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January 11, 2009

U.S. Environmental Protection Agency
Clerk of the Board, Environmental Appeals Board
Colorado Building
1341 G Street, N.W., Suite 600
Washington, D.C. 20005

RE: City of Marlborough, Massachusetts: NPDES Permit No. MA0100480

Dear Clerk of the Board:

On behalf of the Town of Stow, Massachusetts, please find enclosed one original and five (5) true copies of the Town of Stow's Petition for Review in the above entitled matter. Please contact me if I can provide any additional information or answer any questions that you may have.

Thank you.

Respectfully submitted,

On behalf of the Town of Stow, Massachusetts

DALEY AND WITTEN, LLC

Jonathan D. Witten

Enclosures

cc: Curt Spalding, US EPA Region 1 w/enclosure
Glenn Haas, Massachusetts DEP w/enclosure
Hon. Mayor Nancy Stevens w/enclosure

BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.

In re:

City of Marlborough, Massachusetts
Modification of NPDES Permit No. MA0100480

PETITION FOR REVIEW

from the

TOWN OF STOW, MASSACHUSETTS

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Attorney for the Petitioner
The Town of Stow, Massachusetts

Dated: January 11, 2010

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INTRODUCTION

Pursuant to 40 C.F.R. § 124.19(a), the Town of Stow, Massachusetts, ("Petitioner" or " Stow") petitions for review of the conditions of modified National Pollution Discharge Elimination System ("NPDES") Permit No. MA0100480 ("the modified Permit")[1], which was issued to the City of Marlborough, Massachusetts, ("Permittee" or "Marlborough") on November 16, 2009,[2] by the United States Environmental Protection Agency, Region 1 ("EPA"), and the Massachusetts Department of Environmental Protection ("MassDEP"). The modified Permit at issue in this proceeding authorizes Marlborough to discharge 44% more treated wastewater to the Assabet River from its Westerly Waste Treatment Works

[1] EPA Region 1 has posted the modified Permit online at: http://www.epa.gov/NE/npdes/permits/2009/finalma0100480permitmod.pdf

[2] While this petition for review is being filed more than 30 days after issuance of the Permit, EPA Region 1's notice of the issuance of the Permit specified January 14, 2010, as the deadline for petitioning for EAB review of the permit. According to 40 CFR 124.19(a): "The 30-day period within which a person may request review under this section begins with the service of notice of the Regional Administrator's action unless a later date is specified in that notice."

("Westerly Plant") than was authorized in its existing NPDES permit (same permit number), which was issued in 2005.[3]

Petitioner contends that certain permit conditions in the modified Permit are based on clearly erroneous findings of fact and conclusions of law. Specifically, petitioner contends that the new (44% larger) effluent discharge limit, the new mass load requirements for phosphorus, and the modified effluent concentration limitations for phosphorus do not ensure compliance with applicable state water quality standards, as required by section 301(b)(1)(C) of the Clean Water Act and 40 CFR § 122.4(d).

FACTUAL AND STATUTORY BACKGROUND

The Marlborough Westerly Plant is a 2.89 million gallon per day ("mgd") treatment facility that receives domestic and industrial wastewater and septage and discharges treated effluent into the Assabet River ("Assabet" or "river") near Marlborough's border with the Town of Northborough ("Northborough"). The Westerly Plant services wastewater from the west side of Marlborough and, through an inter-municipal agreement, from Northborough. From the Westerly Plant, the Assabet flows northeast through the towns of Hudson, Stow, Maynard, Acton, and Concord, Massachusetts, where it joins the Sudbury River to form the Concord River.

The Assabet River flows through Stow for approximately 6 miles. The Town Forest, which is town owned conservation land, abuts the river.

Stow's portion of the river is downstream from the Marlborough Westerly Plant, and Stow is profoundly impacted by the pollution it discharges to the river. Each summer

[3] EPA Region 1 has posted the 2005 Permit online at: http://www.epa.gov/NE/npdes/permits/ma0100480permit.pdf

and early fall the portion of the Assabet in Stow becomes severely eutrophic, due in substantial part to releases of nutrients from the Marlborough Westerly Plant. These eutrophic conditions harm Stow and its residents by degrading the river's water quality, causing a repulsive smell, and making the river surface noisome, covered with nuisance plant growth, and unsuitable for canoeing, kayaking, and fishing. Due in substantial part to the discharge of pollutants from the Marlborough Westerly Plant, the Assabet River in Stow does not meet its designated Class B water quality standards. As a result, Stow's residents do not have the degree of use and enjoyment of the river that they are entitled by law to have.

Seeking to improve the condition of the river and its aquatic ecosystem, Stow has been an active participant in prior proceedings involving NPDES permits to the wastewater treatment plants. In 2005 it submitted an amicus brief to EPA's Environmental Appeals Board in support of the appeal filed by the Organization for the Assabet River ("OAR") challenging the legality of the issuance of Phase 1 permits that failed to ensure that state water quality standard would be achieved. Subsequently, Stow participated, through multiple comments, in the Massachusetts Environmental Policy Act ("MEPA") review of Marlborough's and Northborough's Comprehensive Wastewater Management Plans. Stow specifically objected to their proposal to increase significantly the discharge of effluent at the Marlborough Westerly Plant. (Stow's comments questioned the need for and wisdom of this option, especially in light of the availability of another feasible alternative – groundwater discharge.) Stow also sought and received permission to attend the meetings of the Study Coordination Team (the six "Assabet River Consortium" communities with wastewater treatment plants and six other stakeholder organizations), which provided guidance on the Army Corps of Engineers' ("Army Corps" or

"ACOE") and Camp Dresser & McKee's ("CDM") study of the feasibility of remediating sediment to achieve a 90% reduction in the sediment phosphorus flux. Stow has recently submitted comments on the Army Corps' report of that study. In November 2009, Stow allowed the Army Corps to use its middle school for a public hearing on that report. Numerous Stow residents attended and offered the Army Corps and MassDEP dozens of comments. There is no question that Stow has been a longstanding, active participant in all matters relating to the degraded condition of the Assabet in Stow and efforts to remedy those conditions.

Stow and its residents are aggrieved by the modified Permit because it sets new discharge flow, phosphorus, and other pollutant discharge limits for the Marlborough treatment plant that do not ensure the achievement of the Assabet's designated water quality standards, as required by law. Due to the phosphorus discharges allowed by this modified Permit, the river will continue to suffer from eutrophication, and Stow and its residents will be deprived of the quality of recreational and other amenities that a clean and healthy river which meets the Class B standards would provide, such as canoeing, kayaking, and fishing. This deprivation causes an actual and concrete injury to Stow and its residents. The injury is causally connected to the modified Permit because a lawful modified Permit would bring the Assabet River into compliance with its designated state water quality standards.

Along with the Marlborough Westerly Plant, three other publicly owned wastewater treatment plants ("POTWs") discharge into the Assabet. One of these, in the Town of Westborough (also serving Shrewsbury), is upstream from the Westerly Plant; the other two, in the towns of Hudson and Maynard, are located downstream.

The Assabet River is classified by MassDEP in 314 CMR 4.00 as a Class B water body.[4] Class B waters are designated as a habitat for fish, other aquatic life and wildlife, and for primary and secondary contact recreation. Waters that meet the Class B standard have consistently good aesthetic value.

