



For a thriving New England

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May 17, 2023

Via e-mail (Cash.David@epa.gov)

Mr. David Cash  
Regional Administrator  
EPA New England  
5 Post Office Square  
Boston, MA 02109

Re: Epping, NH Wastewater Treatment Facility

Dear Mr. Cash,

Conservation Law Foundation is greatly concerned about the Town of Epping's ongoing violations of the Clean Water Act as a result of continued and significant failures in the operation of its wastewater treatment facility ("WWTF"), including Epping's violations of the Small Wastewater Treatment Facility General Permit, National Pollutant Discharge Elimination System ("NPDES") Permit No. NHG580012, and the Total Nitrogen General Permit, NPDES Permit No. NHG58A000 ("TNGP"), and the negative impacts of those violations on the Lamprey River, part of the Great Bay estuary. As a result of these ongoing violations, and as set forth in greater detail below, CLF hereby petitions the Environmental Protection Agency to (1) remove the Town of Epping's WWTF from coverage under the Total Nitrogen General Permit, Permit No. NHG58A000, and (2) revoke the Town of Epping's current waiver under the Small Municipal Separate Storm Sewer System General Permit for New Hampshire.

As you know, CLF is a non-profit environmental advocacy organization working in New Hampshire and across New England to protect our environment for the benefit of all people and to build healthy, vibrant communities. For years, CLF has been working to restore and protect the Great Bay estuary, a critically important resource designated by EPA as an estuary of national significance. Through our Great Bay-Piscataqua Waterkeeper program and legal advocacy, we have actively engaged in much-needed efforts to reduce nitrogen pollution in the estuary, including through the NPDES permitting process for several WWTFs as well as for the TNGP. As set forth below, it is essential that Epping be fully integrated into, and fully compliant with, the Clean Water Act as it relates to both its WWTF and Small MS4 discharges. Any other approach – i.e., allowing Epping to remain in the TNGP and continuing its exemption from the Small MS4 General Permit – would greatly undermine the credibility of these important permitting programs, to the detriment not only of the Great Bay estuary but also municipalities that are making investments and taking actions to comply.

**I. The Epping WWTF has been, and continues to be, in significant failure, harming the Lamprey River and Great Bay estuary and undermining important uses.**

The failure of Epping's WWTF is considerable and multifaceted. On May 11, 2023, EPA issued an Administrative Order to Epping as a result of ongoing serious operational issues at the Epping WWTF, including unlawful discharges of effluent directly into the Lamprey River.<sup>1</sup> The Administrative Order documents significant problems with Epping's WWTF, including equipment failures and Epping's practice of bypassing WWTF treatment and instead diverting wastewater to storage lagoons and then directly into the Lamprey River. Administrative Order at 2-4. EPA notes that the Lamprey River is designated as the primary drinking water source for the Town of Durham and the University of New Hampshire, located downstream of Epping. *Id.* at 2-3. In the letter accompanying the Administrative Order, EPA states: "The discharge of effluent that bypasses required treatment at the [Wastewater Treatment Plant] is a serious violation of the Clean Water Act and the Town of Epping's . . . NPDES . . . Permit No. NHG580012. EPA to Epping at 1.

The attached letter from the New Hampshire Department of Environmental Services to the Epping Board of Selectmen (NHDES, April 14, 2023) similarly documents Epping's ongoing failure to properly operate its WWTF, Epping's violation of the Small Wastewater General Permit's and TNGP's effluent limits, and the resulting environmental harms caused by those permit violations. Of most concern is Epping's practice of diverting part of its wastewater from a portion of the WWTF, thereby bypassing the WWTF and violating the terms of the NPDES permits. NHDES at 1. These violations are accompanied by a series of unresolved and harmful problems with Epping's operation of the WWTF that have been documented by EPA and NHDES since at least 2016, including permit violations, inadequate staffing, inadequate operation and maintenance practices and procedures, and groundwater contamination from the use of unlined lagoons for wastewater and sludge. *Id.* Epping's WWTF uses a membrane bioreactor system that has, according to NHDES, "experienced significant operational issues and capacity reduction," resulting in permit violations and negatively impacting receiving waters, including the Lamprey River and the potable water supply of the Town of Durham and the University of New Hampshire. *Id.* at 2. NHDES concludes that "[t]he failure to comply with the NPDES permit is causing impacts to the Lamprey River and its downstream users including the Town of Durham and the University of New Hampshire who utilize the Lamprey River as their primary drinking water sources." *Id.* at 1.

