,674.00	\$1,953.00	\$2,232.00	\$2,511.00	\$2,790.00
	<i>Task 5c Sub-Total</i>	<i>\$0.00</i>	<i>\$657.00</i>	<i>\$3,942.00</i>	<i>\$4,599.00</i>	<i>\$5,256.00</i>	<i>\$5,913.00</i>	<i>\$6,570.00</i>
<b>Task 5d</b>	<b>Sediment TOC Analysis</b>							
	Labor	\$0.00	\$189.00	\$1,134.00	\$1,323.00	\$1,512.00	\$1,701.00	\$1,890.00
	Lab Fees/Equipment Rental	\$0.00	\$287.00	\$1,722.00	\$2,009.00	\$2,296.00	\$2,583.00	\$2,870.00
	<i>Task 5d Sub-Total</i>	<i>\$0.00</i>	<i>\$476.00</i>	<i>\$2,856.00</i>	<i>\$3,332.00</i>	<i>\$3,808.00</i>	<i>\$4,284.00</i>	<i>\$4,760.00</i>
	<b>Total</b>	<b>\$36,639.00</b>	<b>\$5,290.50</b>	<b>\$44,976.00</b>	<b>\$50,266.50</b>	<b>\$55,557.00</b>	<b>\$60,847.50</b>	<b>\$66,138.00</b>

## Maquoit Bay Watershed Water Quality Study – Addendum

Tetra Tech Proposes to add four additional sites at the Town of Brunswick’s request to the sites already proposed in their response to the Town’s RFP for watershed assessment services. These sites would be located at two tributaries at the North end of Maquoit Bay, one tributary to the West, and one additional site north of Mere Point Oyster Company’s (MPOC) southern lease. See Figure 1 and Table 2 below for reference.



*Figure 1. Proposed Sampling Sites for Brunswick Watershed Assessment*

Sampling and Site	Latitude	Longitude	Description
MB1	43°51'51.79"N	69°59'34.76"W	Upper Bay
MB2	43°51'44.14"N	70° 0'4.67"W	Undeveloped
MB3	43°51'23.84"N	70° 1'5.45"W	Bunganuc
MB4	43°49'56.00"N	70° 1'34.29"W	MPOC 2
MB5	43°50'50.34"N	70° 0'22.54"W	Mere Point
<b>MB6</b>	<b>43°52'10.68"N</b>	<b>69°59'17.46"W</b>	<b>Tributary 1</b>
<b>MB7</b>	<b>43°52'1.12"N</b>	<b>70° 0'4.45"W</b>	<b>Tributary 2</b>
<b>MB8</b>	<b>43°50'10.65"N</b>	<b>70° 1'15.25"W</b>	<b>MPOC 1</b>
<b>MB9</b>	<b>43°51'48.79"N</b>	<b>70° 1'12.61"W</b>	<b>Tributary 3</b>

*Table 1. Locations of Sampling Sites (New Sites in red)*

Adding these additional sites would represent a **\$2,576** increase in cost. This cost can be broken down by adding an additional 2 hours (one half hour per new site) for both sampling staff at a cost of \$368 dollar per day (\$184 per staff member).

While Tetra Tech has included an additional site to the North of MPOC’s southern lease in Maquoit Bay, it’s important to note that this study as currently requested and as reflected in Tetra Tech’s proposal is a “snapshot” in time of conditions over the course of seven months. In order to draw any conclusions and identify trends Tetra Tech recommends *at least* three years of data collection from each site, preferably more. For example, data collected this past summer (2023) would look very different from the previous two summers given the volume, frequency, and duration of rain events Maine has experienced which contribute to increased runoff and subsequent waterborne contaminants, erosion/turbidity, and significantly impacts the characteristics of the water column from salinity to temperature to PH to name just a few parameters.

To fully understand the possible impacts from MPOC, Tetra Tech recommends that additional data would need to be collected, either as part of a new study or as part of an addendum to the second year of this contract that could include phytoplankton counts, temperature data collection, and most importantly, water velocity and circulation measurements and modeling (including deployment of several acoustic Doppler current profilers or ADCP’s).

### Reference Contact Information

- 1) Former BNAS Watershed PFAS Sampling (conditions monitoring, Brunswick parameter and conditions sampling, field sampling): United State Navy – At the time of this addendum the civilian Navy employee Point of Contact has been notified to stand down and prepare for the Federal Government shutdown. We will forward another reference contact by Tuesday of next week.
- 2) Taunton Bay Advisory Group (services include a complete watershed and species assessment, watershed management and policy, stakeholder outreach and communications) – Apparently the Maine Department of Marine Resources has recently disbanded this group, however a successor group, Friends of Taunton Bay retains much of its membership, including the individual best placed for a reference: **Frank Dorsey** - [frankstat1@myfairpoint.com](mailto:frankstat1@myfairpoint.com)
- 3) Nordic Aquafarm (services include ambient conditions monitoring, Nutrient Monitoring, Circulation Monitoring/Modeling, Field Sampling): **David Noyes** – [DSN@nordicaquafarms.com](mailto:DSN@nordicaquafarms.com)