MUNICIPAL ALLIANCE FOR ADAPTIVE MANAGEMENT
MEETING OF THE MEMBERS
AGENDA

Meeting Type:	**Members Meeting**
Meeting Location:	**Rochester DPW** **209 Chestnut Hill Road, Rochester NH**
Remote Location:	**https://us06web.zoom.us/meeting/register/aCJGMAzZS0ynO06nE37BZw** **Register in advance for this meeting:**
Meeting Date:	**November 20, 2025**
Meeting Time:	**2:00 pm**
	A quorum of Members will be in person, but for those interested in participating remotely please register at the above link.

1. **Call to order**
2. **Approval of minutes**
    a. **September 22, 2025 Members meeting**
3. **Recommendations for next steps with EPA/NHDES/Stakeholders (SW to lead discussion)**
4. **CY26 Budget discussion & potential approval (GY to lead discussion)**
5. **Inter Municipal Agreement Update (SW to review updates and requirements)**
6. **Stakeholder comment (Melissa Paly from CLF to lead discussion)**
    a. **Public comment (Limited to 5 minutes per speaker)**
7. **Other business**
8. **Schedule next meeting and agenda items (January – Stakeholder/EPA meeting)**
9. **Adjourn**

MUNICIPAL ALLIANCE FOR ADAPTIVE MANAGEMENT
MEETING OF THE MEMBERS
DRAFT MINUTES

Meeting Type:	**Members Meeting**
Meeting Location:	**Rochester DPW** **209 Chestnut Hill Road, Rochester NH**
Meeting Date:	**September 22, 2025**
Meeting Time:	**1:00 pm**
	A quorum of Members will be in person, but for those interested in participating remotely please register at the above link.

A full recording of this meeting is available to review for further detail.

1. CALL TO ORDER

The Meeting was called to order at 1:00 p.m.

Members:

Town/City	Representative	Present
Dover	Tim Puls Environmental Projects Manager	Yes
Portsmouth	Suzanne Woodland	Yes
Rochester	Gretchen Young Deputy Director of Public Works	Yes
Exeter	Stephen Cronin Public Works Director	Yes
Newington	Aerial Write Plant Operator	Yes
Milton	Billy Walden Public Works Director	No
Epping	Jake Roger Town Administrator	Yes

Non-Members:
Danielle Gaito – EPA Region 1
Sally Soule, NH DES
Steve Couture, NH DES
Jamie Houle, UNH Stormwater Center
Tim Puls, City of Dover
Denniss Messier, South Berwick
Jay Wheeler, Berwick
Jessa Kellog, Kittery
Christi Rebeska, Berwick and South Berwick
Kalle Matso, PREP
Melissa Paly, CLF
Jamie McCarty, City of Portsmouth
Chris Whitney, PREP
Brina Group, TNC

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Meeting Date:	**September 22, 2025**
Meeting Time:	**1:00 pm**
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2. **Approval of minutes August 14, 2025 meeting**

   Motion: SW moved to approve meeting minutes of August 14th, 2025, second by TP.

   Vote Passed 6-0

3. **Joint Adaptive Management Review**

   GY noted a few minor edits to the plan. Communities shared individual No further comments, GY will submit to EPA on behalf of MAAM.

   Motion: SW moved to approve submit the AMP as represented, second by TP.

   Vote Passed 6-0

4. **Stake Holder Comments** MP shared that they are continuing to look for opportunities to piolet a project using the $45k that MAAM has supplied for this committee.

5. **Public Comments -** None

6. **Other business**

   - SW shared that South Berwick Sewer District and Berwick Sewer District have both signed up to participate in MAAM. There has already been a fair amount of scientific information shared from the Maine Communities that may bolster our data.
   - SW shared that she is updating the Intermunicipal Agreement and will be sharing that in the coming months.
   - SW recommended a future discussion between communities on SCM maintenance and lessons learned. Maybe include the Stormwater Coalition.
   - SW shared that Portsmouth is continuing to explore a stormwater utility.
   - KM welcomed the Maine communities. He feels very good about the collaboration and shared science.

7. **Schedule next meeting and agenda items**

   October 23, 2025 at 1:00 PM. To discuss next year's budget.