The Town of Durham and UNH have similarly documented their grave concerns regarding Epping's discharges, which they describe as "the ongoing, long-term discharge of untreated wastewater into the Lamprey River from the Epping Wastewater Treatment Plant." (Town of Durham and University of New Hampshire, April 10, 2023, attached.) Durham and UNH express concerns over the negative environmental and health impacts caused by Epping's discharges, including impacts to downstream water supplies, the Lamprey River's and Great Bay estuary's ecosystems and wildlife,

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<sup>1</sup> EPA to Town of Epping Re: Compliance Order in the Matter of Town of Epping, New Hampshire, Docket No. CWA-AO-R01-FY23-10 (May 11, 2023); EPA Administrative Order, Town of Epping, New Hampshire, NPDES Permit No. NHG580012, Docket No. CWA-AO-R01-FY23-10, (May 11, 2023).

and adverse impacts on recreational users. Durham and UNH at 1. Durham and UNH document Epping's equipment failures, failure of the membrane bioreactor system, and Epping's practice of bypassing parts of the WWTF altogether, resulting in untreated wastewater pumped directly into the Lamprey River. *Id.* at 1-2. Noting the danger Epping's actions have posed to Durham's and UNH's drinking water supplies, Durham and UNH write that they are "extremely disappointed in the historic mismanagement and apparent lack of attention and resources being dedicated by [Epping] to remedy this untenable situation." *Id.* at 2. Durham and UNH request "strong regulatory enforcement action in response to the permit violations . . ." *Id.* Following this letter, as a result of Epping's failure to properly operate its WWTF and at the direction of DES, Durham and UNH discontinued use of water from the Lamprey River, their primary source of drinking water, as of May 8, 2023.<sup>2</sup>

In addition to EPA's findings in the Administrative Order, these recent letters from NHDES, Durham and UNH document Epping's well-established record of failing to properly operate its WWTF, violating the Small Wastewater General Permit's and TNGP's effluent limitations, and harming the environment.

## **II. EPA should remove the Epping WWTF from the TNGP and require it to obtain an individual permit for its WWTF discharges.**

Under certain circumstances, EPA may remove a discharger from a NPDES general permit and require the discharger to instead apply for and obtain an individual permit. 40 CFR 122.28(b)(3)(i). An individual permit is appropriate when, among other things, a discharger is violating the terms of a general NPDES permit, or when discharges are a significant contributor of pollutants. 40 CFR 122.28(b)(3)(i)(A); 40 CFR 122.28(b)(3)(i)(G). Any interested person may petition the EPA to require a discharger to obtain an individual permit. 40 CFR 122.28(b)(3)(i).

The TNGP is a general permit that authorizes and regulates the discharge of total nitrogen from WWTFs in New Hampshire located within the Great Bay watershed, including Epping's WWTF. Part 2 of the TNGP contains effluent limitations and monitoring requirements for each permittee's WWTF. Epping is limited to a rolling seasonal average discharge of total nitrogen of 43 pounds per day, an effluent limitation known as "hold the load." "Hold the load" limits – described by EPA as the least stringent limits permissible under antidegradation regulations – are designed to be achievable at existing WWTF flows through facility optimization. EPA TNGP Response to Comments at 63, 65.

The TNGP further encourages the reduction of stormwater point and nonpoint sources of nitrogen, and the permit's lenient WWTF effluent limitations are based on the assumption that meaningful pollutant reductions will be achieved by improved stormwater and nonpoint source management. Under Part 3 of the TNGP, permittees may engage in voluntary reductions of stormwater and nonpoint sources of nitrogen as part of an adaptive approach to achieving water quality standards in the Great Bay estuary. If permittees do not sufficiently reduce nitrogen from stormwater and

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<sup>2</sup> Karen Dandurant, *Durham, UNH take action on drinking water as Epping sewage in Lamprey River is unsolved*, Seacoastonline, May 11, 2023, available at <https://www.seacoastonline.com/story/news/local/2023/05/11/durham-unh-take-action-on-drinking-water-amid-epping-sewage-threat/70199266007/>.

nonpoint sources, EPA can discontinue this approach and instead employ a traditional permit. As stated in EPA's Response to Comments accompanying the General Permit, "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." EPA TNGP Response to Comments at 50.

**a. EPA should remove Epping's WWTF from the TNGP and require it to apply for an individual permit.**

EPA should remove Epping's WWTF from the TNGP pursuant to 40 CFR 122.28(b)(3)(i)(A). Epping has violated and continues to violate the TNGP because its discharges exceed the TNGP's total nitrogen effluent limits, as described above. Epping has repeatedly discharged untreated wastewater directly into the Lamprey River, in contradiction of the TNGP's total nitrogen effluent limitations of 43 pounds per day. Epping's violations are compounded by the ongoing failure of its membrane bioreactor system, use of unlined lagoons, and inadequate maintenance and operation of the WWTF, as detailed above. On the basis of these violations, EPA should remove Epping's WWTF from the TNGP and require it to seek an individual permit.

In addition to violating the total nitrogen effluent limitation in the TNGP, Epping also is violating the TNGP because it has failed to take any measures under the TNGP's provisions related to voluntary reductions in nitrogen loading from stormwater point and nonpoint sources. The TNGP's approach to WWTF effluent limits is predicated on permittees' voluntary reductions of nitrogen from other sources, including nonpoint sources and stormwater point sources. Under the TNGP, permittees may submit an adaptive management plan to EPA outlining their approach to reducing overall sources of total nitrogen in the Great Bay estuary. EPA has made clear that if stormwater point source and nonpoint source reductions are not diligently pursued, EPA will issue an individual permit with more stringent effluent limitations.<sup>3</sup> Moreover, EPA has stated its intent to act promptly on any petition for an individual permit. *Id.* It is our understanding, based on an inquiry to EPA staff, that Epping has failed to provide any information demonstrating that it is taking actions to address stormwater and nonpoint sources of nitrogen. It has not submitted an adaptive management plan. It has not elected to participate in the Municipal Alliance for Adaptive Management. And it has provided no other evidence of efforts to reduce nitrogen loading.

