SETTLEMENT AGREEMENT BY AND BETWEEN CONSERVATION LAW FOUNDATION AND CITIES OF DOVER, ROCHESTER, AND PORTSMOUTH

The Cities of Dover, Rochester, and Portsmouth (collectively "the Municipalities") and the Conservation Law Foundation, Inc. ("CLF"), for good and valuable consideration mutually exchanged and acknowledged, hereby enter into this Settlement Agreement ("Agreement") by and between as follows:

WHEREAS, in January 2020, the United States Environmental Protection Agency (Region 1) ("EPA") issued the "Draft National Pollutant Discharge Elimination System (NPDES) Great Bay Total Nitrogen General Permit for Wastewater Treatment Facilities in New Hampshire" (NPDES Permit No. NHG58A000) (hereinafter "Draft General Permit");

WHEREAS, the Municipalities, CLF, and other interested parties submitted extensive written comments on the Draft General Permit;

WHEREAS, on November 24, 2020, EPA issued the final Great Bay Total Nitrogen General Permit (NPDES Permit No. NHG58A000) (the "General Permit") along with EPA's Fact Sheet and Response to Public Comments, each *available at* https://www.epa.gov/npdes-permits/great-bay-total-nitrogen-general-permit;

WHEREAS, Part 2 of the General Permit contains final effluent limitations and monitoring requirements for each Permittee's wastewater treatment facility ("WWTF") similar to those in the draft permit, although with more recent (updated) flow data and, in keeping with scientific knowledge and past EPA permitting practice, a total nitrogen load limit based on the growing season of eelgrass;

WHEREAS, Part 3 of the General Permit provides for the voluntary submission of a proposal, within 180 days of the effective date of the permit, outlining: (1) an approach to ambient water quality monitoring to determine progress and trends; (2) a method of tracking total nitrogen reductions and additions over the course of the permit; (3) an outline/plan for overall source reductions of total nitrogen over the course of the permit; (4) an inclusive and transparent process for comprehensively evaluating significant scientific and methodological issues relating to the permit, including the assumption of a load-based threshold of 100 kg ha^{-1} yr^{-1} versus any other proposed threshold that might be used for future permitting or planning purposes, including a concentration-based threshold of .32 mg/L;

WHEREAS, the Municipalities may choose to Opt-In to the General Permit and become permittees (the "Permittees");

WHEREAS, EPA's Responses to Comments accompanying the General Permit state that the "assessment of progress on nonpoint source reductions could lead EPA to reissue an adaptive management permit if reasonable grounds exist to do so, or to abandon that approach in

favor of a more traditional one insofar as insufficient progress is being made on necessary nonpoint source reductions";

WHEREAS, the Municipalities have opted, or are expected to opt, into the General Permit;

WHEREAS, the Municipalities, along with other permittees, have begun the work of developing an Adaptive Management Plan for submission to the EPA by July 31, 2021;

WHEREAS, CLF has considered appealing EPA's final agency action to issue the General Permit;

WHEREAS, CLF, Dover, Rochester, and Portsmouth have, in good faith, engaged in a facilitated process to reach a negotiated resolution of the General Permit and its administration;

WHEREAS, this Agreement is a resolution of a dispute between the parties relative to the value of the General Permit to achieve a measurable environmental benefit.

NOW THEREFORE, the Parties, for themselves, their successors and assigns, enter into this Agreement for the purposes described above on the terms set forth below:

1. Recitals: The above recitals are incorporated herein by reference.

2. Definitions:

"Consult" or "consultation": Any requirement in this Agreement to "consult" or engage in "consultation" means that the party actor solicits non-binding input, information, or commentary. "Consult" or "consultation" does not in any way mean or imply an approval authority is needed from the party who is being consulted. A party required to "consult" or seek "consultation" with another party retains sole discretion concerning the matter for which consultation is made.

"Eelgrass growing season": The eelgrass growing season refers to that period of each calendar year from April 1 to October 31.

"IMA" or "IMA Group": IMA or IMA group refers to those municipalities who have or are expected to formally execute the Intermunicipal Agreement for Development of an Adaptive Water Quality Management Plan for Great Bay Estuary. Dover, Rochester, Portsmouth, Milton, Newington, and Exeter, so far, have indicated a willingness to execute the IMA, while others have the IMA under consideration.;

"Structural Best Management Practices": A measure or facility intended to treat, prevent, and/or reduce water pollution through installation of a permanent or semi-permanent structure that is either stand-alone or part of a larger construction project.

"Nonstructural Best Management Practices": A measure, facility, practice, or action intended to treat, prevent, and/or reduce water pollution through any means other than a structural best management practice.

3. Purpose: The overriding purpose of this Agreement is to collaboratively implement a plan and set forth commitments between the Municipalities and CLF to improve water quality in the Great Bay Estuary and to take such further collaborative actions in compliance with, and furtherance of, the General Permit and the goals stated in the General Permit and associated Fact Sheet and Response to Comments. For purposes of clarity, this Agreement is solely entered into by Dover, Rochester, and Portsmouth in their capacity as individual communities, and not on behalf of the IMA group of municipalities, and this Agreement does not bind the unincorporated association of Permittees forming the IMA group.

4. Term: This Agreement is effective on the date last signed by all parties and will expire on February 28, 2026. However, any individual Municipality shall no longer be subject to this Agreement if and when that individual Municipality withdraws from or otherwise loses coverage under the General Permit.