It is undisputed that the Assabet River does not meet its designated Class B water quality standards because it suffers from eutrophication driven overwhelmingly by nutrients such as phosphorus discharged to the river in treated effluent from the four POTWs. These statements appear in the Fact Sheet[5] issued by EPA in connection with the issuance of the Westerly Plant's 2005 NPDES permit, which authorized it to discharge 2.89 mgd of treated effluent:

> *It has been documented that most reaches of the Assabet River suffer from eutrophication, a condition caused primarily by excessive nutrients entering the river. Phosphorus and other nutrients promote the growth of nuisance algae and aquatic plants. When these plants and algae undergo their decay processes, they generate strong odors, result in lower dissolved oxygen levels in the river, and impair the benthic habitat. This phosphorus-driven eutrophication of the Assabet River prevents attainment of the designated uses as defined in the MASWQS. These uses include habitat for fish, other aquatic life, and wildlife, and for primary and secondary contract recreation.*
>
> *There are several applicable water quality criteria which are not being met in the Assabet River due to phosphorus discharges and resulting eutrophication. They include numeric water quality criteria (e.g., dissolved oxygen), and narrative water quality criteria including aesthetics (314 C.M.R. § 4.05(5)(a)), bottom pollutants and alterations (314 C.M.R. § 4.05(5)(b)), and nutrients (314 C.M.R. § 4.05(5)(c)).*
>
> *Although some phosphorus is introduced into the river from storm water runoff, the majority of phosphorus entering the river is from the four main POTWs discharging to the Assabet. These are the Westborough / Shrewsbury, Marlborough Westerly, Hudson, and Maynard facilities. Another factor that compounds the eutrophication situation is the relatively high level of treated sanitary wastewater discharged to the*

[4] MassDEP has posted 314 CMR 4.00 online at: http://www.mass.gov/dep/service/regulations/314cmr04.pdf The Assabet's Class B designation can be seen on Table 18 in the series of tables attached to 314 CMR 4.06, found online at: http://www.mass.gov/dep/water/laws/tblfig.pdf

[5] EPA Region 1 has posted this Fact Sheet online at: http://www.epa.gov/ne/npdes/permits/attachments/ma0100480fs.pdf

Assabet from these four facilities during the low flow periods of summer and early fall. There are times when the Assabet River is composed almost entirely of wastewater effluent. In addition, the numerous impoundments on the Assabet River exacerbate the eutrophication effects of the phosphorus enrichment and create a sink for phosphorus that accumulates in the sediments. A significant amount of this phosphorus in the sediments recycles into the water column during the critical growing period.

The DEP has developed a Total Maximum Daily Load (TMDL) analysis for phosphorus in the Assabet River. The TMDL is based on a water quality model that was used to evaluate the maximum amount of a pollutant that may be introduced into a waterbody so that water quality standards will be met and maintained over the long term. The TMDL identifies a combination of point source phosphorus reduction [from the POTWs] and sediment remediation as ***the preferred scenario*** *for achieving the phosphorus reduction necessary to achieve standards.* ***The preferred scenario includes a reduction in point source discharges of total phosphorus to 0.1 mg/l in combination with a 90% reduction in the phosphorus loading from the sediments in the impoundments.***

EPA's Fact Sheet for NPDES Permit No. MA0100480 (2005) at 4-5 [emphasis added].

The 2004 TMDL report[6] did not propose the achievement of these water quality goals through the next set of NPDES permits that were to be issued to the four POTWs. Although achieving these goals in the next set of permits is what the federal and state clean water acts required, in the TMDL report MassDEP announced its decision to achieve the Assabet's water quality goals in two steps. First, there would be an initial set of five-year NPDES permits that moved the four treatment plants forward part of the way toward achieving water quality standards but did achieve them. Second, during the following five-year period, there would be a second set of NPDES permits issued to the treatment plants that, when implemented, would finish the process of achieving water quality standards. These two steps were referred to as Phase1 and Phase 2. The TMDL report describes these Phases as follows:

> "Phase 1 will establish POTW effluent limits of 0.1m g/L at all major POTWs discharging to the Assabet River and allow the communities sufficient time to fund and

[6] MassDEP has posted the Assabet's TMDL online at: http://www.mass.gov/dep/water/resources/anuttmdl.pdf

implement a detailed evaluation of impoundment sediment as a potential alternative to lower permit limits." (TMDL. p. 8)

"Phase 2 limitations will be established in permits to be reissued in 2009 if sediment remediation, based upon the results of the sediment/dam evaluation, is not pursued, and/or new phosphorus criteria that may be developed in the interim by DEP and USEPA are applicable. ... If the communities choose not to pursue sediment remediation alternatives they will be required to complete Phase 2 improvements during the second 5-year permit cycle and begin operating by April 2013 and achieve the new limits by April 2014." (TMDL, p. 9)

The TMDL calculations are based on the permitted flow discharges of each of the four-wastewater treatment plants at the time of the study. Regarding these permitted flow discharges, the TMDL states as follows:

Based on the modeling results current permitted flows will be allowed. However any request to increase a discharge beyond currently permitted volumes would require supporting documentation satisfying DEP's Antidegradation Policy that no other feasible alternative exists including, but not limited to, the discharge of additional treated effluent to groundwater to help restore tributary flows." (TMDL, p.8)

The flow discharge limits in place when the TMDL was conducted have been held constant until the issuance of the permit modification discussed herein, which allows the Westerly Plant to increase its discharge flow by 44%, from 2.89 mgd to 4.15 mgd.

The Phase I Permits

NPDES discharge permits were issued jointly by DEP and EPA in the spring of 2005 to the four publicly owned wastewater treatment facilities (WWTFs) on the Assabet River to implement the TMDL. (Marlborough was issued Permit No. MA0100480, the modification of which is the subject of this Petition.) By its terms, each permit expired after five years. Three of the four permits were appealed to the EAB, including the permit for the Marlborough Westerly

treatment plant. Stow was not a party to these appeals.[7] After discussions between the parties, all the appeals were subsequently withdrawn prior to any determinations of fact or law, and the permits took effect.[8]

Although these Phase 1 permits for the Assabet's four POTWs were not drafted to ensure the achievement of state water quality standards, the 2005 permits attempted to address a portion of the existing and future eutrophication problem as follows. For the April through October "growing" season (when eutrophic plant growth occurs in the river), the permits required the permittees to meet a 0.1 mg/L total phosphorous limit no later than fifty-four months from the effective date of the permits. From November through March (the "winter" non-growing season), the limit for total phosphorus was 1.0 mg/L, and this limit had to be met within one year of the effective date of the permits. The Phase 1 permits also established a compliance schedule for planning, designing, and constructing the treatment plant upgrades required to achieve the new effluent limits.

Marlborough, the Permittee for the instant permit modification, has been out of compliance with its 2005 permit. It has not been meeting its permitted winter phosphorus limit, and it has not complied with the interim dates for completion of design and initiation of construction of the upgrades to its treatment plant needed to achieve these new phosphorus discharge limits. On December 10, 2009, EPA Region 1 issued an Order For Compliance modifying (extending, with no penalty) the Permit's compliance schedule to require completion of construction of phosphorus removal facilities and compliance with Phase 1 total phosphorus limits by February 28, 2011.

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[7] Stow did, however, file an amicus brief in support of the appeal filed by the Organization for the Assabet River.

[8] As a result of the appeals, the effective date of the uncontested conditions in the Marlborough Westerly Permit was November 25, 2005, and it expires on November 25, 2010. The phosphorus limits and other conditions appealed went into effect on May 17, 2006, upon withdrawal of the permit appeals.

The Permit Modification

On October 18, 2007, in the middle of its five-year NPDES permit, the City of Marlborough wrote to DEP and EPA requesting a modification of its 2005 NPDES permit to allow a 44 percent increase in the permitted effluent discharge from its Westerly treatment plant, from 2.89 mgd to 4.15 mgd. [9] This flow increase was requested not due to any emergency or unforeseen events in the middle of the Marlborough treatment plant's 5-year permit cycle, nor was it requested for any of the "causes for modification" for which EPA's regulations at 40 CRF § 122.62(a) strictly limit permit modifications.[10] Instead, it was requested (a) to facilitate long-term, hoped-for commercial and industrial development in Marlborough, phrased in the request (at p. 2) as "continued interest in commercial and industrial development in Marlborough," and (b) to allow substantial additional sewering in Northborough needed to accommodate growth. (See also *Phase I Comprehensive Wastewater Management Plan – Needs Analysis*, dated March 2001, prepared separately for both Marlborough and Northborough, included by reference in Marlborough's request for the Permit modification.[11]) Both Marlborough and Northborough believe their long-term prospects for having businesses locate there will be enhanced through additional sewering.

In July 2008, MassDEP and EPA issued a draft modified Permit for public comment. The draft modified Permit proposed the authorization of the requested flow increase on certain conditions.