For the foregoing reasons, because the Epping WWTF is violating the TNGP's effluent limitations, and for the additional reason that Epping has failed to demonstrate that it is pursuing, let alone "diligently pursuing," nitrogen load reductions from stormwater and non-point sources, EPA should remove the facility from the TNGP and require it to seek an individual permit.

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<sup>3</sup> Ken Moraff, EPA Region 1 correspondence Re: Great Bay Total Nitrogen General Permit, March 25, 2021 (referencing the TNGP Settlement Agreement between Conservation Law Foundation and the Cities of Dover, Portsmouth, and Rochester, March 25, 2021) (both attached).

In addition to violating the TNGP, the Epping WWTF also is violating the Small Wastewater General Permit. In addition to the corrective actions required by the Administrative Order, EPA may remove Epping from the Small Wastewater General Permit pursuant to 40 CFR 122.28(b)(3)(i)(A). If Epping fails to sufficiently address the problems plaguing the WWTF through compliance with the Administrative Order, EPA should remove Epping from the Small Wastewater General Permit and require it to apply for an individual permit.

**b. EPA should remove Epping's WWTF from the TNGP and require an individual permit because it is a significant contributor of pollutants.**

EPA also may require a discharger to be removed from a general permit and to apply for and obtain an individual permit when discharges are a significant contributor of pollutants. 40 CFR 122.28(b)(3)(i)(G). In making this determination, EPA may consider (1) the location of the discharge with respect to waters of the United States, (2) the size of the discharge, (3) the quantity and nature of the pollutants discharged to waters of the United States, and (4) other relevant factors. 40 CFR 122.28(b)(3)(i)(G)(1-4). As discussed above and described in the attached correspondence from EPA, NHDES, Durham, and UNH, Epping's significant operational failures are contributing significant pollution that is harming the Lamprey River and its uses and threatening downstream drinking water. Accordingly, EPA should remove Epping's WWTF from the TNGP, and consider removing it from the Small Wastewater General Permit, on the additional ground that it is a significant contributor of pollutants to the Lamprey River.

**III. EPA should revoke Epping's waiver from the Small MS4 General Permit.**

In addition to removing Epping from the TNGP, EPA should revoke Epping's waiver from New Hampshire's Small Municipal Separate Storm Sewer Systems ("MS4") General Permit. New Hampshire's Small MS4 General Permit was established to ensure that stormwater discharges from small municipal storm sewer systems are reduced to protect water quality and satisfy the Clean Water Act. Epping has obtained a waiver from the New Hampshire MS4 General Permit. Despite Epping's failure to fix its deteriorating WWTF or address existing stormwater pollution, Epping has encouraged commercial growth, with the town extending municipal water and sewer lines to new businesses, including a Walmart, which opened in 2004.<sup>4</sup> Epping's emphasis on growth, while failing to address chronic WWTF problems and existing stormwater runoff, has only exacerbated Epping's nitrogen pollution problem. In light of (1) the significant development that has occurred, and continues to occur, in Epping, (2) the significant water quality problems Epping is causing, and (3) Epping's failure to diligently pursue nitrogen load reductions through stormwater management, there is simply no reasonable basis for Epping to have a waiver from the Small MS4 General Permit. Accordingly, EPA should revoke such waiver and require Epping to immediately take the steps necessary to obtain coverage under and comply with the permit.

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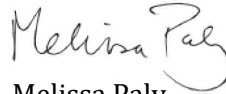
<sup>4</sup> See Dave Solomon, *Epping's Journey to Become 'The Center of the Universe,'* BusinessNHmagazine.com, April 2023, at 42, available at <https://www.businessnhmagazine.com/article/eppingsquos-journey-to-become-lldquothe-center-of-the-universerdquo>.

CLF appreciates EPA's attention to this petition and requests that it act promptly. Please do not hesitate to contact us or Tom Irwin, VP for New Hampshire (603-225-2060, [tirwin@clf.org](mailto:tirwin@clf.org)), should you have any questions or require additional information.

Sincerely,



Heidi H. Trimarco  
Staff Attorney



Melissa Paly,  
Great Bay-Piscataqua Waterkeeper

cc: Kenneth Moraff, EPA New England ([Moraff.Ken@epa.gov](mailto:Moraff.Ken@epa.gov))  
Robert Scott, NH Department of Environmental Services ([Robert.scott@des.nh.gov](mailto:Robert.scott@des.nh.gov))

Encls.