5. IMA Executive Board Meetings:

   a. RSA 91-A: The Municipalities agree that, in conducting any and all meetings of the Executive Board of the IMA, the Municipalities will ensure that the requirements of New Hampshire RSA chapter 91-A are observed and followed, so long as not inconsistent with applicable law.

   b. Participation by Stakeholder Committee: The Municipalities agree to specifically invite one designated representative of the Stakeholder Committee (discussed below) to attend and speak at all Executive Board and IMA Member meetings, unless such meeting, or portion thereof, is a non-meeting and/or non-public meeting within the meaning of New Hampshire RSA chapter 91-A. In appropriate circumstances determined by the Executive Board of the IMA, the designated representative of the Stakeholder Committee may be permitted to enter into a non-disclosure agreement to enable the Stakeholder Committee's representative to attend an otherwise non-public meeting. Nothing within this provision is intended to limit the Executive Board's ability to adopt reasonable time, place, and manner requirements concerning the public's right to speak or participate in public meetings of the Executive Board.

   c. Meeting Frequency: Dover, Rochester, and Portsmouth agree to use best efforts to ensure that meetings of the IMA Executive Board and meetings of IMA Members occur at least twice per calendar year, beginning in calendar year 2022.

6. Stakeholder Committee: CLF agrees to establish a Stakeholder Committee separate from the IMA (and not a committee, sub-committee or subsidiary body of the IMA) consisting of organizations and entities with a demonstrated interest in the health, sustainability, and resilience of the Great Bay ecosystem. CLF will engage in best efforts to include one or more members of the business and real estate community. The role of the Stakeholder Committee will be to provide input, perspective, information, review, and monitoring of the IMA activities. The Stakeholder Committee may submit a request for funding or particular cost items as part of the annual IMA budget, though the Municipalities do not hereby guarantee or make any representation herein that such a budget provision will be approved.

7. Tracking Nitrogen Reductions/Additions:

   a. PTAPP: The Municipalities expect that participation in the NHDES Pollutant Tracking and Accounting Pilot Project ("PTAPP") or an equivalent methodology/system will comprise the Municipalities' system and methodology for tracking total nitrogen additions and reductions, an identified part of the adaptive management plan in Part 3 of the General Permit. The Stakeholder Committee may submit any information it deems relevant to the Municipalities' forthcoming submittal of a proposed system and methodology for the aforesaid tracking.

   b. Periodic Consultation: After submitting the adaptive management plan due to EPA by July 31, 2021, the Municipalities or their designee shall thereafter consult with the Stakeholder Committee's designated representative to discuss the Municipalities' planning and execution of ambient water quality monitoring, data gathering, and water quality analysis.

   c. Annual Reporting to IMA: At least two weeks prior to the annual IMA Member meeting each year, and at least two weeks prior to any second meeting of the IMA that takes place in a given year**,** the Municipalities shall develop a report (to be publicly presented at said IMA Member meeting) on the following:

      i. Structural & Non-structural BMPs planned for the next year including, as applicable, location, estimated cost, and estimated reductions in total nitrogen and/or other pollutants to the extent known or capable of being estimated.

      ii. Structural & Non-structural BMPs implemented during past year including, as applicable, location, cost, and estimated or known reductions in total nitrogen and/or other pollutants to the extent known or capable of being estimated.

The Municipalities shall encourage other IMA Members to provide the information described in subparts i. and ii. of this subparagraph for inclusion in the report. To facilitate this reporting, the Municipalities will work with the Stakeholder Committee to develop a standardized dashboard to compile and present the data in a manner enabling consistent and uniform reporting of implemented and planned progress by the Municipalities individually and collectively. The Stakeholder Committee and CLF may utilize the nitrogen reductions from implementation of the structural and non-structural BMPs reported on the dashboard and Annual Reports as a measure of performance by the Municipalities.

8. Funding Sustainability: Recognizing that sustainable funding is imperative for ongoing water quality efforts, the Municipalities shall consider the adoption (by local ordinance or act) of a stormwater utility by December of 2023. The Stakeholder Committee may provide input or information to the Municipalities by way of either submitting written comments or providing verbal comments, if permitted, during any public speaking forum held by any public body of the Municipalities, and shall be provided notice of such comment opportunities.

9. Total Nitrogen Source Reductions: With respect to voluntary submission of an outline/plan for overall source reductions of total nitrogen over the course of the permit (as called for in Part 3 of the General Permit), the Municipalities and CLF recognize that such submissions are voluntary and are not due to EPA until July 31, 2021. Moreover, CLF and the Municipalities recognize that true adaptive management depends on flexibility and the ability to adapt as more information becomes available. The Municipalities agree to make a submission to EPA as envisioned in Part 3 of the General Permit, to be updated and refined at least annually from the date of first submission and thereafter resubmitted annually to EPA after each annual update. Moreover, the Municipalities also agree to the following features of their overall source reduction plan, as drawn from (i) the "Feasibility Analysis for USEPA's Draft Great Bay Total Nitrogen General Permit" dated May 8, 2020 and drafted by Robert M. Roseen[1], and (ii) letter from NHDES Commissioner Robert Scott to Dennis Deziel dated July 27, 2020[2]:

   a) WWTF Effluent Measures: The Municipalities agree, as part of an overall source reduction plan for nitrogen, to consider, plan for, and implement measures, as funded by the governing bodies of each Municipality, that reduce nitrogen in the effluent from their respective WWTFs during the eelgrass

[1] In drawing from this study for purposes of settlement, the Municipalities do not indicate agreement with conclusions and assertions in that study, and reserve the right to disagree in part or in full with said study.