8. **ADJOURN**

Summary of PREP 2026 Monitoring Proposals & MAAM Funding Request								
Study Name	Previous MAAM Expenditures				2026 Request		Study Description	Notes
	2022	2023	2024	2025	Cost	Priority		
Light and Bio-optical Model (Formerly "Turbidity")	$60,000	$67,000	$79,920	$70,113	$73,568	1	GBE-specific Kd (λ) model. To have robust optical model, data collection in the GBE waters is ongoing.	Report from work funded in 2022 in progress. 2026 request is a continuation of a multi- year workplan.
Tier 1 Seagrass Monitoring	$75,000	$75,000	$77,500	$100,580	$74,189	1	Continuation of annual aerial imagery mapping of seagrass.	
Tier 2 Seagrass Monitoring	$53,000	–	$55,000	$72,028	$124,589	1	Continuation of work that started in 2021. Annual study that includes characterization of seagrass density and morphology, macroalgal abundance and type, and sediment characteristics.	
Estuarine WQ Monitoring	$41,000	$64,000	$66,000	$120,960	$58,014	1	Ongoing estuarine water quality monitoring program for a more comprehensive understanding of water quality patterns.	MAAM would be providing a portion of overall study cost.
External Advisors	$25,000	$10,000	$25,000	$31,500	$103,515	1	Funding for engaging external advisors to review and provide guidance on scientific methods and results.	External advisors: time and expenses for Lora Harris, Jud Kenworthy, expenses only for Mike Van Den Heuvel
Light Array Program	$29,000	$42,000	$43,400	$56,325	$32,445	2	Continuation of annual work that started in 2021. Provides high resolution data on the light environment in the estuary.	If not funded, the dataset collected through 2025 will provide important info about the light environment and duration, frequency, and timing of low light events.
Green Crab Monitoring	–	–	–	–	$46,620	3	Estimated cost. Design and implementation of a monitoring plan focused on green crab abundance in GBE.	BC and PREP agree that a green crab- workplan is not needed in 2026. Near term focus should be on reviewing recent data collected by others.
Historical TN Loading Calculation	–	–	–	–	$79,565	3	Estimated cost. Calculate historical (i.e. late 1990's and early 2000's) annual TN loads to the estuary with methods comparable to those currently used.	BC and PREP agree that this effort is not a high priority for 2026 MAAM funding.
Previous studies funded by MAAM, for which additional MAAM funding is not requested in 2026								
Storm Add-On to Eelgrass Stressor Project	$5,000	$91,000	–	–	–	–	Implementation of a study to investigate the impacts of storm events and inputs on water quality in GBE.	In progress, results to be reported in Feb. 2026.
Tributary Discharge Measurements	–	$5,000	–	–	–	–	Estimating discharge measurements for Bellamy, Great Works, and Salmon Falls Rivers. Part of a stated commitment in MAAM AMP.	In progress, results to be reported in Feb. 2026.
Macroalgal Dynamics Synthesis and Recommendations	–	$25,000	–	–	–	–	Compilation, review, and synthesis of green and red macroalgae status and trends in GBE, identifying data gaps, and development of a monitoring plan (if needed).	Report pending; scheduled for completion in spring 2026.
Shoreline Hardening Survey	–	$15,000	–	–	–	–	A survey to determine the location and extent of hardened shoreline in GBE.	Data and methods summary report will be available in December 2025.
Tier 3 Seagrass	–	$33,000	–	–	–	–	Continuation of annual Tier 3 Seagrass (aka SeagrassNet) program; long-term monitoring of fixed transects.	Will be conducted with other funding sources through 2027.
Estuarine WQ Monitoring	–	$20,000	–	–	–	–	Funding to buy new sondes.	
Mussel Watch	$7,300	$10,000	–	–	–	–	Analysis of bivalve tissue to measure toxic constituents.	
Non-Structural BMP Expert Panel	–	–	$30,000	–	–	–	Literature review of nitrogen reduction credits from non-structural BMPs.	2024 work complete. No follow on work suggested at this time.
5% Contingency	–	$19,500	$13,345	–	–	–	Not included for 2026.	Costs for 2026 include inflation adjustment and overhead costs.
Total	$107,300	$409,500	$310,245	$381,392	$433,874 $466,319	1 1 & 2		

Proposal for On-going Program Support for the Pollution Tracking and Accounting Project (PTAP)

Project Lead: James Houle, UNH Stormwater Center
Project Cost: $50,000
Duration: Winter 2025 – December 2026

Project Purpose

This funding will provide critical continued support for two key regional efforts to manage and track municipal efforts to reduce nutrient pollution from nonpoint sources.