The State of New Hampshire  
**Department of Environmental Services**



**Robert R. Scott, Commissioner**

April 14, 2023

Joseph Trombley, Chairman  
Epping Board of Selectmen  
157 Main Street  
Epping, NH 03042  
*Sent Via Electronic Mail to: joseph.trombley@BWDesignGroup.com*

**Re: Epping, NH - Epping Wastewater Treatment Facility (WWTF)  
Follow-Up to March 27, 2023 Meeting**

Dear Chairman Trombley:

This letter is a follow-up to our March 27<sup>th</sup> discussion regarding the ongoing wastewater treatment facility (WWTF) issues in Epping. We thank you for your time and appreciate the open discussion. We understand and appreciate that Epping's current Selectmen and Water and Sewer Commissioners are all relatively new and are trying to resolve decades of mismanagement of Epping's WWTF. However, the Town must understand the seriousness of its current situation and its responsibility to resolve all issues.

The Town's WWTF is regulated by EPA's Small Wastewater Treatment Facilities General Permit and EPA's Great Bay Total Nitrogen General Permit. The Town is responsible for complying with all permit effluent limitations, monitoring requirements, and other conditions. Diverting part or all your wastewater from a portion of your WWTF is considered a bypass and is prohibited by your NPDES permit. The failure to comply with the NPDES permit is causing impacts to the Lamprey River and its downstream users including the Town of Durham and the University of New Hampshire who utilize the Lamprey River as their primary drinking water source (as outlined in the Town of Durham's April 10, 2023 letter to EPA Region 1 and NHDES).

As you know, EPA is drafting a new Administrative Order (AO) to formalize the work outlined in Epping's December 2022 Corrective Action Plan (CAP), as well as to address inadequate staffing at Epping's WWTF and fats, oil, grease (FOG) issues discharged to its wastewater collection system. This follows the AO issued to the Town by EPA in 2016 that addressed similar issues including permit violations, inadequate staffing, inadequate operation and maintenance practices and procedures, and groundwater contamination (elevated nitrogen levels) from utilization of unlined lagoons for wastewater and sludge. As is evidenced by the current situation, Epping has not yet successfully addressed the issues that have been before it for many years.

Epping has had problems with its then existing hollow-fiber membranes which had significant operating issues since 2006 including insufficient capacity during cold weather and the inability to clean in cold weather with no permanent structure in which to perform the cleaning. Epping selected a flat plate membrane technology to replace its existing membrane technology due to its advertised reduced cleaning frequency and ability to clean in place. However, these claims were unproven for large systems with year-round operation. Epping must now develop a long-term solution for its WWTF that provides reliable treatment to ensure Epping consistently meets its permitted effluent limits. Epping must also address its staffing to guarantee proper operation and maintenance practices and procedures.

## **CURRENT BACKGROUND**

The Epping WWTF is an activated sludge plant with average design capacity of 0.5 mgd and peak flow capacity of 1.44 mgd. The Town of Epping is currently implementing an upgrade to the WWTF, including replacement of membrane bioreactor (MBR) equipment and support systems. The MBRs are configured in three operating trains which were replaced in phases starting in February 2021. The new MBR system has experienced significant operational issues and capacity reduction from October 2021 to present, resulting in the following impacts:

- The MBRs cannot process all wastewater received at the WWTF, particularly during cold weather periods and precipitation events which increase inflow and infiltration (I/I) to the collection system. Excess flow above MBR capacity must be diverted and stored in two (2) on-site storage lagoons with approximate capacity of 16 million gallons.
- As the lagoons fill to near capacity (defined by freeboard < 3 feet), partially treated wastewater is pumped around the MBR process to an emergency bypass treatment system (EBTS) which provides chlorine disinfection prior to discharge to the Lamprey River. The bypass operated from December 2021 to March 2022 and was initiated again in December 2022 and is currently operational.
- UNH/Durham closes its potable water supply intake on the Lamprey River (downstream of the Epping WWTF) during an Epping wastewater bypass to ensure public health and safety. This impacts the UNH/Durham potable water system with decreased redundancy for water supply sources and increased operating complexity.

## **WWTF CORRECTIVE ACTION PLAN (CAP)**

In December 2022, the Epping Water and Sewer Board developed and approved a WWTF CAP to stabilize the MBR process and minimize wastewater bypasses in the intermediate term (0 to 4 years) and provide a permanent treatment solution within four years to meet the Town's long-term wastewater needs. The major features of the CAP include:

- Installation of enhanced cleaning systems for existing flat plate membranes.
- Installation of a new building over MBR tanks to facilitate cold weather maintenance and repairs.
- An improved MBR module crane system to facilitate removal of membranes for maintenance and repairs.
- Installation of new fine screening equipment upstream of MBR tanks.
- Installation of new hollow-fiber membrane system in one of three trains.
- Planning, engineering design and construction of a new activated sludge treatment system to replace MBR systems and provide long term treatment solution for the Town.
- Decommissioning of two lagoons.

In addition to the CAP, NHDES requested in the March 27, 2023 meeting that Epping develop an executable alternative ready for immediate implementation in case the actions undertaken as part of Epping's CAP are not successful. Please submit the alternative plan to NHDES by May 11, 2023.