[2] The NHDES letter provides very helpful information and vision for forthcoming water quality project planning and ideas, though by referencing the NHDES letter here, the Municipalities do not adopt said letter, and reserve their rights and the flexibility accorded to them as outlined in Part 3 of the General Permit.

growing season. For example, the Municipalities may develop optimization plans and/or projects aimed at reducing inflow/infiltration, as selected by the Municipalities in their sole discretion.

b) Funding Opportunities: As recognized by NHDES, "[k]ey to many of the actions in the NGP is funding." NHDES Letter of July 27, 2020, at 3. The Municipalities' agree to work with NHDES and others to identify and pursue applicable state, federal, or private grants, subsidies, or other measures aimed at water quality improvements, subject to prior approval of the governing body of Dover, Rochester, and Portsmouth to accept and expend such funding.

c) Structural Best Management Practices: The Municipalities shall plan for and undertake structural best management practices ("BMPs"), as either part of other projects or as stand-alone projects, which improve water quality in the Great Bay Estuary through removal of nitrogen and other pollutants. The structural BMPs shall be the same or similar to those identified or exemplified within Dr. Roseen's report. The structural BMPs undertaken by the Municipalities may include one or more of the following features:

   i. Low Impact Development (LID) Structural BMPs that effectively disconnect impervious surfaces through the use of enhanced infiltration and/or that provide area-wide stormwater treatment.

   ii. Low maintenance designs with an emphasis on pretreatment.

   iii. Regular inspections and maintenance.

d) Non-Structural Best Management Practices: The Municipalities shall plan for and undertake non-structural BMPs as part of the overall total nitrogen source reduction plan submitted to EPA and updated at least annually. Non-structural BMPs may include measures such as the following:

   i. Adoption of stormwater ordinances (or site regulations) that require LID site planning and design strategies to reduce the discharge of stormwater from new development or re-development of private property;
   ii. Leaf and yard waste collection;
   iii. Street sweeping;
   iv. Catch basin cleaning and support programs;
   v. Agricultural strategies;
   vi. Buffer protection;

e) Pilot Testing of Structural or Nonstructural BMPs: The Municipalities agree to collectively fund and undertake pilot testing of innovative structural or non-structural BMPs, such as septic retrofit technology, as selected by the Municipalities in their sole discretion. The pilot testing shall be to determine the cost, feasibility, and efficacy of structural and nonstructural BMPs that the Municipalities have not, to date, attempted or utilized. The pilot testing, if successful, will improve future refinement of the overall source reduction plans and efforts by the Municipalities (and, presumably, other permittees).

f) Other Efforts: The Municipalities also agree to consider and, if authorized by their governing bodies, to undertake other efforts aimed at reducing total nitrogen loads to the Great Bay estuary, such as:

i. Urban fertilizer reduction efforts, including limiting the use and nitrogen content of fertilizers, voluntary incentive programs for residential and commercial properties to reduce fertilizer use, and advocacy for legislation as detailed in the NHDES letter of July 27, 2020 (p. 4);
ii. Oyster restoration, wetlands restoration, salt marsh restoration, and eelgrass restoration;
iii. Septic system retrofit programs;
iv. Septic system legislation, including statewide legislation as detailed in the NHDES letter of July 27, 2020 (p. 4).

10. Identified Water Quality Improvement Opportunities: In addition to the foregoing, the Municipalities have individually identified non-structural best management practices beyond current MS4 obligations; anticipated capital improvement projects and stand-alone projects with structural best management practices; as well as diverse initiatives intended to address water quality improvement in the Great Bay Estuary. These lists of water quality improvement opportunities are attached and incorporated to this Agreement as non-binding statements of present intent by the Municipalities. CLF understands and agrees that completion of these projects is dependent on the continued validity of the General Permit, purchasing approvals from governing bodies of the Municipalities and/or other public officials, funding appropriations of the respective Municipalities (which funding appropriations are at the sole discretion of the governing body of the respective Municipalities), and any other requirements of law, potentially including federal/state/local permitting. The parties recognize that the Municipalities may select projects that are likely to improve water quality, but for which nitrogen removal is only a partial benefit.

11. Petition(s) for Individual Permits: The Municipalities and CLF anticipate that the petition process under EPA's general permit regulations may be used by CLF to request that any owner or operator authorized by the General Permit, including one or more of the Municipalities, be covered instead by an individual permit, *see* 40 C.F.R. § 122.28(b)(3)(i). The Municipalities and CLF expect such petition or possibility thereof will function as a continuing check and incentive to ensure that reasonable further progress is being made by the Municipalities to identify and implement total nitrogen source reductions under the General Permit over its 5-year term. Implementation of these reductions is recognized as a principal assumption of the General Permit. In order to conserve limited resources, and to facilitate speedy resolution of disputes, the Municipalities and CLF agree that any such petition may be concise, briefly setting forth material facts relevant to EPA's consideration of the petition. Any petition shall provide a time-limited opportunity for the Municipality to cure any alleged defect in nonpoint source reduction planning and implementation and, if timely cured to CLF's satisfaction, CLF agrees to withdraw such petition. If the alleged defect is not timely cured to the CLF's satisfaction, CLF will request that EPA promptly act on the petition on the record before it (including any information that may be supplied by the Municipalities and CLF in a reasonably timely manner) and the Municipalities will assent to said request of EPA for prompt action to approve or disapprove the petition. CLF may file a petition for failure of the Municipalities to make reasonable progress towards nitrogen reductions as measured by Paragraph 10. The Municipalities' continued and timely implementation of the lists referred to in the paragraph above, or substantially equivalent efforts in terms of nitrogen reductions (including but not limited to total nitrogen load outputs falling below that permitted by the General Permit for Dover and Portsmouth), during the first three years of the permit term constitute prima facie evidence of reasonable progress towards nitrogen reductions during such time period for the purposes of any petition filed by CLF under 40 CFR § 122.28(b)(3)(i) ("Prima Facie Benefit"). By February 1, 2024, each Municipality shall separately submit to CLF an updated list of water quality improvement opportunities as described in the paragraph above, premised on their respective nitrogen reduction planning efforts that each Municipality is in the process of developing or updating. Based on these updated lists CLF may, in its discretion, extend the Prima Facie Benefit for up to the remaining duration of the permit term on a municipality-specific basis.