- UNHSC provided technical assistance to develop a comprehensive PTAP Reporting Tool (PRT) to calculate the nitrogen, phosphorus, and TSS loads and reductions attributable to changes in effective impervious area as entered into PTAP. The PRT was built on the EPA Performance Curves which is the backbone of other accounting tools such as the EPA Region 1 BMP Accounting and Tracking Tool (BATT). The PRT provides reporting features to credit tracked structural, nonstructural, and septic conversion implementation measures and provides reduction estimates consistent with the methodologies presented in Appendix F of the MA and NH MS4 permits. Reports for previous years were generated using the EPA BATT tool which proved to be cumbersome and cannot be updated with new BMPs such as septic to sewered conversions, street sweeping, IC Disconnection, or other future crediting methods. This year, the reporting was transitioned from a PTAP to BATT export plus manual calculations for the BMPs above to the PRT which provided all communities with a report with summary tables of reductions and reductions by BMP type (structural, non-structural, etc.). The final reports for2025 can be accessed under "PTAP Nutrient Reduction Reports" on each municipality's page on the NH DES MS4 blog/Permittee-Specific Resources.
- NHDES has been added as a partner and is assisting with the development of a new landing page for PTAP located at: https://www.nhms4.des.nh.gov/nh-resources/pollutant-tracking-and-accounting-project-ptap
- The NHDES PTAP website will continue to be developed and updated to provide access to PTAP resources and updated trainings and recordings.
- In combination with local tracking and accounting, UNHSC is working with MAAM partners to track changes to TN loadings as well as other nutrient and pollutants due to long-term land use change trends through Geographic Information Systems (GIS) analysis. UNHSC will continue to analyze regional methods for accounting for land use changes demonstrated through local, state and national GIS layers. Changes to nitrogen loads associated with land use changes over the permit term will use EPA provided NLERs and the best available applicable GIS data. Tracking land use changes at the site scale as is currently being performed is difficult, time consuming, and inconsistent across users. A regional approach to tracking land use change trends will provide a cost-effective, consistent, repeatable, and reliable method for all communities in the

GBTNGP and set an example to other watersheds with similar needs. MAAM communities anticipate a collaborative effort to distill and standardize these methods over the next permit year. Determination of positive or negative pollutant loading due to land use change requires collaboration and agreement between all parties involved in the GBTNGP.

Project Scope

Objective 1: Technical assistance and improved functionality of the PTAP tracking and accounting platform.

Task 1: Review and update PTAP database functionality

Description: UNH and NHDES will coordinate with participating municipalities to receive feedback on the working PTAP database and perform necessary updates for enhance user compatibility. The goal will be enhanced functionality and assist with PTAP participation. Feedback will be gathered through workshops, webinars, and meetings with end users.

Estimated cost: $10,000

Objective 2: Develop PTAP reporting tools to track nitrogen additions or reductions in the Great Bay watershed.

Task 2: Annual Nitrogen Tracking Reporting

Description: In 2023 UNHSC produced the first annual reporting template for MAAM communities. UNHSC will continue to work with MAAM communities to develop and enhance the annual report template to satisfy permit obligations. In addition, project partners will work collaboratively to identify and develop consistent load reduction calculations for additional nonstructural practices for tracking that include outreach and education, wetland buffer protection/conservation land, pet waste collection and oyster bed restoration along with other efforts, with the intent of identifying promising future water quality improvement activities. It should be noted that there are no existing approved nitrogen load reduction credits that exist for these important efforts and future collaborations to create them are anticipated.

UNHSC has developed and will continue to refine wastewater management approaches planned for tracking including installation of innovative septic systems and enhanced treatment technologies and connection of septic systems to public sewers. Another area for technical assistance from the region is the determination of appropriate credits for these methods, particularly elimination of NPS loads through sanitary sewering. UNHSC and MAAM partners have developed a draft credit approach in 2024 that was updated in 2025 and has been submitted by two MAAM communities in 2024 and 2025. The method can be found here: UNHSC PTAP Memo Methods for TN Reduction of Sewering.pdf. UNHSC will continue to work with MAAM communities and other partners to refine and update the sewering credit

approach.

UNHSC will continue to work with MAAM and other partners to update and refine other non-structural control credits to be consistent with any updates associated with the new MS4 permit. New credits are assumed to be associated with but not limited to Street Sweeping and Impervious Cover Disconnection including rainbarrels.

Estimated cost: $25,000

Objective 3: UNHSC will work with MAAM to refine, build, and provide enhanced technical assistance for hotspot mapping products.

Task 3: Working with NHDES, UNH and GRANIT will continue supporting and developing the online hotspot maps for all NH MS4 communities.