Joseph Trombley, Chairman  
Epping Board of Selectmen  
April 14, 2023

## SEWER MORATORIUM

On September 12, 2022, NHDES issued the Town a moratorium on new sewer connections and septage acceptance. This letter was followed-up by a January 11, 2023 letter after the Town's December 2022 submittal of its CAP. This letter stated that based on the CAP, the sewer and septage moratorium shall remain in effect until either:

- 1) The MBR equipment issues are fully corrected, and sufficient reserve capacity at the Epping WWTF is established according to the procedures outlined in the NHDES letter of September 12; or
- 2) The MBRs are replaced with a permanent conventional activated sludge treatment process designed and constructed to provide sufficient capacity for current flows and future flows for a 20-year period (per Env-Wq 707.04 (b)).

In e-mail correspondence to DES dated January 5, 2023, the Town acknowledged that intermediate corrective actions for the MBR systems will not address the conditions that would allow rescission of the sewer moratorium until a new activated sludge system is constructed and operational. The Town's CAP indicates that this will not occur until December 2026.

## CONCLUSION

Epping must now address its immediate situation as outlined in its CAP while also having an executable alternative ready for immediate implementation in case the actions undertaken as part of the CAP are not successful in achieving consistent treatment of all influent flows. The CAP, or alternative as needed, will remain in operation until an acceptable and reliable long-term solution is implemented by Epping to ensure it consistently meets all of its permitted effluent limits.

While EPA governs Epping's individual NPDES permit NHG580012 (effective date April 1, 2022), NHDES adopted this permit as a State Discharge Permit as outlined in its February 23, 2022 adoption letter. As such, NHDES has authority over discharges that impact water quality in New Hampshire and reserves the right to take separate enforcement action.

As owner of the WWTF, Epping remains responsible for complying with all applicable requirements, whether found in statutes, rules, or permits. Past, current, and future violations may result in State or additional Federal enforcement actions beyond the AO currently in process. Further action may include issuing additional orders, initiating administrative fines, or referring this matter to the NH Department of Justice.

If you need clarification or additional information regarding this letter, please feel free to contact Rene Pelletier by telephone at 603.271.0677 or via email at [rene.j.pelletier@des.nh.gov](mailto:rene.j.pelletier@des.nh.gov).

Sincerely,



Robert R. Scott  
Commissioner



## TOWN OF DURHAM

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April 10, 2023

Environmental Protection Agency Region 1  
Mr. Kenneth Moraff, Director Water Division  
5 Post Office Square  
Boston, MA 02109  
Email: [Moraff.Ken@EPA.gov](mailto:Moraff.Ken@EPA.gov)

New Hampshire DES  
Mr. Rene Pelletier, Director, Water Division  
29 Hazen Drive  
Concord, NH 03303  
Email: [Rene.Pelletier@des.nh.gov](mailto:Rene.Pelletier@des.nh.gov)

Sent Via: Email and US Mail

Dear Messer's Moraff and Pelletier,

The Town of Durham and the University of New Hampshire (UNH) are jointly submitting this letter to express our concern about the ongoing, long-term discharge of untreated wastewater into the Lamprey River from the Epping Wastewater Treatment Plant (WWTP). We are very concerned about negative environmental impacts and health risks to 1) downstream water supplies that utilize the river as source water, 2) the river's and estuary's wildlife and ecosystems, and 3) recreational users (including fishing, swimming, and kayaking). The Lamprey River is a critical source of drinking water for the Town of Durham, which includes the University's campus, as well as a spectacular natural resource for the area's residents and visitors to enjoy.

We were made aware of equipment failures and the inability to reliably treat flow received at the Epping WWTP by the Epping Chief Operator beginning in December 2021. Since that time, bypassing of key treatment processes, including the membrane bioreactor, has been occurring on a regular basis. It is our understanding that the membrane bioreactor system has failed, and this failure is a result of the design and construction of an inadequate treatment system with unproven membrane treatment equipment. Failure of this core treatment process results in untreated

wastewater bypassing treatment that is needed to meet effluent discharge permit requirements. The bypassed flow is diverted to on-site storage lagoons and subsequently is pumped directly to the Lamprey river without secondary treatment.

The University of New Hampshire Durham Campus and the Town of Durham have enjoyed a collaborative relationship for many years, where the University and Town jointly own and manage our complex water and wastewater systems. This includes our water treatment facility (via a third-party operations contract), various water pump stations and an interconnected water distribution system. This holistic approach has resulted in providing both the Town and University with an extraordinarily resilient water system.

As the two parties responsible for the delivery of safe, reliable drinking water to the Town's residents and businesses, and the university community we are extremely disappointed in the historic mismanagement and apparent lack of attention and resources being dedicated by the Epping Water and Sewer Commission and Town of Epping to remedy this untenable situation. We also believe that those responsible may lack a full appreciation around the severity of the downstream impacts.

Correspondence recently sent from Todd Selig, Town of Durham Administrator, dated March 16, 2023, to Brandon Kernen, New Hampshire Department of Environmental Services (NHDES), identified the following specific concerns:

- An apparent lack of ongoing investment in the Epping WWTP,
- An apparent lack of long-term wastewater facilities planning,
- Apparently inadequate WWTP staffing,
- Inadequate ongoing technical assistance/expertise at the Epping WWTP, and
- A lack of coordination between and amongst local governing boards/bodies overseeing the Epping WWTP.