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[9] Stow assumes that this letter (which serves as the permit modification application) will be made a part of the Administrative Record in this appeal. If this is not the case, Stow will be happy to supply a copy to the EAB.

[10] This regulation state: "If cause does not exist under this section or § 122.63 [Minor Modifications of Permits -- not applicable here], the Director shall not modify . . . the permit." 40 CFR § 122.62.

[11] Since this document was included by reference in the permit modification request, Stow assumes that it is in the Administrative Record. If this is not the case, Stow would be happy to submit a copy.

In August 2008 Stow and other interested parties submitted formal comments to MassDEP and EPA objecting to the draft modified Permit on numerous grounds. Stow's comments are attached hereto as Exhibit A.

Fifteen months later, on November 16, 2009, DEP and EPA issued a final modified Permit that allows the requested 44% flow increase on somewhat different conditions than described in the draft. The effective date of the modification is February 1, 2010. This modified Permit modifies Marlborough's 2005 NPDES permit, No. MA0100480, which is set to expire on November 25, 2010, and be replaced by a Phase 2 permit.

As with the underlying Phase 1 permit that it modifies, the modified Permit establishes new effluent discharge limits that do not ensure the achievement of the water quality standards established for the Assabet. Nothing in the modified Permit changes the TMDL plan to achieve water quality standards through issuance of the Phase 2 permits to be drafted in 2010. EPA and MassDEP acknowledged this in their Response to Comments[12] when they stated, in Response B2, as follows:

> The Assabet River TMDL indicates that a 90% reduction in the sediment phosphorus flux in conjunction with the appropriate phosphorus effluent limitations at the various wastewater treatment plants will result in the attainment of water quality standards. As the commenter points out this has yet to occur, but the TMDL did not assume such a reduction would occur before the end of the first permitting cycle.

Thus, instead of ensuring the achievement of water quality standards, the modified Permit seeks only to hold constant the mass loading of phosphorus and other regulated pollutants contained in the original Phase 1 Permit. In their Responses to Comments (Response C1) the agencies assert that this approach is consistent with the TMDL:

> The proposed increase does not contradict the TMDL conclusions. To be consistent with the TMDL the agencies have included a more stringent total phosphorus limit of 0.07

[12] EPA Region 1 has posted EPA's and MassDEP's Joint Response to Comments online with the modified Permit at: http://www.epa.gov/NE/npdes/permits/2009/finalma0100480permitmod.pdf

mg/l, which is based on the mass loading calculated from the 2005 permit and is consistent with the TMDL.

The modified Permit also establishes new mass loading limits of 24 lbs/day loading of Total Phosphorus (November 1-March 31) and 2.4 lbs/day load of Total Phosphorus (April-October 31) that take effect "beginning the first month that the 12 month average discharge flow exceeds 2.89 MGD."

As the agencies explained in various Responses to Comments, rather than achieving water quality standards, this approach is designed simply to result in "no net increase" in the existing permitted pollutant loading. See, for example, the following statement from Response D5:

> For pollutants regulated by the permit, the permit modification mass loadings are set equivalent to the limits in the 2005 NPDES permit, so for these pollutants there will be no net increase in pollutant load and no lessening of water quality.

See also the following statement from Response E3:

> The proposed increase commits the City to a discharge limit of 0.07 mg/l during the critical growing season months based on limiting the phosphorus mass to a level equivalent to a concentration of 0.1 mg/l and the current design flow of 2.89 MGD. As indicated above in a number of responses, the Agencies will undertake the Phase 2 analysis when evaluating the current permit for reissuance in 2010, an approach consistent with the assumptions underlying the TMDL. The Agencies will impose limits deemed to be appropriate given the data and information available at that time.

Nevertheless, accompanying the modified Permit is a state Water Quality Certification issued in the form of a letter dated November 12, 2009, from MassDEP to EPA pursuant to Section 401(a) of the Federal Clean Water Act and 40 CFR 124.53. No NPDES permit or modification can issue without such a certification by the state. This Water Quality Certification[13] purports to assert, although EPA and MassDEP know this not to be true, that the conditions of the modified Permit will achieve water quality standards. Moreover, the Water

[13] Stow assumes that this water quality certification letter will be made a part of the Administrative Record. If that is not the case, Stow would be happy to provide the EAB with a copy.

Quality Certification states that the modified Permit conditions "are sufficient to comply with the antidegradation provisions of the Massachusetts Water Quality Standards, 314 CMR 4.04." Both of these statements are incorrect. Indeed, as is evident from the above recitation of the TMDL's two-phase plan, adopted by EPA and MassDEP, this Water Quality Certification fails to protect the interests of the statute, because the modified Permit is based on the TMDL's Phase 1 phosphorus limits that, in the absence of 90% phosphorus flux reduction, do not achieve water quality standards.

Feasibility of Remediating Phosphorus in Sediment

A study to assess the feasibility of reducing 90% of the sediment phosphorus flux (*i.e.*, phosphorus in sediment that is re-circulated in the water column) was recommended in the TMDL. This study was to be conducted after the issuance of the Phase 1 permits and be used as a basis for drafting the Phase 2 permits. MassDEP commissioned the Army Corps of Engineers ("ACOE") to conduct this study. The study has now been conducted, and a draft report has been issued for public comment. *See* Assabet River Sediment and Dam Removal Feasibility Study, Draft, September 2009 ("ACOE Study").[14] This 90% flux reduction goal is derived from the TMDL study, which concluded that a 0.1 mg/L phosphorus discharge limit at each of the treatment plants combined with a 90% reduction of sediment phosphorus flux will achieve water quality standards.

As part of the ACOE study, the "Assabet River Sediment and Dam Removal Study, Modeling Report, June 2008" was prepared by Camp Dresser & McKee ("CDM Report").[15] The

[14] The Army Corps has posted this study online at: http://www.nae.usace.army.mil/projects/ma/assabetriver/assabetriver.htm

[15] The CDM modeling report is final and will be included unchanged in the final ACOE Study. The Army Corps has posted a copy of CDM's final modeling report online at the link noted in the prior footnote.

CDM Report concluded that the reduced loading of phosphorus by the four wastewater treatment plants, achieved simply by implementing the new, lower phosphorus limits specified in the 2005 NPDES permits (the "planned improvements"), would result in the reduction of about 60% of the phosphorus flux from the sediments. It also concluded that:

> "Of the alternatives evaluated in this study, no alternative or combination of alternatives is projected to result in a 90 percent reduction in phosphorus flux." (CDM Report, p. ES-2)
>
> "This study also resulted in significant findings regarding the seasonality of sediment phosphorus flux. An additional consideration to meet the TMDL target of 90% reduction in sediment phosphorus flux is winter phosphorus discharge limits for at [sic] WWTFs. Based on results of this modeling effort, it was concluded that winter limits for the WWTFs, below the current planned limit of 1 mg/L would contribute significantly to the reduction in sediment phosphorus flux." (CDM Report, p.6-7)
>
> "If no other improvements were implemented, further reductions in summer P [phosphorus] discharge limits, below 0.1 mg/L, would not contribute significantly to further reduction in sediment phosphorus flux. This is because the winter instream phosphorus concentration has such a strong effect on the P flux the following summer." (CDM Report, p.6-7)

In an April 2006 letter to the permittees for the Assabet's four municipal wastewater treatment plants cited above (attached hereto as Exhibit B), EPA Region 1 and MassDEP jointly wrote:

> "Consistent with the TMDL implementation schedule, EPA and DEP will initiate development of Phase 2 permits in Spring 2008. If we determine that sediment remediation is unlikely to achieve necessary phosphorus reductions based upon the information available at that time, the agencies will establish new Phase 2 phosphorus effluent limits designed to ensure compliance with water quality standards."

It is now evident from the Army Corps' report and CDM's modeling work that reducing the sediment phosphorus flux by 90% will not be attained through sediment dredging and/or dam removal. Yet the modified Permit's limits on the total mass of phosphorus that can be

discharged by the Marlborough treatment plant to the river – 24 lbs/day loading of Total Phosphorus (November 1-March 31) and 2.4 lbs/day Total Phosphorus (April-October 31) – are based on, and rely upon for achieving water quality standards, the TMDL's unimplemented goal of reducing the phosphorus flux by 90%.