Description: Additional technical assistance may include, but not be limited to, completing hotspot maps for communities not included in the original product development due to insufficient data; changes, additions, or enhancements to existing mapping products; enhanced or new mapping products such as highlighted areas of high potential septic loading; and technical assistance for end users (workshops, webinars, written guidance materials). Hotspot mapping products which can also be used to support MS4 permit related efforts can be found here: https://www.nhms4.des.nh.gov/nh-resources/permittee-specific-resources

Estimated cost: $5,000

Objective 4: UNHSC will work with project partners to develop long-term land use change metrics to support permit compliance.

Task 4: Working with MAAM, NHDES, UNH GRANIT, and EPA, UNHSC will continue supporting development of hotspot maps for all Great Bay communities and associated land use change statistics.

Description: UNHSC will continue to analyze regional methods for accounting for land use changes demonstrated through local, state and national GIS layers. Changes to nitrogen loads associated with land use changes over the permit term will use EPA provided NLERs and the best available applicable GIS data. Tracking land use changes at the site scale as is currently being performed is difficult, time consuming, and inconsistent across users. A regional approach to tracking land use change trends will provide a cost-effective, consistent, repeatable, and reliable method for all communities in the GBTNGP and set an example to other watersheds with similar needs.

Estimated cost: $10,000

Project Number: 156320

AMENDMENT NO. 5 TO
AGREEMENT FOR CONSULTING SERVICES
BETWEEN CITY OF ROCHESTER, NH
AND BROWN AND CALDWELL
FOR PREP ENGAGEMENT

THIS AMENDMENT NO. 5 to the Agreement for Consulting Services dated January 26, 2021 between the City of Rochester, hereinafter referred to as "Client", and *Brown and Caldwell*, a California corporation, hereinafter referred to as "Consultant," is made and entered into this 1st day of January, 2026.

RECITALS:

WHEREAS, Client and Consultant entered into an agreement for consulting services January 25, 2021 (hereinafter referred to as the "Agreement");

WHEREAS, in Article II.B of the Agreement, Client and Consultant agreed that certain of the work contemplated to be performed by Consultant could not be sufficiently defined at the time of execution of the Agreement;

WHEREAS, Client desires to engage with the Piscataqua Region Estuaries Partnership (PREP) regarding the research and monitoring plan currently being developed for the Great Bay Estuary (GBE) and receive continued Consultant support with the Adaptive Management Framework development and implementation; and

WHEREAS, Client has requested changes in the Scope of Services;

NOW, THEREFORE, Client and Consultant agree to amend the Agreement as follows:

I. SCOPE OF CONSULTING SERVICES

The Scope of Services in the Agreement is amended to include the following tasks:

Task 1 – Project Management and Administration

BC shall perform project management and administration while performing Engineering Services throughout the project. Project management and administration shall include:

i) Preparation of monthly invoices
ii) Oversight of deliverables, schedule, and budget
iii) Project management communications

Task 1 assumes a budget of 48 labor hours.

Task 2 – Meeting Participation and Administration

BC will participate in meetings with PREP, PRMC, and related subcommittees regarding the ongoing research and monitoring. BC will also participate in meetings with Municipal Alliance for Adaptive Management (MAAM), New Hampshire Department of Environmental Service (NHDES), the U.S. Environmental Protection Agency (US EPA), or other stakeholders as needed. This scope assumes participation in 10 virtual meetings of an average 1.5-hour in duration. It also assumes that two BC scientists will participate in two in-person meetings or field visits of 1-day duration. This task includes preparation for each meeting, meeting participation, and as-needed email summaries of meeting notes and any proposed action items submitted to MAAM (following legal counsel review for attorney-client privileged communications or information) within seven working days of the meeting. It also includes budget for routine communications between BC and MAAM representatives.

Task 2 assumes a budget of 172 labor hours.

Task 3 – As-Needed Technical Support

This task includes as-needed technical support that might arise during our engagement with PREP and other stakeholders. Examples of activities that could be accomplished under this task include literature reviews, independent data analyses, review and comment on of PREP proposals and deliverables, refinements of the adaptive management plan, development of monitoring/funding recommendations, and drafting of materials to advocate technical positions.

In previous years, effort under the as-needed technical support task focused on identifying data gaps, coordinating on monitoring priorities, and providing oversight of PREP monitoring activities. BC anticipates similar efforts will continue in 2026 under this task. This task includes a concise (e.g., 2-page) year-end deliverable in which BC summarizes activities completed under this scope of work during the calendar year.

Task 3 assumes a budget of 125 labor hours.