The Town and UNH believe these factors, among others, resulted in the WWTP's operational failures and led to the discharge of untreated wastewater into the Lamprey River and Great Bay Estuary during cold weather, winter conditions. Initially, the Epping Water & Sewer Commission indicated that warmer water during the spring and summer would help mitigate the treatment process bypassing. However, we are not confident that will be the case. Epping WWTP operators recently shared concerns that the discharge may be required year-round due to the ongoing deterioration of the membrane treatment equipment currently in operation.

We do not have confidence that the situation will be remedied quickly. Adding to the challenges faced by the Epping Water & Sewer Commission and the Town of Epping, we understand that Chief Operator, Mark Votto is no longer employed as the licensed Chief Operator at the Epping WWTP. We also recently were made aware that the Town of Epping is currently seeking a new Town Administrator. A great deal of institutional knowledge has been lost with Mr. Votto's departure, and we have significant concerns relative to the availability of suitably licensed individuals or interested contract operations firms to fulfill this critical role.

We understand that the Epping WWTP is covered by two general permits issued by the United States Environmental Protection Agency including the Small Wastewater Treatment Facilities General Permit (coverage April 1, 2022) and the Great Bay Total Nitrogen General Permit (coverage December 1, 2021). The goal of both permits is to protect the Lamprey's riverine ecosystem, and each requires a continuous high degree of treatment and contains very specific language related to upsets and bypasses at the WWTP. In addition, the permits contain stringent and costly fines that can be imposed in circumstances of permit violations and operational



problems such as those that are currently occurring. We will request that strong regulatory enforcement action in response to the permit violations be part of the next steps taken with the goal of incentivizing expeditious completion of the repairs and upgrades needed to bring the Epping WWTP back into to permit compliance.

Continued, long-term discharge of partially or non-treated wastewater will only worsen the negative impacts to the downstream environment and users. Over the past decades, great strides have been made to protect the water quality in the Lamprey River and Great Bay Estuary, and this situation is directly counter to those efforts. The Lamprey River is a federally designated Wild and Scenic River and is only one of three river segments in New Hampshire with this designation. This special classification is due to the significant natural resources in the river, which deserve a very high level of protection. The discharge of poorly or non-treated wastewater surely goes against the goals of this very important river designation.

In addition to potentially severe in-stream water quality and environmental impacts, we have concerns that the degraded water quality could also impact nearby, downstream private wells, which draw water indirectly from the river. Also, we have many significant concerns relative to the discharge's effects on the Durham/UNH critical water supply and treatment operations.

The Town and UNH rely on four sources of supply: the Lamprey River, the Oyster River, the Lee Well and the Spruce Hole Well. The annual allowable withdrawal in accordance with our permit from the Spruce Hole Well is 63 million gallons (MG). In addition, during times of high flow in the Lamprey River the Town and UNH are permitted to perform aquifer recharge, effectively increasing the allowable groundwater withdrawal. Any quantity of water pumped from the Lamprey River to the aquifer recharge basins at Spruce Hole is added to the baseline amount (63 MG), thereby increasing the quantity of high-quality water available to the Town and UNH from the Spruce Hole Well during periods of low flow in either the Lamprey or Oyster Rivers.

NHDES has strongly discouraged the Lamprey River source from being utilized during times of wastewater treatment bypass. This results in a significant reduction in water supply reliability, redundancy, and flexibility as well as increased costs to the Town and University. With the ongoing wastewater discharges, the Town and UNH have not been able to recharge the aquifer at Spruce Hole for fear of negatively impacting the naturally high quality of the groundwater. As of the writing of this letter, no aquifer recharge has occurred this calendar year 2023, while approximately 27 MG have been withdrawn. This represents 43% of the allowable annual withdrawal volume from this source. The typical amount withdrawn from the Spruce Hole Well at this time of year is zero. If water supply demands continue to require UNH and the Town to utilize the Spruce Hole Well at the current withdrawal rate of approximately 250,000 gallons per day, we anticipate reaching the withdrawal limit in August 2023. This could potentially increase our reliance on our river supplies during times when both the Oyster and Lamprey Rivers are typically at their lowest levels according to USGS river gauges. It is worth noting that the NHDES has suspended the UNH/Durham withdrawal limitation on the Spruce Hole Well while the Epping WWTP bypassing is taking place. This, however, does not alleviate our concern around the impact that continued withdrawals could have on Spruce Hole.

The inability of the Town and UNH to utilize the Lamprey River during periods of wastewater discharge also requires more reliance on the Oyster River supply. The Oyster River has significantly worse natural water quality than the Lamprey River, particularly in terms of organics and manganese. As a result, there is a significant increase in treatment costs, primarily

chemicals, and electrical demand associated with treating a higher percentage of Oyster River water.