THRESHOLD PROCEDURAL REQUIREMENTS

Petitioner satisfies the threshold requirements for filing a petition for review under Part 124, to wit:

1. Petitioner has standing to petition for review of the permit decision because it participated in the public comment period on the permit. See 40 C.F.R. § 124.19(a). A copy of the Petitioner's comments is attached as Exhibit A.

2. The issues raised by Petitioner in its petition here were raised during the public comment period and therefore were preserved for review. In their respective comments, Stow (at pp. 1 and 3-4), the Organization for the Assabet River ("OAR") (at pp. 2, 5-7), and the Conservation Law Foundation ("CLF") (at pp. 2-3) all commented that the modified Permit's new conditions for phosphorus (new mass load and concentration limits) did not meet the requirement of section 301(b)(1)(C) of the Clean Water Act and 40 CFR § 122.4(d) that a NPDES permit's conditions "ensure compliance with the applicable water quality requirements."

ARGUMENT

The Modified Permit Does Not Ensure Attainment of Applicable Water Quality Standards As Required By Law

A. Issue / Argument Raised in Comments Submitted to EPA and MassDEP

As noted above, a number of parties objected to the issuance of the modified Permit on the grounds that it did not meet the requirements of section 301(b)(1)(C) of the Clean Water Act and 40 CFR § 122.4(d) that its conditions "ensure compliance with the applicable water quality requirements of all affected States" (emphasis added.).

The essence of the "modification" contained in this modified Permit is that it allows Marlborough's request to increase its discharge flow into the Assabet from 2.89 mgd to 4.15 mgd on the condition that there be no exceedance ("no net increase") of the mass loading of regulated pollutants, including phosphorus, allowed in the original 2005 Phase I Permit.

As simple as this statement sounds, the Permit had to be modified substantially to incorporate numerous conditions that ensured this "no net increase" approach, because by allowing additional flow the permit had to ratchet down the allowable discharge concentrations for all regulated pollutants in order to ensure "no net increase" in the mass loading. As a result, the modified Permit contains new terms for many parameters listed in the original Permit. Thus, not only is there a new (44% higher) average monthly "flow" limit of 4.15 mgd. There are new maximum daily mass load limits and reduced discharge concentration limits for total phosphorus, ammonia-nitrogen, total aluminum, total copper, total sliver, and total nickel.

This modified Permit is a substantial rewrite of the original 2005 Permit.

While the new terms of the modified Permit seek to achieve the goal of "no net increase" in the discharge of regulated pollutants when the discharge flow exceeds the original Permits level of 2.89 mgd, the modified Permit does not ensure compliance with the applicable water quality standards. As EPA and MassDEP note in their Responses to Comments, that will come in the next 5-year permits to be written, i.e., the Phase 2 permits contemplated by the TMDL.

The existing record (including but not limited to the TMDL study report and the more recent Assabet River Sediment and Dam Removal Feasibility Study, Draft, September 2009 and the accompanying Assabet River Sediment and Dam Removal Study, Modeling Report conducted by CDM (collectively the "ACOE Study")) conclusively establishes that the Assabet River currently fails to meet the narrative state water quality standards. See also *Final Massachusetts Year 2008 Integrated List of Waters (Final Listing of the Condition of Massachusetts' Waters Pursuant to Sections 303(d) and 305(b) of the Clean Water Act), p. 110.*[16] The Massachusetts Surface Water Quality Standards" regulations at 314 CMR 4.05(5)(a) state:

> "All surface waters shall be free from pollutants in concentrations that settle to form objectionable deposits; float as debris, scum, or other matter to form nuisances, produce objectionable odor, color, taste, or turbidity, or produce undesirable or nuisance species of aquatic live."

Similarly, 314 CMR 4.05(5)(c) provides: "Unless naturally occurring, all surface waters shall be free from nutrients in concentrations that would cause or contribute to impairment of existing or designated uses." 314 CMR 4.05(3)(b)(1) establishes standards for dissolved oxygen. Regarding bottom pollutants or alterations, 314 CMR 4.05(5)(b) requires that

> "[a]ll surface waters shall be free from pollutants in concentrations or combinations or from alterations that adversely affect the physical or chemical nature of the bottom,

[16] MassDEP has posted online the *Final Massachusetts Year 2008 Integrated List of Waters* at http://www.mass.gov/dep/water/resources/08list2.pdf

interfere with the propagation of fish or shellfish, or adversely affect populations of non-mobile or sessile benthic organisms."

The Assabet does not currently meet these water quality standards; Marlborough's original Phase 1 Permit did not seek to achieve those standards; and the implementation of the conditions in the modified Permit, especially the new mass load and concentration limits for phosphorus, will not achieve those standards, nor were they even designed to do so.

Clearly, this modified Permit fails to meet the requirement of section 301(b)(1)(C) of the Clean Water Act and 40 CFR § 122.4(d) that its conditions "ensure compliance with the applicable water quality requirements of all affected States."[17]

The Environmental Appeals Board has acknowledged the centrality of this concept to the issuance of permits by EPA:

> "In establishing effluent limits in an EPA-issued permit, the permitting authority is required to ensure compliance with the water quality standards of the state where the discharge originates. *See* CWA § 401(a)(1), 33 U.S.C. § 1341(a)(1)." In re City of Attleboro, MA, Wastewater Treatment Plant, NPDES Appeal No. 08-08, slip op. at 9 (EAB, Sept. 15, 2009), 13 E.A.D. ___.
>
> "The permit issuer's obligation is to ensure that the permit contains effluent limitations and conditions that comply with state water quality standards of all affected states, not EPA's guidance. *See* CWA §§ 301(b)(1)(C), 401(a)(2), 33 U.S.C. §§ 1311(b)(1)(C), 1341(a)(2);40 C.F.R. §§ 122.4(d), .44(d)(4); *see also City of Moscow*, 10 E.A.D.at 165 (stressing that federal permits are required to meet state water quality standards). *Id.* at 53.

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[17] The fact that MassDEP provided EPA with a water quality certification in connection with the modified Permit does not absolve EPA from recognizing that state water quality standards were not met. As the Board stated in In re City of Marlborough, Massachusetts, Easterly Wastewater Treatment Facility, 12 E.A.D. 235, 252 fn. 22 (EAB 2005):

> "[W]hen the Region reasonably believes that a state water quality standard requires a more stringent permit limitation than that reflected in a state certification, the Region has an independent duty under section 301(b)(1)(C), 33 U.S.C. § 1311(b)(1)(C), to include more stringent permit limitations. *See In re City of Moscow*, 10 E.A.D. 135, 151 (EAB 2001); *see also* 40 C.F.R. § 122.44(d)(1), (5). Moreover, as we stated in *DCMS4*, the Region cannot rely exclusively on the state certification where, as here, there is countervailing evidence in the record. *See DCMS4*, 10 E.A.D. at 343."

> "The Board has often emphasized that the legal standard is that cost and technological considerations are not factors in setting water quality-based effluent limits. Rather, section 301(b)(1)(C) of the CWA requires unequivocal compliance with applicable water quality standards, and does not recognize an exception for cost or technological infeasibility. *See New Eng. Plating*, 9 E.A.D. at 738 ("In requiring compliance with applicable water quality standards, the CWA simply does not make any exceptions for cost or technological feasibility."). We, thus, reject this claim as a basis for review." *Id.* at 46-47 (emphasis added).

See also In re City of Marlborough, Massachusetts, Easterly Wastewater Treatment Facility, 12 E.A.D. 235 (EAB 2005) ("Hop Brook case") (remanding permit where Region "failed to demonstrate . . . that the Permit, as written, will ensure compliance with applicable Massachusetts water quality standards"). Furthermore, where necessary to achieve and maintain water quality standards, section 301(b)(1)(C) of the Clean Water Act requires limits more stringent than technology-based limits, and costs and technological considerations may not be considered in setting such water quality-based limitations. In re Westborough and Westborough Treatment Plant Board, 10 E.A.D. 297, 312 (EAB 2002).