12. Additional Great Bay Water Quality Projects: The Municipalities agree to fund, collectively, the total amount of forty five thousand dollars ($45,000) for one or more not-for-profit Great Bay water quality-related projects or initiatives in calendar year 2021, as selected by the Stakeholder Committee and approved by the Municipalities. The Municipalities' approval of the aforesaid water quality projects shall not be unreasonably withheld. The payment and use of the $45,000, or any portion thereof, shall be subject to a mutually satisfactory grant agreement to be drafted by the parties

and executed by the Municipalities, CLF, and the recipient(s) of the $45,000 or any portion thereof.

13. Covenant not to appeal the General Permit: CLF hereby agrees and covenants not to appeal, contest, or otherwise assert any legal challenge to the General Permit. Nothing within this provision affects CLF's ability to timely appeal any final agency action on the petitions described in the preceding paragraph above. Nothing within this provision affects CLF's ability to comment on, appeal, contest, or otherwise challenge any future General Permit re-issuance, modification, or the issuance of an individual permit to Dover, Rochester, and/or Portsmouth. Nor does this provision in any way limit CLF's ability to engage in advocacy or any legal challenge with respect to municipalities that are not a party to this Agreement.

14. Enforceability/Binding/Fees: This Agreement shall be binding on all parties, including their corporate or entity parents, affiliates, successors and assigns. With the exception of petitions for individual permits discussed above (to be filed with EPA) or Clean Water Act citizen suits (to be filed in federal court), the exclusive venue for any disputes arising out of this Agreement shall be the Superior Courts of the State of New Hampshire, in either Rockingham County or Strafford County Superior Court. Each party shall bear their own litigation costs, attorney's fees, and/or expert fees in any such litigation. Prior to filing any action in Superior Court alleging a breach of this Agreement, the filing party shall provide the prospective defendant(s) with prior written notice of the alleged breach and a 30-day opportunity to cure any alleged violation.

15. Force Majeure. No party is considered in breach of this Agreement to the extent performance of their respective obligations is prevent by a force majeure event. "Force majeure event," for purposes of this Agreement, is defined as any event arising from causes beyond the control of the party that delays or prevents timely performance of any obligation under this Agreement despite the party's best efforts to fulfill the obligation. The requirement that the party exercise "best efforts to fulfill the obligation" includes using best efforts to anticipate any potential force majeure event and best efforts to address the effects of any such event (i) as it is occurring, and (ii) after it has occurred to prevent or minimize any resulting delay to the greatest extent possible.

16. Municipal Reservation of Rights: The General Permit includes an adaptive management framework at Part 3, which provides for an ongoing collaborative process. The adaptive management framework includes nitrogen monitoring and reductions elements as well as elements for comprehensively evaluating significant scientific and methodological issues and related load capacity determinations. Through the permitting process, the EPA has published data, analysis, and conclusions through fact sheets and response to comments related to elements subject

to review and revaluation through the adaptive management process. In entering into this Agreement, the Municipalities are not accepting such data, analysis, and conclusions or waiving their objections thereto. Without affecting the Municipalities' obligation to comply with the General Permit during its term, the Municipalities hereby reserve the right to contest any such data, analysis, and conclusions in future proceedings to the extent that ongoing collaboration and the adaptive management process do not satisfactorily resolve such matters.

17. Other Municipalities: This Agreement may be amended by mutual agreement of the parties to include other municipalities who would like to join it for purposes of paragraphs 10 and 11.

18. Other:
    a. This Agreement, which may be executed in a number of counterparts, each of which shall be deemed an original, constitutes the entire agreement and understanding between the parties and supersedes all prior agreements and understandings relating hereto.
    b. This Agreement may be amended only by written Amendment signed by the Parties
    c. If any provision of this Agreement is deemed invalid or unenforceable, the remaining provisions shall remain in full force and effect.
    d. This Agreement shall be governed by and interpreted in accordance with the laws of the State of New Hampshire.
    e. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.
    f. This Agreement shall be deemed to have been jointly drafted by the parties.
    g. The signatories below expressly represent and warrant that they are authorized and empowered to enter into this Agreement.
    h. This Agreement shall be a public record on file with the City Clerk of each of the Municipalities.

[SIGNATURES FOLLOW]

City of Dover

By: J. Michael Joyal, Jr. City Manager 2021.03.25 18:40:48 -04'00' *Dated:* _____

J. Michael Joyal, Jr., City Manager

City of Rochester

By: DocuSigned by: Blaine Cox B4F9B7BC7D0C4EB... *Dated:* 3/26/2021

Blaine Cox, City Manager

City of Portsmouth

By: _____ *Dated:* 3/26/2021

Karen Conard, City Manager

Conservation Law Foundation, Inc.

By: _____ *Dated:* 3/26/2021

Thomas F. Irwin, Vice President, Director CLF New Hampshire

3.24.2021

Attachment

Dover Overall Source Reduction Projected Project List[1]

[1] This list is a statement of present intent, is illustrative, and is non-binding. The estimated costs and estimated nitrogen reduction stated below are based on current best estimates and assumptions, and are not intended as binding commitments or as performance guarantees.

Structural Best Management Practices

Fiscal Year	Project	Description	Projected Reduction (lb/yr)	Estimated Cost
Ongoing	I/I	Inflow and Infiltration into the sewer collection system results in elevated peak flows through the WWTP biological system which can affect the nutrient reduction capacity during those events. The City continues to invest heavily in reducing I/I from the collection system	6,008[2]	
2022-2026	Court, Union, and Middle Streets	Capital Improvement Plan work to improve drainage to include BMPs	45[3]	$1,125,000
2022-2024	Fifth and Grove Streets	Capital Improvement Plan work to improve drainage to include BMPs	26[4]	$275,000
2022-2025	Oak Streets	Capital Improvement Plan work to improve drainage to include BMPs	412[5]	$250,000
2026	Atlantic Ave.	Capital Improvement Plan work to improve drainage to include BMPs	17[6]	$375,000
2026	Horne Street	Capital Improvement Plan work to improve drainage to include BMPs	35[7]	$62,500
Planning	Henry Law Park	City is currently looking for funding opportunities to design	568[8]	