Task 4 – MAAM Summary Report

BC will prepare a technical summary report in accordance with the General Nitrogen Permit and MAAM's Joint Adaptive Management Plan. The report will address topics such as MAAM's activity

and accomplishments since the permit initiation, MAAM's current scientific understanding of stressors on eelgrass, the utility of nitrogen loading or concentration targets, and recommendations for the future phases of planning and monitoring. In preparing this report, BC will build upon progress made in 2025. Major conclusions on scientific issues will be supported by the scientific literature including recent monitoring results and reports (e.g., Eelgrass Resilience Project, bio-optical modeling). BC will also perform independent graphical or statistical analyses to support conclusions as necessary. Examples such analyses include times series, charts, mapping analyses, and re-calculations of areal nitrogen loading rates.

BC will revise and finalize the draft report in response to two rounds of review. It is assumed that first round of review will be conducted by MAAM, and the second round of review will be conducted by external stakeholders such as NHDES, PREP, and PREP's technical advisors. Associated meetings to discuss the MAAM summary report are included in Task 2.

Task 4 assumes a budget of 188 labor hours.

II. SCHEDULE

Consultant is authorized to proceed with the modified Scope of Services effective on the date of this Amendment. The modified Scope of Services shall be completed by December 31, 2026.

III. COMPENSATION

Compensation for the services provided under Article I of this Amendment shall be calculated on the same basis as in the Agreement as modified by any previous amendment(s). The labor hours and cost estimates for completing the services defined in this Amendment are shown in Attachment 1. The estimated compensation for the services performed under this Amendment is $135,790.

All other terms and conditions of the Agreement and any amendments thereto remain unchanged.

BROWN AND CALDWELL	CITY OF ROCHESTER, NH, AS FISCAL AGENT FOR THE MAAM GROUP."
Signature: _____	Signature: _____
Printed Name: Deborah Mahoney	Printed Name: Kathryn Ambrose
Title: Senior Director Client Services	Title: City Manager

ATTACHMENT 1

COMPENSATION

For the work described in Amendment 5, compensation shall be a fee not to exceed of $135,790, including labor and expenses. The table below summarizes the project budget by task.

Task Name	Estimated Labor Hours	Expense Budget	Total Budget
Task 1 - Project Management and Administration	48	-	$8,583
Task 2 - Meeting participation and communications	172	$7,200	$52,318
Task 3 - As-Needed Technical Support	125	-	$30,100
Task 4 – MAAM Summary Report	188		$44,788
Total Hours	533	$7,200	$135,790

Costs:	
Website	
Brown and Caldwell	$ 135,790.00
PTAP	$ 50,000.00
PREP Core monitoring/oversight	$ 466,000.00
	$ 651,790.00

Facility Name	Total Permitted Flow (MGD)	Share	2022	2023	2024	2025	2026
			$ 422,805.00	$ 519,684.00	$ 440,751.00	$ 641,173.52	$ 651,790.00
Rochester	5.03	22.73%	$ 120,835.75	$ 126,893.71	$ 105,070.03	$ 152,848.52	$ 148,147.48
Portsmouth	6.13	27.70%	$ 147,261.06	$ 154,643.83	$ 128,047.57	$ 186,274.58	$ 180,545.54
Dover	4.7	21.24%	$ 112,908.16	$ 118,568.68	$ 98,176.76	$ 142,820.64	$ 138,428.06
Exeter	3	13.56%	-	$ 75,682.14	$ 62,666.02	$ 91,162.11	$ 88,358.34
Pease ITP	1.2	5.42%	$ 28,827.61	$ 30,272.85	$ 25,066.41	$ 36,464.84	$ 35,343.33
Epping	0.5	2.26%	-	-	$ 10,444.34	$ 15,193.69	$ 14,726.39
Newington	0.29	1.31%	$ 6,966.67	$ 7,315.94	$ 6,057.72	$ 8,812.34	$ 8,541.31
Rollinsford	0.15	0.68%	$ 3,603.45	$ 3,784.11	$ 3,133.30	$ 4,558.11	$ 4,417.92
Milton	0.1	0.45%	$ 2,402.30	$ 2,522.74	$ 2,088.87	$ 3,038.74	$ 2,945.28
Kittery		0.00%					$ -
Berwick*	0.38	1.72%					$ 11,192.06
South Berwick	0.65	2.94%					$ 19,144.31

*Permitted Flow of 1.1 MGD does not align with operating capacity; 0.38 MGD being used based on 20-yr projected growth and operating capacity.