With respect to the modified Permit for the Marlborough Westerly Plant, the TMDL study demonstrates that the achievement of state water quality standards relating variously to dissolved oxygen levels, aesthetics, bottom pollutants, and nutrient loads will not occur in the absence of a 90% phosphorus sediment flux reduction *combined with* the new 0.1 mg/L limits on phosphorous discharge from the WWTFs. TMDL Report, Executive Summary at 7. As the modified Permit contains neither requirements for a 90% flux reduction nor stricter limits on phosphorus discharge if such flux reduction is not attained, the conditions in the modified Permit cannot be said to "ensure compliance" with state water quality standards as required by section 301(b)(1)(C) of the Clean Water Act and 40 CFR § 122.4(d).

The EAB's Hop Brook decision (cited above), arising from an appeal by the Town of Sudbury, is instructive. In that decision, the Environmental Appeals Board remanded a NPDES

permit issued to Marlborough's Easterly Wastewater Treatment Facility, in part because the Region had failed to demonstrate how, in light of potential for releases of sediment in the Hop Brook ponds, the permit would "ensure compliance" with applicable state water quality standards, in particular, those relevant to eutrophication. The Board stated:

> Based on the record before us, it is unclear whether the Permit's complies with the regulatory prohibition on issuing a permit "when imposition of conditions cannot *ensure* compliance with the applicable water quality requirements." 40 CFR § 122.4(d) (emphasis added [in original]). Although the Permit itself states that the Facility's discharge "shall not cause a violation of the water quality standards of the receiving waters," . . . the record does not indicate whether 0.1 mg/l phosphorus limitation, by itself, will meet the state's water quality standards. With regard to the likelihood that imposition of the 0.1 mg/l phosphorus limitation will be sufficient to meet water quality standards, the Region states that such a result may be possible, but a mere possibility of compliance does not "ensure" compliance.

In re City of Marlborough, Massachusetts, Easterly Wastewater Treatment Facility, 12 E.A.D. 235, 250 (EAB 2005).

The Board further noted that the Region had conceded (in its Fact Sheets and Responses) that significant amounts of phosphorus had accumulated in the sediment of the Hop Brook ponds; that such phosphorus could be released during the summer season; that the discharge limits set might not be sufficient to control nutrient levels due to the amount of phosphorus that would continue to recycle from the sediments for years; and that it might be necessary to further reduce point source phosphorus limits. Despite the Region's apparent recognition of these possibilities, the Board stated:

> [T]he Permit does not contain any provisions requiring that Marlborough study or otherwise address the potential for phosphorus releases from the sediment in the Hop Brook Ponds during the term of this permit; nor does the Permit contain any provisions requiring further action, evaluation or modification in the event that water quality standards are not achieved despite compliance with the 0.1 mg/l phosphorus limitation.

Id. at 251.

As a result of these deficiencies, the Board remanded the permit with instruction that the Region either demonstrate that the permit would ensure such compliance, or modify the permit.

In the instant case, by contrast, it is known that state water quality standards will not be achieved with the mass loading of phosphorus allowed in the modified Permit (same as in the original permit) in the absence of a concurrent 90% reduction in sediment flux, and yet there are no requirements in the Permit for implementing such a reduction. Moreover, the ACOE Study now demonstrates that such a reduction through sediment remediation is not even feasible.

If mere uncertainty concerning the effect of phosphorus sediment flux on water quality (and the possible inefficacy of the 0.1 mg/L limit in achieving water quality standards) was sufficient to require a remand in the Hop Brook case, a remand is much more clearly indicated in this case.

B. EPA's and MassDEP's Response to These Comments[18]

In Response A1.A, EPA and MassDEP responded as follows to the comment made by OAR that the modified Permit did not ensure attainment of water quality standards, as required by law:

> Sections 402(a)(3) and (b)(1)(B) of the Clean Water Act require permits to be issued for fixed year terms not to exceed five years in order for the process of permit re-issuance and re-examination to be conducted on an orderly and predictable cycle. *See also* 40 C.F.R. § 122.46(a). NPDES regulations establish a limited set of circumstances under which a permit issuer may, in its discretion, reopen and modify an existing permit during its term. *See* 40 C.F.R. § 122.62(a). In accordance with the policy rationale underlying the foregoing statutory and regulatory provisions, only those conditions to be modified are reopened when a new draft permit modification is prepared, and all other aspects of the existing permit remain in effect for the duration of the permit's term. 40 C.F.R. § 124.5(c)(2). Put otherwise, the opportunity to comment on a draft permit modification does not provide an opportunity to comment on, or revisit, permit terms that are unaffected by the proposed modification.

[18] EPA has posted the joint Response to Comments online (with the modified Permit) at: http://www.epa.gov/NE/npdes/permits/2009/finalma0100480permitmod.pdf

Consistent with this directive, EPA explicitly defined the scope of the modification to include only the flow limit and, concomitantly, "effluent limitations and conditions to ensure that the authorized pollutant loadings do not increase as a result of the flow increase." *See [sic] Fact Sheet* at 1, 4-5[25] [Response footnote 25 omitted here]. Consistent with its oft-stated position that additional wastewater effluent flow into the river would need to satisfy applicable antidegradation requirements, EPA has established mass loadings for all pollutants limited in the permit, based on the preexisting flow limit of 2.89 MGD notwithstanding the proposed flow increase. The inclusion of mass limits on all permitted pollutants ensures that there will be no increase from the existing baseline in the total mass loading of all permitted pollutants into the receiving waters, as well as a decrease in concentrations compared to the baseline of all regulated pollutants at flows above 2.89 MGD. EPA and MassDEP have concluded that structuring the permit in this way is protective of water quality standards because it satisfies antidegradation requirements with respect to all regulated pollutants and, additionally, ensures that the mass loading remains consistent with the available EPA-approved phosphorus WLA for the discharge.

In challenging the adequacy of the 0.1 mg/l phosphorus effluent limitation and the underlying WLA, the commenter ventures far beyond the limited confines of this modification. The imposition of mass limitations followed as an arithmetic consequence of the flow increase and did not reopen the logically distinct issue of whether the 0.1 mg/l phosphorus limit was sufficient to ensure compliance with water quality standards, or whether the 0.1 mg/l limit was properly translated from the underlying WLA, or whether the WLA was still scientifically and technically valid. Challenges to these aspects of the permit were lodged in the original permit determination and were resolved as a result of litigation over the originally issued permit.[26] [Response footnote 26 states: "*See* U.S. EPA Environmental Appeals Board Order Dismissing Petition for Review (with prejudice) (April 12, 2006)."]

The issuance of the modification with the same phosphorus mass load as the preexisting permit comports with the currently available WLA and is fully consistent with its assumptions and requirements. Due to severe man-made alterations to the Assabet River's hydrology in the form of dams and impoundments, the Agencies along with many stakeholders recognized that improving the quality of wastewater effluent discharges was but one dimension of restoring critical habitat to support the native, naturally diverse community of aquatic life, which is the goal of the Clean Water Act and the Massachusetts Surface Water Quality Standards. As OAR itself explains, one central and explicit assumption of the TMDL was that the sufficiency of the WLA would be revisited in the *next* permit cycle to determine the extent of any additional point source reductions (*i.e.*, Phase 2 limits) that would be necessary, following sediment flux reduction investigations by the United States Army Corps of Engineers, including an inquiry into the feasibility of dam removal (which would help restore the free-flowing, riverine characteristics of the Assabet). [27] [Response footnote 27 omitted here.] This permit modification simply holds constant the mass loading that was effectively authorized by the 2005 permit (based on concentration and the flow of 2.89 mgd), consistent with the TMDL.