The Oyster River's quality is also quite variable, with large and rapid changes resulting from weather events. Historically, the drinking water treatment operators have enjoyed the ability to proactively manage the four supplies and shift away from the Oyster River in favor of the Spruce Hole Well and Lamprey River in anticipation of storm events. Maintaining a consistent treatment process during times of rapidly changing raw water conditions is difficult, and greatly increases operational complexity and requires significantly more operator attention.

Until the wastewater discharge is eliminated, operations staff at the water treatment plant, with full support from University and Town leadership, will continue to do everything possible to effectively manage the reduced supply flexibility, to efficiently treat the more challenging raw water quality, and to provide safe and reliable potable water to our customers.

We have complete confidence that the multi-barrier contaminant removal approach and robust treatment processes employed at the drinking water treatment facility are fully capable of treating the Lamprey River supply during periods of Epping's wastewater discharge. However, maintaining customers' trust that their drinking water is safe is of paramount importance. Should withdrawal from the Lamprey River become necessary to supply the Town's water demands, we have significant concerns relative to the negative impact on public perception and consumer confidence.

The Town and UNH request the following:

1. The regulatory agencies require the Epping Water & Sewer Commission and the Town of Epping to accelerate portions of the approved Corrective Action Plan (CAP) and update all stakeholders with definitive deadlines.
2. The Epping Water & Sewer Commission expedite repairs and upgrades to underperforming and under capacity equipment and systems. We understand that current market conditions have resulted in supply chain problems and lengthy lead times for many major pieces of equipment across the water and wastewater industries. However, this issue has been ongoing for years and we suspect that certain repairs and upgrades could be implemented in the near term and will likely have an immediate, positive impact on WWTP operations.
3. Epping Water & Sewer Commission be assigned and held to specific milestones for correction of deficiencies at the WWTP by NHDES and EPA, with severe financial penalties assessed should the identified actions not be completed.
4. New economic development in the Epping WWTP service area will be predicated entirely upon a fully functioning and permit compliant Epping WWTP.

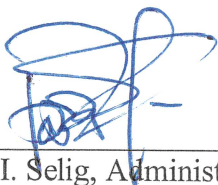
An ongoing and transparent dialogue between all parties involved must also be maintained. As you are aware, there is a meeting scheduled for April 20<sup>th</sup> with representatives from the NHDES and the EPA, the Town and UNH. We request that senior level Environmental Protection Agency (EPA) personnel with decision making authority around compliance and enforcement attend this meeting, and potentially additional future meetings, where the Town and University could be briefed on the status and next steps planned to achieve compliance and acceptable treatment plant performance in Epping.



We firmly believe that unless EPA, working in concert with NHDES, together take a firm and well detailed position with definitive deadlines and meaningful monetary penalties for non-compliance, that the ongoing unprecedented conditions in Epping will continue for many years. Epping residents, taxpayers, and sewer customers must be made to clearly understand that unless they remedy this unsustainable situation in an expedited manner, approved by EPA using proven technology, there will be significant fines/monetary damages imposed by EPA, and that new economic development will be predicated entirely upon a fully functioning and permit compliant Epping WWTP.

Sincerely,

For The Town of Durham



Todd I. Selig, Administrator

For The University of New Hampshire



William Janelle, Associate Vice President,  
Facilities and Operations

CC: Town of Durham Town Council  
James Dean, President University of NH  
Town of Epping Water and Sewer Commission  
Town of Epping Select Board  
Town of Epping Town Administrator  
Richard Reine, Durham Public Works  
April Talon, Durham Public Works  
Adam Kohler, UNH  
Rob Little, Woodard and Curran  
Ted Diers, NHDES  
Cynthia Klevens, NHDES  
Jennifer Mates, NHDES  
Brandon Kernen, NHDES  
Dennis Greene, NHDES  
Melissa Paly, Great Bay Waterkeeper  
Kalle Matso, Piscataqua Region Estuaries Partnership  
Joseph Foley, Chair, Lamprey River Local Advisory Committee

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 1

5 Post Office Square, Suite 100  
Boston, MA 02109-3912



March 25, 2021

J. Michael Joyal, Jr.  
Dover City Manager  
288 Central Ave  
Dover, NH 03820

Blaine Cox  
Rochester City Manager  
31 Wakefield St  
Rochester, NH 03867

Karen Conard  
Portsmouth City Manager  
1 Junkins Ave  
Portsmouth, NH 03801

Tom Irwin  
Vice President  
Director, CLF New Hampshire  
27 North Main Street  
Concord, NH 03301-4930

**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'

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Water Division Director  
EPA, Region 1

cc: Ted Diers, NHDES

**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<sup>-1</sup> yr<sup>-1</sup> 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<sup>1</sup>, and (ii) letter from NHDES Commissioner Robert Scott to Dennis Deziel dated July 27, 2020<sup>2</sup>:
  - 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

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<sup>1</sup> 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.