[2] Assumption: A storm event causes the effluent to peak to 14 mg/l - assume storm event happens 12 times per year for 2 days each - assume I/I work reduces peak to 8 mg/l - assume during this peak time the flow rate is 5 mg. Equation: LB/YR=6mg/l*5MGD*8.345*24 day/yr

[3] Assumption: Ability to treat approximately 50% of the length of street (5000lf), and associated 60' wide buffer of residential area, with 60% reduction, use Highway rate and residential rate. Equation: LB/YR = Area * NLER*0.6

[4] Assumption: Ability to treat approximately 50% of the length of street (3000lf), and associated 60' wide buffer of residential area, with 60% reduction, use Highway rate and residential rate. Equation: LB/YR = Area * NLER*0.6

[5] Assumption: Ability to treat approximately 50% of the neighborhood area (87 acres) use residential rate. Equation: LB/YR = Area * NLER*0.6

[6] Assumption: Ability to treat approximately 50% of the length of street (2000lf), and associated 60' wide buffer of residential area, with 60% reduction, use Highway rate and residential rate. Equation: LB/YR = Area * NLER*0.6

[7] Assumption: Ability to treat approximately 50% of the length of street (4000lf), and associated 60' wide buffer of residential area, with 60% reduction, use Highway rate and residential rate. Equation: LB/YR = Area * NLER*0.6

[8] Assumption: Ability to treat approximately 50% of the neighborhood area (120 acres) use residential rate. Equation: LB/YR = Area * NLER*0.6

		and construct an innovative, Nitrogen focused Water Quality BMP in the Henry Law Park area. This would be able to capture and provide treatment for approximately 120 acres of highly urbanized commercial and residential areas in the City's Downtown.		

Non-Structural Best Management Practices

Fiscal Year	Project	Description	Projected Reduction (lb/yr)	Estimated Cost
Ongoing	Street Sweeping	The City sweeps the downtown streets approximately 1 time a week. The MS4 permit only requires cleaning twice per year.	43[9]	
Ongoing	Catch Basin Cleaning	Catch Basins are cleaned semi-annually regardless of whether they have reached the MS4 triggering thresholds of 1/2 full sump.	17[10]	
Ongoing	Slow Release nitrogen requirement for all new projects	As part of Site Plan approval, a maintenance plan shall be in place and *"Best practices to minimize environmental impacts, such as the use of low-phosphorus fertilizer and slow-release nitrogen, shall be included in the management plan."*	350[11]	
Ongoing	Water Quality BMP's as standard practice for city reconstruction projects	This is the language from our standard RFQ for design of reconstruction projects: *"As part of the drainage improvements, the City wishes to enhance the drainage system and incorporate easily maintainable, low impact development strategies to provide conveyance, treatment, and infiltration where practical. The Consultant shall make recommendations for an improved drainage system."* The commitment to implementing the water quality work is demonstrated in several recent redevelopment projects.		

[9] Assumption: mechanical, weekly, 9 months, estimate of swept area (50 miles, 30' wide average) use Highway NLER = 10.5. Equation: LB/YR =IA*NLER*0.03*9/12

[10] Assumption: Per Hot Spot Map info, there is 108 ac of city owned impervious area. Assume 1/4 of that area drains to a CB that is cleaned regularly use highway NLER 10.5. Equation: lb/yr = IA*NLER*.06

[11] Assumption: Impact 10 acers of development with reduction assumptions same as above. Equation: lb/yr = Turf Area *1/1000*.9

Ongoing	Ordinances	Threshold for stormwater implementation with 50% nitrogen limits is set at 20,000 square feet or creates more than 4,000 square feet of new impervious area. This is much more stringent than the MS4 requirements which only pertain to disturbance over an acre	75[12]	
2021	Catch Basin Spoils Facility	Capital Improvement plan work to create a facility to clean and treat the liquid/debris from the catch basin maintenance program. Potential to open for other communities to use in the future.		$3,5000,000
2021	SRF Loan for Chapel St. Ravine	Working to incorporate water quality treatment and flood management downstream of substantial stormwater culvert		
Ongoing	Buffers	Ordinance has increased the wetland buffers gaining credit for going green project that shows added nitrogen removal.		
Ongoing	Yard Waste Program	Leaf pick up 6 times annually	95[13]	
Planning	Leaf Pick Up	Bulk leaf pick up program	766[14]	

[12] Assumption: 10 acres of redevelopment a year that fall within the delta between what is required per MS4 and what is included per City of Dover. Assume Commercial Runoff rates apply to all. Equation: LB/YR = Area * NLER*0.5

[13] Assumption: the folks using the leaf removal program are the ones who own residential for 100' along to the 50 miles of city roadway. Assume 10% use the services. Equation: LB/YR = Area * NLER*0.05

[14] Assumption: Increases the area to 80% using service. Equation: LB/YR = Area * NLER*0.05

Innovative Efforts/ Pilot Programs

Fiscal Year	Project	Description	Projected Reduction (lb/yr)	Estimated Cost
Ongoing	Professional Staff	The City has created an Environmental Project Manager Position. This positions focus is dedicated entirely to environmental improvements, including a commitment to the protection and improvement of the Great Bay. This person is taking an active role in organizing regional commitment and implementation of the MS4 permit and the new NGP permit. Just this year, this person participated and was acceded through the NOFA Organic Land Care Program. Additionally, other staff members, particularly Bill Boulanger, is regularly recognized for contributions to innovative stormwater quality improvements and environmental stewardship.		
Ongoing	Training and Commitment to Innovation	Leadership in NEWEA/ Biological Nutrient Removal Classes - Our WWTP staff are at the forefront of discussions for WWTP practices. Ray Vermette acts as president of NEWEA and has traveled around the world looking at innovative technologies and bring them to Dover.		
Ongoing	Organic Fertilizer Program	The city is committed to using only organic, slow-release fertilizers on city owned and maintained properties.	800[15]	
Ongoing	Commitment to exploring new BMP's and participating in innovative initiatives	Berry Brook and the continuation of bringing new BMP's into urban redevelopment settings and working with UNHSWC to test the effect, Volunteering to work with the NHDES/Prep Fellowship team to investigate SAFE strategies for Stormwater Funding, Volunteer to work with SRPC to analyze urban trees and innovative tree box filters, Volunteer to work with SRPC to look at BMP's v/s socioeconomic disparities, participating in the PTAP program, participating in multiple		