As contemplated by the TMDL, options for dam removal, dredging, and lower winter phosphorus limits are being actively evaluated relative to their ability to achieve necessary reductions in phosphorus load from river sediments. To date, the U.S. Army Corps of Engineers has completed its Draft Assabet Sediment and Dam Removal Feasibility Study (including dynamic modeling studies), and its investigation is ongoing. EPA and MassDEP have so far committed approximately $1,000,000 toward this effort. The Allen Street, Aluminum City, Gleasondale, and Hudson dams are the most likely candidates for removal. There have been stakeholder discussions regarding the advantages and disadvantages of removing dams (including through a stakeholder convening process funded by EPA's Office of Alternative Dispute Resolution). *See* Assabet River Advisory Sessions, Organization for the Assabet River and Consensus Building Institute, Fall 2008. The regulatory process for dam removal has not commenced. The issue of whether any limits more stringent than 0.1 mg/l will be necessary to ensure continuing consistency with the WLA will be squarely before the stakeholders at the time the permit is next issued. The draft permit will of course be subject to public notice and comment. When the final permit is re-issued, any party with standing may challenge the Region's permitting determinations with respect to the adequacy of the phosphorus limitations in the appropriate administrative and judicial forums.[28] [Response footnote 28 is reproduced in the footnote[19] below.]

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[19] Footnote 28 of the Response to Comments states as follows:

[28] "The sufficiency of the underlying TMDL is outside the scope of this modification, as is the derivation of the 0.1 mg/l based upon the WLA. The Agencies, however, feel it should be underscored that the studies relied on by the commenter are still underway. As such, the conclusion that the 90% sediment phosphorus flux reduction cannot (or almost certainly will not) be achieved is stated more categorically than is warranted by the record at this juncture. Such a conclusion is at best premature. As one example, the Agencies would point out while the referenced modeling report concludes that removal of all of the dams will only result in an 80% reduction of the sediment phosphorus load, the analysis significantly underestimates the benefits of dam removal, due to simplifying assumptions made in the TMDL water quality model used for the analysis. Specifically, the model assumes the same phosphorus flux rate in free flowing sections of the river as it does in sections of the river impounded by dams. In reality, flux rates in impounded sections of the river will be significantly higher than flux rates in free-flowing sections of the river and the sediment phosphorus load reduction resulting from dam removal will be greater than what the analysis has estimated. Although it broadly concurs with the conclusions of the draft Corps report, EPA has specifically questioned the validity of Corps technical analysis regarding the anticipated percent sediment phosphorus load reduction study and has requested that this issue be reconsidered and revised.

As another example, it has become apparent since the approval of the TMDL that there is a greater degree of interdependence between the external phosphorus load reductions and the sediment phosphorus release rate (*i.e.*, the sediment phosphorus release rate will drop following a significant reduction in external phosphorus loads) than originally anticipated. The recently completed draft Army Corps modeling report has concluded that the upgrades planned at the four major POTWs discharging to the Assabet will by themselves yield a 60% reduction in sediment phosphorus flux. Because the TMDL model results did not account for the interface or feedback mechanism between external and sediment phosphorus loads and assumed a constant sediment flux rate, it likely underestimated the relative impacts of planned point source phosphorus

In Response F2, EPA and MassDEP responded as follows to the charge made by the Conservation Law Foundation that the Permit did not meet the requirements of section 301(b)(1)(C) of the Clean Water Act and 40 CFR § 122.4(d) that its conditions *"ensure* compliance with the applicable water quality requirements of all affected States":

"Response F2: Please see Response A1.A regarding the scope of the modification."

None of the other Responses to Comments addresses the charge that the modified permit does not ensure compliance with applicable water quality standards as required by law.

C. EPA's and MassDEP's Response is Inadequate and Does Not Justify Issuance of a Modified Permit That Fails to Ensure Compliance With Water Quality Standards

Importantly, in Response A1.A, EPA and MassDEP do not contend that the terms of the modified Permit ensure the achievement of applicable water quality standards. Indeed, they acknowledge that, like the original Permit on which it is based, this modified Permit does not ensure the achievement of water quality standards. That will be the goal, the agencies explain, in the next set of 5-year permits to be issued to the Assabet's four POTWs. These are referred to as Phase 2 permits, following the two-step plan laid out in the Assabet's TMDL for phosphorus.

Instead, the agencies make a two-fold, issue-preclusion argument, contending that the commenters have no right to assert that the new 44% increased discharge flow and the new phosphorus mass load and effluent concentration limits in the modified Permit fail to ensure the achievement of water quality standards. EPA's first argument is based on the federal

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reductions, a fact that would appear to cut against arguments that an immediate default to a point source phosphorus effluent limit below 0.1 mg/l is necessary "because the 90% reduction cannot be achieved through dredging and dam removal alone."

With this said, the Agencies reiterate that no firm conclusions can be drawn until completion of the sediment phosphorus flux study, which the Agencies expect will underlie the Phase 2 permits.

regulations; its second argument appears to be an attempt at collateral estoppel. Both arguments have no merit for the reasons noted below.

(i) EPA's regulations-based argument

EPA argues that its regulations governing permit modifications, as applied to this case, prohibit a challenge to the new phosphorus limits in the modified permit, not just on the grounds asserted by the commenters (does not achieve water quality standards) but on any grounds, because the phosphorus limits in the underlying permit were not modified.

EPA begins this argument by noting, in Response A1.A, that the Clean Water Act requires permits to be issued for fixed year terms not to exceed five years "in order for the process of permit re-issuance and re-examination to be conducted on an orderly and predictable cycle." EPA then notes "NPDES regulations establish a limited set of circumstances under which a permit issuer may, in its discretion, reopen and modify an existing permit during its term. *See* 40 C.F.R. § 122.62(a)."

Stow has no disagreement with these general statements and wishes only that EPA had followed § 122.62(a), which requires that a permit modification be sought for one of the causes listed therein. The regulation states: "If cause does not exist under this section . . . the Director shall not modify or revoke and reissue the permit." The reason given by Marlborough for requesting a permit modification – to allow a 44% flow increase thought to be needed "based on continued interest in commercial and industrial development" in Marlborough and Northborough – does not come close to meeting any of the permissible causes for modification listed in § 122.62(a). Therefore, EPA did not have authority and should not have granted the modification requested here. The modified Permit's conditions do not overcome this regulatory prohibition. The flow increase modification should not have issued on the conditions contained in the

modified Permit or on any conditions. Nevertheless, EPA proceeded in direct contravention of § 122.62(a) and modified the permit anyway, and in the process it has upset the "orderly and predictable cycle" of permit writing that the statute contemplates.

Next, EPA notes that "[i]n accordance with the policy rationale underlying the foregoing statutory and regulatory provisions" (which it chose not to follow), only those conditions to be modified are reopened when a new draft permit modification is prepared, and all other aspects of the existing permit remain in effect for the duration of the permit's term. 40 C.F.R. § 124.5(c)(2). EPA states: "Put otherwise, the opportunity to comment on a draft permit modification does not provide an opportunity to comment on, or revisit, permit terms that are unaffected by the proposed modification." Stow also has no disagreement with these general statements, and it has no interest here in challenging permit terms that were unchanged by the modified Permit.

It is the next step in EPA's regulatory argument in Response A1.A that Stow disagrees with emphatically. Even though the modified Permit contains a **new** term allowing a 44% discharge flow increase (up to an additional 1.26 million gallons per day) and **new** terms for the mass loading and discharge effluent concentration of phosphorus, EPA argues that these are not new terms but the same old terms, albeit somewhat mathematically disguised, found in the underlying Permit. This argument is founded on EPA's claim that it held constant the mass loading of phosphorus discharged to the river.

Here are the facts.

First, the modified Permit unquestionably increases the Westerly Plant's permitted discharge flow from 2.89 mgd to 4.15 mgd, a 44% increase. This is no small increase in flow.

The 1.26 mgd increase in discharge permitted by the modified Permit is nearly as large as the entire permitted discharge of the Maynard POTW downstream (1.45 mgd).

Second, the modified Permit's mass loading numbers – 2.4 lbs/day from April through October and 24 lbs/day from November through March– were not included as terms in the underlying permit. They are unquestionably new terms in the modified permit.