<sup>2</sup> 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 prevented 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:  \_\_\_\_\_  
Blaine Cox  
City Manager  
2021.03.25 18:40:48  
-04'00'

Dated: 3/26/2021

*Blaine Cox, City Manager*

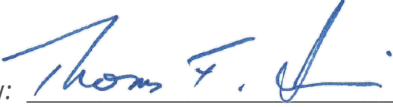
**City of Portsmouth**

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<sup>1</sup>

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<sup>1</sup> 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 <sup>2</sup>	
2022-2026	Court, Union, and Middle Streets	Capital Improvement Plan work to improve drainage to include BMPs	45 <sup>3</sup>	\$1,125,000
2022-2024	Fifth and Grove Streets	Capital Improvement Plan work to improve drainage to include BMPs	26 <sup>4</sup>	\$275,000
2022-2025	Oak Streets	Capital Improvement Plan work to improve drainage to include BMPs	412 <sup>5</sup>	\$250,000
2026	Atlantic Ave.	Capital Improvement Plan work to improve drainage to include BMPs	17 <sup>6</sup>	\$375,000
2026	Horne Street	Capital Improvement Plan work to improve drainage to include BMPs	35 <sup>7</sup>	\$62,500
Planning	Henry Law Park	City is currently looking for funding opportunities to design	568 <sup>8</sup>	

<sup>2</sup> 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:  $LB/YR = 6mg/l * 5MGD * 8.345 * 24 \text{ day/yr}$

<sup>3</sup> 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:  $LB/YR = \text{Area} * NLER * 0.6$

<sup>4</sup> 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:  $LB/YR = \text{Area} * NLER * 0.6$

<sup>5</sup> Assumption: Ability to treat approximately 50% of the neighborhood area (87 acres) use residential rate. Equation:  $LB/YR = \text{Area} * NLER * 0.6$

<sup>6</sup> 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:  $LB/YR = \text{Area} * NLER * 0.6$

<sup>7</sup> 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:  $LB/YR = \text{Area} * NLER * 0.6$

<sup>8</sup> Assumption: Ability to treat approximately 50% of the neighborhood area (120 acres) use residential rate. Equation:  $LB/YR = \text{Area} * NLER * 0.6$



3.24.2021

		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.		
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**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 <sup>9</sup>	
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 <sup>10</sup>	
Ongoing	Slow Release nitrogen requirement for all new projects	As part of Site Plan approval, a maintenance plan shall be in place and <i>"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."</i>	350 <sup>11</sup>	
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: <i>"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."</i> The commitment to implementing the water quality work is demonstrated in several recent redevelopment projects.		

<sup>9</sup> 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

<sup>10</sup> 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

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

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<b>Ongoing</b>	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 <sup>12</sup>	
<b>2021</b>	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.		\$3,500,000
<b>2021</b>	SRF Loan for Chapel St. Ravine	Working to incorporate water quality treatment and flood management downstream of substantial stormwater culvert		
<b>Ongoing</b>	Buffers	Ordinance has increased the wetland buffers gaining credit for going green project that shows added nitrogen removal.		
<b>Ongoing</b>	Yard Waste Program	Leaf pick up 6 times annually	95 <sup>13</sup>	
<b>Planning</b>	Leaf Pick Up	Bulk leaf pick up program	766 <sup>14</sup>	

<sup>12</sup> 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:  $LB/YR = Area * NLER * 0.5$

<sup>13</sup> 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:  $LB/YR = Area * NLER * 0.05$

<sup>14</sup> Assumption: Increases the area to 80% using service. Equation:  $LB/YR = Area * NLER * 0.05$

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**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 <sup>15</sup>	
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		

<sup>15</sup> 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

3.24.2021

		credit for going green projects lead by PREP		
<b>Summer 2021</b>	Fertilizer Bans and Reductions	Supporting a statewide ban of high nitrogen synthetic fertilizers		
<b>Ongoing</b>	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.		
<b>2021</b>	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	
<b>Planning</b>	Sewer System	Advocate for a state-wide requirement to remove nitrogen in septic systems.	381 <sup>16</sup>	
<b>Planning</b>	Extending Sewer to Septiced areas	Continually assessing opportunities		

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<sup>16</sup> Assumes 20 new septic a year - 60% reduction achieved.

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

Project Type	Project / Activity	Project Description	Estimated Load Reduction (lbs/N/yr)	Notes / Additional Benefits
<b>Structural BMPs</b>				
1	Structural SW BMPs	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. <b>Colonial Pines Drainage Improvements</b> - (project related to sewer extensions, below) 2. <b>Woodman Area Infrastructure Improvements</b> 3. <b>Stafford Square Roundabout Installation</b> 4. <b>Union Street Parking Lot Reconstruction</b> <sup>2</sup> - will incorporate water quality treatment practices. 5. <b>Wakefield Street Reconstruction</b> <sup>2</sup> - 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. <sup>2</sup>	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.
<b>Non-Structural BMPs</b>				
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 <u>two times per year</u> (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.
<b>Other Projects</b>				
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)		

<sup>1</sup>These are estimates only and may not reflect the actual nitrogen loads resulting from the proposed projects and practices.

<sup>2</sup>These projects are planned but subject to City Council approval and funding.

<sup>3</sup>This 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 " <i>Minimizes the need for fertilizer and pesticide usage and the introduction of pollutants to the environment</i> " & " <i>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.</i> "	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.