[15] Assumption: City maintains 1,000,000 sf of turf. Assume regular application rate for nitrogen of 1 lb/1,000 sf. Assume organic cuts the runoff by 80%. Equation: lb/yr = Turf Area *1/1000*.8

		credit for going green projects lead by PREP		
Summer 2021	Fertilizer Bans and Reductions	Supporting a statewide ban of high nitrogen synthetic fertilizers		
Ongoing	Outreach and Education	The City outreach and education exceeds what is required by the MS4. Staff regularly hold tours or presentations of the innovative BMP's being implemented. Additionally, we are working on a video for the installation of a filtering catch basin BMP. Staff also regularly speak at conferences about technologies and particularly focus on maintenance and long-term performance.		
2021	Climate Adaptation Grant	As part of Climate Adaptation work with the SRPC, city committed to installing a new catch basin filtering device with a tree - similar to a tree-box filter but with improved maintenance capacity	5	
Planning	Sewer System	Advocate for a state-wide requirement to remove nitrogen in septic systems.	381[16]	
Planning	Extending Sewer to Septiced areas	Continually assessing opportunities		

[16] Assumes 20 new septic a year - 60% reduction achieved.

PRIVILEGED & CONFIDENTIAL DRAFT

ROCHESTER, NH - Nitrogen Stormwater and Non-Point Source Reduction Projects

	Project Type	Project / Activity	Project Description	Estimated Load Reduction (lbs/N/yr)1	Notes / Additional Benefits
	Structural BMPS				
1		Structural SW BMPs3	City installs structural water quality best management practices (BMPs) in highway capital improvement projects, with a goal of treating 100% of the impervious cover. The City also maintains stormwater BMPs installed as part of private development when the City takes ownership of the road/utilities. Upcoming projects that will include stormwater structural practices include: 1. **Colonial Pines Drainage Improvements** - (project related to sewer extensions, below) 2. **Woodman Area Infrastructure Improvements** 3. **Stafford Square Roundabout Installation** 4. **Union Street Parking Lot Reconstruction**2 - will incorporate water quality treatment practices. 5. **Wakefield Street Reconstruction**2 - rehabilitation of infrastructure on Wakefield Street from Union Street to Chestnut Hill Road - rehabilitation of sidewalks, pavement and drainage improvements.	TBD	City is currently calculating the estimated nitrogen reductions for each of these projects which will be supplemented.
2		Sewer Extensions	City is in the middle of a sewer extension project (Colonial Pines) that could connect up to 225 homes, currently serviced by septic system, to sewer in an area of the City with high groundwater and a history of failed septic systems. To date 90 homes have been connected through Phase 2. Phase 3 is ongoing and could connect up to another 70 homes. Phase 4 could connect up to 65 homes to the sewer.2	1,154	Assumes nitrogen reductions for 225 homes @ 5.13 lbs/prop/yr.
3		Stormwater Outfall Restoration	Construct outfall improvements associated with Woodman Area Infrastructure Improvements. Review capital improvement projects to identify locations where erosion occurs at outfalls and/or where storm water quality improvements can be made.	N/A	Improvements will have secondary reductions in TSS.
	Non-Structural BMPs				
4		Catch Basin Cleaning	City will clean catch basins to ensure that sumps are no more than 50% full at any time. City collects leaf litter and organic waste along curbed streets, once per month as part of the street sweeping program, in the months of April, May, October and November. City/Waste Management also provides curb side collection of bagged leaves/organic waste for two weeks in the fall and two weeks in the spring.	290	CB cleaning also reduces TSS, P, oils/grease and other pollutant discharges
5		Organic Waste and Leaf Litter	City will collect leaf litter and organic waste along curbed streets, once per month as part of the street sweeping program, in the months of April, May, October and November. Provide curb side collection of bagged leaves/organic waste for two weeks in the fall and two weeks in the spring.	690	
6		Street and Pavement Cleaning	City sweeps all curbed streets once per month between April and November. City sweeps all downtown streets at a minimum of once per week between April and November. Sweeps directly connected impervious cover at least two times per year (once in Spring and once in Fall). Conduct a sweeping study to determine areas where additional optimized sweeping should be conducted to reduce curbed sediment load and catch basin loads.	250	Street Sweeping / Cleaning also reduces TSS, P, oils/grease, and other pollutant discharges
7		Fertilizer Program	Advocate for and work with the State to develop a Great Bay watershed total nitrogen fertilizer ordinance/regulation that would ban or control the sale of lawn fertilizer containing nitrogen in the watershed. City of Rochester already exclusively uses slow release fertilizer for its properties.		City anticipates nitrogen reductions if enacted, adopted and implemented.
	Other Projects				
8		Sewer System Master Plan	City has selected a contractor and is currently negotiating a scope of work for a Sewer System Master Plan. Once finalized, the City anticipates the Sewer System Master Plan study will be conducted over the next two to three years that will include flow metering and modelling efforts to fully evaluate and reduce sources of inflow and infiltration in the POTW.		The City anticipates the completed Sewer System Master Plan will identify priority projects for the City to implement for the reduction of infiltration and inflow to the POTW with anticipated nitrogen reductions.
9		Private Redevelopment	Enforce the Chapter 218 - Stormwater Ordinance (in place by June 30, 2021) governing new development and redevelopments by reviewing and inspecting private redevelopment in the City and requiring stormwater treatment.	100-300	Structural and non-structural BMPs required by the updated site plan regulations will also reduce other pollutants including TSS, P, oils/grease and other pollutants by disconnecting and treating impervious area.
10		Staffing / Resources	DPW has included in its proposed budget funding for another Assistant Engineer position to focus on stormwater related projects and ordinance enforcement.		
11		Septic System Programs	Advocate for and work with the State and region to develop a Great Bay watershed advanced septic system ordinance/regulation that would encourage advanced nitrogen treatment for private septic systems. Advocate for and work with the State to enforce its requirement for private septic systems to connect to public sewers within 100 feet of waterbodies.		City anticipates nitrogen reductions if enacted, adopted and implemented.
		Total Estimated Cost for SW and NPS Projects	~at least $2 million (excluding sewer extension costs)		