Third, all the effluent discharge concentration limits for total phosphorus in the underlying Permit have been changed in the modified Permit:

	Underlying Permit	**Modified Permit**
Total Phosphorus (ave. monthly) (April)	0.1 mg/L	0.07mg/L
Total Phosphorus (ave. monthly) (May 1 – October 31)	0.1 mg/L	0.07 mg/L
Phosphorus Total (ave. monthly) (November 1 –March 31)	1.0 mg/L	0.7 mg/L

It is the modified Permit's new terms for permitted discharge flow, mass loading of phosphorus, and discharge concentration of total phosphorus that Stow is challenging here, not the pre-existing terms of the underlying permit. These new terms, collectively, do not ensure the achievement of water quality standards as required by law.

In its Response A1.A, however, EPA and MassDEP try to argue that the commenters are really challenging the 0.1 mg/L total phosphorus discharge limits in the underlying Permit when they assert that the terms of the modified permit's phosphorus limits do not ensure compliance with applicable water quality standards. This is not so. Stow is asserting that at the modified Permit's **new** discharge flow (flows over 2.89 mgd up to 4.15 mgd), the **new** mass loading and **new** effluent discharge concentration limits allowed for phosphorus (set forth in the table above) do not ensure compliance with applicable water quality standards. No fair and reasonable interpretation of 40 CFR 124.5(c)(2) ("only those conditions to be modified shall be reopened

when a new draft permit is prepared") would prevent Stow from challenging these modified permit conditions. EPA's and MassDEP's argument is no more than sleight of hand.

EPA's and MassDEP's argument that nothing has changed with respect to phosphorus in the modified Permit also ignores the elephant in the room – that it is allowing up to 44% more effluent discharge flow into the river, an increase of 1.26 million gallons per day. This is unquestionably a new condition that modifies the underlying Permit substantially. Yet EPA and MassDEP appear to be arguing that when a discharger's permit, for whatever reason, does not meet water quality standards, EPA and MassDEP can subsequently modify that permit to allow any additional amount of additional discharge flow the permittee requests (50% more, 100% more, or even 1000% more) so long as the agencies hold constant the mass loading of the pollutants that are causing the discharges to violate water quality standards. For this remarkable proposition, EPA and MassDEP offer no citation to any relevant authority. Stow hereby asks the EAB to reject that approach and rule that when EPA allows substantial additional effluent discharge in a permit modification it must meet the fundamental requirement of section 301(b)(1)(C) of the Clean Water Act and 40 CFR § 122.4(d) that the conditions "ensure compliance with the applicable water quality requirements of all affected States" (emphasis added).

Surely, in the case of a permit that ensures compliance with water quality standards, EPA would not (and could not lawfully) allow a request for a substantial increase in the discharge flow without including conditions that ensure that future discharges at the higher flow level are in compliance with water quality standards. What is it then about a permit that currently does not meet water quality standards that gives it a higher status and allows EPA to approve a substantial increase in discharge flow without ensuring compliance with water quality standards?

The answer, of course, is that there is nothing about such a permit that would exempt it from meeting water quality standards when it is modified to allow substantial additional discharge flow.

(ii) EPA's collateral estoppel argument

As noted above, EPA and MassDEP argued in their joint Response A1.A that the commenters are really challenging the adequacy of the 0.1 mg/L phosphorus effluent limitation that was a condition in the underlying Permit. (As noted above, Stow rejects this misconception of its challenge.) EPA then appears to argue that, apart from the regulatory prohibition on challenging conditions that are not modified in a modified permit, the commenters have no right to challenge the 0.1 mg/L phosphorus limit (in what EPA describes as its arithmetically disguised form in the modified permit) because "[c]hallenges to these aspects of the permit were lodged in the original permit determination and were resolved as a result of litigation over the originally issued permit." EPA then notes (in fn. 26) that the EAB order dismissing petitions for review was "with prejudice."

This appears to be a kind of administrative collateral estoppel argument. The argument has no merit and should be rejected. What EPA fails to mention is that the petitions for review of the underlying Permit were withdrawn by the petitioners prior to any litigation at the EAB. While the challenge to the adequacy of the 0.1mg/L limit for phosphorus was raised by OAR (and supported in amicus briefs by Stow and the Conservation Law Foundation), OAR withdrew its petition for review voluntarily before this issue was decided by the EAB. Thus, the issue of whether the 0.1 mg/L limit ensured compliance with applicable water quality standards was not decided or "resolved," as EPA contends.

Collateral estoppel, known in modern terminology as "issue preclusion," is a common law estoppel doctrine that prevents a person from relitigating an issue. One summary is that "once a court has decided an issue of fact or law necessary to its judgment, that decision . . . preclude[s] relitigation of the issue in a suit on a different cause of action involving a party to the first case. *San Remo Hotel v. San Francisco*, 545 U.S. 323 (2005) fn.16. The rationale behind issue preclusion is the prevention of legal harassment and the prevention of abuse of legal resources.

Under this doctrine, parties may be estopped from litigating determinations on issues made in prior actions. The determination may be an issue of fact or an issue of law. Preclusion requires, first and foremost, that the issue decided was actually and necessarily decided as part of a valid final judgment.

Federal common law permits the use of collateral estoppel upon the showing of three necessary criteria:

(1) that the issue at stake be identical to the one involved in the prior litigation;

(2) that the issue has been actually litigated in the prior litigation; and

(3) that the determination of the issue in the prior litigation has been a critical and necessary part of the judgment in that earlier action.

Hicks v. Quaker Oats Co., 662 F.2d 1158, 1166 (5th Cir. 1981).

Massachusetts requires a similar set of requirements: "The doctrine of issue preclusion provides that when an issue has been 'actually litigated and determined by a valid and final judgment, and the determination is essential to the judgment, the determination is conclusive in a subsequent action between the parties whether on the same or different claim.'" *Jarosz v.*

Palmer, 436 Mass. 526, 530-531 (2002), quoting from Restatement (Second) of Judgments § 27 (1982).

The problem EPA and MassDEP have here in attempting any form of an issue preclusion argument is that the issue they claim (mistakenly) is the only condition being challenged – whether the 0.1 mg/L phosphorus effluent limitation that was a condition in the underlying Permit ensures compliance with the applicable water quality standards – was not actually litigated and determined by the EAB in the prior appeal.

Stow also points out that it was not a party to that earlier phase of the litigation.

Thus, issue preclusion (collateral estoppel) is not an argument available to EPA to prevent Stow, or any of the commenters here, from litigating this issue.

CONCLUSION

For all of the foregoing reasons, Stow requests that the Board remand the modified Permit to EPA Region 1 with instructions to either reject the request for a permit modification or rewrite it so that it will ensure compliance with applicable water quality standards and satisfy the requirement of section 301(b)(C) of the Clean Water Act and 40 CFR § 122.4(d). If the Region decides to modify the Permit to allow the requested flow increase, it should provide the public with an opportunity to comment on the proposed modifications.

After a remand, Stow respectfully suggests that the most sensible approach at this time, given that the underlying Permit expires on November 25, 2010—only 10 months from now—would be to merge discussion of the terms of any flow increase with discussions of the terms of the Phase 2 permit for the Marlborough Westerly Plant, which all parties agree must be written to ensure compliance with water quality standards. This will allow all the parties to assess how much less mass loading of phosphorus the Westerly Plant must be restricted to in a Phase 2 permit in light of the results of the recent ACOE Study finding that, with respect to achieving a

90% reduction in the sediment flux, sediment removal is no solution and dam removal won't happen at any of the Assabet's dams any time soon, if ever, and certainly not in time to be of benefit in writing Phase 2 permits later this year. Once new WLAs are assigned to the four POTWs, including the Marlborough Westerly Plant, the parties can assess whether the technology Marlborough plans to install at the Westerly Plant can not only achieve the lower concentration of phosphorus effluent discharge required by that lower mass loading at the present flow limit of 2.89 mgd, but also whether its technology can reduce the concentration of phosphorus discharges even further, and do this consistently and throughout the year, in order to accommodate any higher level of flow. It is grave uncertainty about this latter issue that is driving Stow's appeal here.[20]

TOWN OF STOW, MASSACHUSETTS

By its Attorney,

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Dated: January 11, 2010

[20] This approach of merging the flow increase analysis with Phase 2 permit drafting not only makes more sense from a policy perspective than issuing another modified permit. It also avoids a challenge that another modified permit would very likely be subject to, namely, that EPA has no authority under 40 CFR § 122.62 to issue a permit modification to allow Marlborough's requested flow increase. Stow, for one, will make that comment if any further permit modification is issued before the Phase 2 permit is issued.