1These are estimates only and may not reflect the actual nitrogen loads resulting from the proposed projects and practices.
2These projects are planned but subject to City Council approval and funding.
3This list is not an exclusive list and is subject to further update and expansion on an annual basis by the City.

Attachment

City of Portsmouth Anticipated Source Reduction List

Note: This list is a statement of present intent, is illustrative, and is non-binding. The estimated nitrogen reduction stated above are based on current best estimates and assumptions, and are not intended as binding commitments or as performance guarantees.

Category	Project/Activity	Description	Reduction (lb TN/yr)
Non-structural	Professional Staff	The City has developed a Stormwater Specialist Position and reorganized personnel to establish a Stormwater Division within the Public Works Department. At the Planning Dept there are staff dedicated to site plan regulation compliance for private property and developments. The majority of the team has completed the Stormwater Management Certificate program offered by UNH Professional Development Training.	Note 1
Non-structural	Professional Consultant	The City has contracted with VHB to conduct past studies specific to stormwater and non-point source projects and planning. This work is ongoing and overlaps with multiple other items in this list.	Note 1
Non-structural	Training/Commitment To Innovation	City wastewater operations staff are trained licensed professionals who participate in professional organizations including New Hampshire Water Pollution Control Association, New England Water Environment Association/WEF, and others. Staff participate in these associations to maintain training and stay in front of the most recent industry trends and to optimize treatment operations.	Note 1
Non-structural	Commitment To New And Innovative BMPs	Commitment to developing new BMPs by working with consultants and the UNH Stormwater Center. Projects and BMP examples include: Community Campus Athletic Fields stormwater treatment, State Street sand filtration and tree box filters, use of compost tea and incorporation of pervious pavement and other LID type projects within the City. The City has and will continue to work with private and public entities in the installation of rain gardens, tree box filters and other stormwater controls.	Note 1
Non-structural	Continuous nutrient load reduction at WWTP	The City recently completed construction of the Peirce Island Wastewater Treatment Facility and are completing the first year of continuous operation. The upgraded facility is performing well and the City will continue to optimize performance moving forward. Recent results can be provided. The City has committed to a baseline monthly average of no more than 8 mg/L Total Nitrogen in addition to any permitted load under the GBTN GP. Operating the facility at 7.5 mg/L (0.5 mg/L reduction) of total nitrogen will result in 6,088 lbs TN/year removed when at a flow of 4.0 million gallons per day or 9,132 lbs TN/year removed when at a flow of 6.0 million gallons per day.	greater than 9,132
Non-structural	Street Sweeping	The City sweeps the downtown streets (weather permitting, 5 nights/week). <u>All</u> streets (100miles) in the City are swept once a month from April through November, well in excess of the MS4 required frequency of 2 times per year.	76
Non-structural	CB Cleaning	The City cleans catch basins bi-annually regardless of whether they have reached the MS4 triggering thresholds of 1/2 full sump.	73
Non-structural	Liquid Biological Soil Amendment Program	The City has restrictions fertilizer use within the limits of wetlands and wetland buffers. The City has switched from conventional fertilizers to using compost tea: this is a fully organic liquid biological soil amendment brewed with compost and amended with organic soluble kelp, humic acid, soluble fish and an organic 15-0-0 amino acid.	961
Non-structural	School Organic Fertilizer Program	Portsmouth Public Schools use only organic fertilizers on athletic fields.	522
Non-structural	Reduced Fertilizer Use Requirement For All New Projects	As part of Site Plan approval, a maintenance plan shall be in place and "*Minimizes the need for fertilizer and pesticide usage and the introduction of pollutants to the environment*" & "*Landscaped areas shall consist of a combination of large and small trees, shrubs, perennial and/or annual flowers, and groundcover. Managed turf areas should be kept to a minimum to reduce mowing and fertilizer needs.* "	Note 1
Non-structural	Fertilizer Bans or Reductions	The City is generally supportive of a statewide ban of high nitrogen synthetic fertilizers.	Note 2
Non-structural	Include Water Quality BMPs As Standard Practice	The City incorporates stormwater controls and other BMPs into City projects. Examples of projects that implemented BMPs include: Brewster Street Reconstruction, Maplewood Ave Reconstruction, Sagamore Ave Reconstruction, Four Tree Island Parking Lot, State Street Reconstruction, Lincoln Avenue Area Drainage Basin Sewer Separation, amongst others.	Note 3
Non-structural	Outreach and Education	Working with stakeholders in the City to address stormwater, sea level rise, and coastal resiliency issues that impact Portsmouth. Addressing the overlap in project needs to address coastal resiliency and impact of tidal changes on stormwater controls in areas like Prescott Park.	Note 1
Non-structural	Pollutant Removal/Outreach and Education	The City outreach and education exceeds what is required by the MS4. Staff regularly hold tours or presentations of the innovative BMP's being implemented. Staff also regularly speak at conferences about technologies and particularly focus on maintenance and long-term performance.	Note 1
Non-structural	Ordinances	Regulations updated with a threshold for stormwater implementation with 50% nitrogen limits set at 15,000 square feet. This is much more stringent than the MS4 requirements which only pertain to disturbance over an acre. Calculation assumes 10 acres of development per year.	75
Non-structural	Ordinances	The City Site Plan Review Regulations promotes the use of Low Impact Development (LID). Low "Applicants shall incorporate Low Impact Development (LID) site planning and design practices to the maximum extent practical (MEP) to reduce stormwater runoff volumes, maintain predevelopment site hydrology, and protect water quality in receiving waters. LID practices may include site design techniques (e.g., maintenance of vegetated buffers, minimizing of disturbance footprint) and structural measures to promote infiltration such as porous pavement, rain gardens or the capture / reuse of stormwater to reduce the stormwater volume discharged from the site.	Note 1

Attachment

City of Portsmouth Anticipated Source Reduction List

Note: This list is a statement of present intent, is illustrative, and is non-binding. The estimated nitrogen reduction stated above are based on current best estimates and assumptions, and are not intended as binding commitments or as performance guarantees.

Category	Project/Activity	Description	Reduction (lb TN/yr)
Non-structural	Development Of Water Quality improvement Recommendations	The City completed extensive water quality testing in the Sagamore Creek in 2018 and 2019. This data was used by the DES to evaluate 303(d) listing and will be a baseline for a Watershed Master Plan.	Note 1
Non-structural	IDDE Follow-up	The City is conducting follow-up testing to the water quality monitoring work completed in Sagamore Creek where pollutants were found to be high.	Note 1
Non-structural	Outreach and Education & Regional Coordination	The City sponsors twice annual Hazardous Household Waste days and collect materials from neighboring towns. Stormwater education and outreach materials are distributed at these events.	Note 1
Non-structural	Regional Coordination of Stormwater O&M	Coordinate with the Pease Development Authority on stormwater related activities, assisting them with their stormwater requirements	Note 3
Non-structural	Operation & Maintenance	Culvert lining at West Road and Edmond Ave which will prevent operational and water quality issues. Systematic video inspection and cleaning of stormwater collection system.	Note 1
Non-structural	Outreach and Education & Regional Coordination	Working with Seacoast Stormwater Coalition to develop BMP implementation and regular operation and maintenance requirements for private properties.	Note 1
Non-structural	Pollutant Tracking	Working with UNH graduate students to assess feasibility and effort to track land use change for the City of Portsmouth. Will assess the efficacy of BMP use for private and public projects.	Note 1
Non-structural	Stormwater Master Plan	Working with VHB to update the City's 2007 Stormwater Master Plan and review of stormwater utility funding option.	Note 1
Non-structural	Buffers	Ordinance has increased wetland buffers with credit for going green projects that show added nitrogen removal	Note 1
Non-structural	Yard Waste & Leaf Pick-up Program	Weekly yard/leaf waste pickups April - December. In 2020 over 1,300 tons of material were collected. Leaf collection requires the use of bags which maximizes the effect of the BMP.	1,608
Structural	Infiltration and Inflow Reduction	While Inflow and Infiltration (I/I) is often considered to be a collection system problem, the extraneous flows end up at the WWTF and can impact the performance of the biological treatment system. The City conducted an sewer system evaluation to identify infiltration and inflow in 2018. This project resulted in four contracts for sewer rehabilitation. The City will be completing the first of those four contracts by October 2023.	Note 3
Structural	Capital Improvements Plan	The City has a 6-year capital improvement plan that includes many projects that will address structural type stormwater and non-point source improvements including, but not limited to the following: Islington Street Phase 2 Complete Street Reconstruction, Peverly Hill Complete Street Reconstruction, Union Street & Willard Avenue Sewer Separation, Fleet Street Sewer Separation, Market Square Upgrade, and Corporate Drive Swales and Roadway.	Note 3

Notes:
1. While these items/projects do not have readily quantifiable nitrogen reduction, the function provided is critical to execution of best management practices, planning and engineering associated with nitrogen reduction.
2. These items will provide the City with additional support when implementing ordinance adjustments and other control and enforcement provisions.
3. The nitrogen reductions for these items will be calculated at a later date.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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March 25, 2021

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Re: Great Bay Total Nitrogen General Permit

Dear Mr. Joyal, Mr. Cox, Ms. Conrad and Mr. Irwin:

EPA Region 1 is writing this letter in connection with the Great Bay Total Nitrogen General Permit, issued November 24, 2020. This permit represents a great stride forward in regulating nutrient loads into Great Bay by establishing effluent limitations on all 13 New Hampshire wastewater dischargers, in almost all cases for the first time. These limits will act to prevent any future increases in nitrogen load from these dischargers even in the midst of rapid population increases. EPA expects that all eligible dischargers will opt into the General Permit. Due to the mix of nitrogen loading into Great Bay, which is predominated by nonpoint sources of nitrogen, the permit provides a framework and incentive for covered dischargers to pursue nonpoint source reductions that will be necessary if designated uses are to be fully restored. For the reasons explained in the Response to Comments accompanying the General Permit, if these nonpoint source reductions are not diligently pursued, EPA has concluded that timely reissuance of a permit with more stringent effluent limitations will be critical to the

expeditious achievement of uses. In furtherance of this goal, EPA also intends to act promptly on any petition for an individual permit under 40 C.F.R. § 122.28(b)(3)(i), for the reasons set forth in Section 11 ("Petition(s) for Individual Permit(s)") of the Settlement Agreement by and between Conservation Law Foundation and the Cities of Dover, Portsmouth and Rochester, dated March 25, 2021.

Ken Moraff

KENNETH MORAFF Digitally signed by KENNETH MORAFF Date: 2021.03.25 16:49:00 -04'00'

Water Division Director
EPA, Region 1

cc: Ted Diers, NHDES