LIST OF EXHIBITS

Exhibit A Town of Stow's Comments on NPDES Permit MA0100480 Draft Permit Modification (Aug. 7, 2008)

Exhibit B Letter dated April 28, 2006, from EPA Region 1 and MassDEP to the permittees of the Assabet River's four POTWs re: "Assabet River TMDL and NPDES Permitting".

CERTIFICATE OF SERVICE

I, Jonathan D. Witten, hereby certify that I caused to be served, this date, a true and accurate copy of the foregoing Petition for Review by US Mail, postage prepaid to the following names and addresses:

Curt Spalding, Regional Administrator
U.S. Environmental Protection Agency, Region 1
5 Post Office Square - Suite 100
Boston, MA 02109-3912

Glenn Haas, Director
Division of Watershed Management
Department of Environmental Protection
Commonwealth of Massachusetts
One Winter Street
Boston, MA 02108-4746

Hon. Mayor Nancy Stevens
City of Marlborough
City Hall
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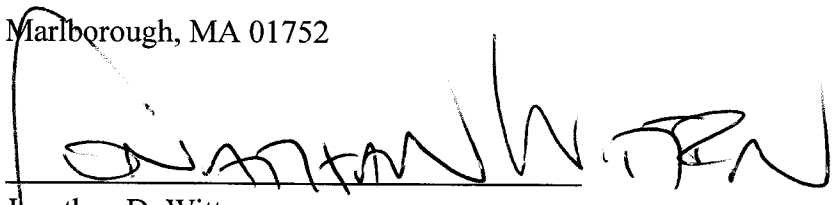

Jonathan D. Witten

DATED: January 11, 2010

Exhibit A

Town of Stow's Comments on NPDES Permit MA0100480 Draft Permit Modification (Aug. 7, 2008)

Town of Stow
BOARD OF SELECTMEN
Stow Town Building
380 Great Road
Stow, Massachusetts 01775
(978) 897-4515 selectmen@stow-ma.gov Fax (978) 897-4631

August 7, 2008

Stephen S. Perkins, Director
U. S. EPA
Office of Ecosystem Protection (CMP), Region 1
1 Congress Street, Suite 1100
Boston, MA 02114-2023

Glenn Haas, Director
Division of Watershed Management
Mass. Department of Environmental Protection
1 Winter Street
Boston, MA 02108

RE: Comments on NPDES Permit MA0100480 Draft Permit Modification

Dear Mr. Perkins and Mr. Haas,

The Assabet River flows through the Town of Stow; approximately 6 miles of the 30-mile long river are located in Stow. The river, federally designated in part as a Wild and Scenic River, is used for recreation, agriculture, and feeds downstream public water supplies, and its floodplain and wetlands provide numerous functions that contribute to the town's ecological and land use values. The Stow Board of Selectmen and the Conservation Commission (collectively the "Town") are concerned that the proposed permit modification for the Marlborough Westerly Wastewater Treatment Facility will contribute to continued degradation of the Assabet River's water quality, hinder progress and complicate current efforts to achieve the goals of the Total Maximum Daily Load Report, and do not meet the State and Federal anti-degradation policies.

Stow relys on its natural resources for a significant part of its economic base; including agriculture, agretourism, golfing, the Assabet River National Wildlife Refuge, the Assabet River Rail Trail, which abuts the river, and river-based recreation. All of these factors are influenced by the river, from aesthetics to irrigation and operations.

Background

The river is the subject of significant study due to its eutrophic conditions, especially in the slow moving reaches and impoundments associated with dams. The MA Department

of Environmental Protection published the *Assabet River Total Maximum Daily Load for Phosphorus, Report No: MA82B-01-2004-01* (TMDL) in 2004, which discusses the inability of the river to meet standards for primary and secondary contact recreation as a result of high phosphorus loading and resulting excessive accumulation of aquatic plants. The study recommends a reduction in nutrients in municipal wastewater discharges; improvement of stream flow in the tributaries by restoring a water balance in the watershed; and reduction of nutrient contributions/releases from impounded sediments (*i.e.*, phosphorus in sediment which is re-circulated into the water column). Stow is particularly affected by current conditions, as the Ben Smith Dam in Maynard results in an impoundment that affects some 4 miles of the stretch of river in Stow. The level of eutrophication within this stretch of river is very high and significantly interferes with any form of recreation.

Stow residents seeking to use and enjoy the Assabet as an aesthetic and recreational resource, and wildlife seeking to live and feed in and along the river, are prohibited from doing so by the eutrophic condition of the River in the summer and early fall. .This condition is characterized by carpets of duckweed and other nuisance plant growth atop the River's surface, malodorous in decay, as well as rooted nuisance plant growth, degrading to wildlife habitat and detrimental to (where not preclusive of) primary and secondary contact recreation. Kayaking, canoeing, and fishing are compromised during the summer and early fall - precisely those seasons when residents would most enjoy these and other recreational activities. It has been clearly established that eutrophication in the Assabet results from high phosphorus loading from the WWTFs, several of which discharge upstream from Stow.[1] For obvious reasons, the Town of Stow is powerless to halt the flow of nutrient-loaded effluent into its portion of the Assabet River. The Town relies on - *and is entitled to rely on* EPA and MADEP, in issuing discharge permits, to impose conditions that ensure compliance with state water quality standards now being violated.

The U. S Army Corps of Engineers has been studying the Assabet River and recently completed the *Assabet River Sediment and Dam Removal Study: Modeling Report*[2]. The study evaluates the feasibility of removing ninety percent of sediment phosphorus flux through a combination of dredging sediment, removing some or all of the 6 mill dams along the river, or both. The Town of Stow Conservation Commission held a very well-attended public meeting on November 5, 2007 at which the U.S. Army Corps of Engineers, New England District and its consultant, Camp Dresser & McKee (CDM), presented the initial findings of the Draft Modeling Report for the Assabet River Sediment and Dam Removal Study. The purpose of the study is to review alternative approaches to achieve a 90% reduction in phosphorus reduction in river sediment.

The two alternatives evaluated include dredging of river sediment and removal of dams along the river. As part of the presentation, the report noted that winter discharge from

[1] See Assabet River Total Maximum Daily Load for Phosphorus, Report No. MA82B-01-20040-01 (TDML), Executive Summary at 5-9.
[2] Assabet River Sediment and Dam Removal Study: Modeling Report. June 2008. Camp Dresser & McKee.

the WWTFs affects phosphorus flux the following summer, specifically, that phosphorus introduced in the winter can contribute over 50% of the summer phosphorus flux. In addition it found that a reduction in winter phosphorus loading from point sources, including the WWTFs, could reduce phosphorus sediment flux loading.

The full study is not complete, however the Modeling Report issued in June 2008 concluded that: "no alternative or combination of alternatives is projected to result in a 90 percent reduction in phosphorus flux."

"Results of this modeling study suggest that the most beneficial improvements to Assabet River water quality can be achieved through planned WWTF improvements, dam removal, and consideration of lower winter effluent limits than currently planned."

The Executive Summary summarized its findings, in part, as follows:

- "Remove Ben Smith dam and if possible, Gleasondale and Hudson/Rt 85 dams. Remove sediment behind dams as part of dam removal to prevent sediment from moving downstream subsequent to dam removal.
- Lower winter WWTP Phosphorus discharge below 1.0 mg/l
- Results suggest that dredging or sediment removal is not an effective alternative in reducing sediment flux. Dredging/sediment removal is only proposed in conjunction with dam removal to prevent the redistribution of accumulated sediment.
- It may also be beneficial to test the impacts of lower winter effluent phosphorus limits in the near term, since this study suggests this winter limits significantly impact sediment phosphorus flux rates in the following growing season."[3]

The Town of Stow notes that removal of these dams is not a simple endeavor, nor is dam removal, if approved, likely to occur relatively soon. The Town looks forward to reviewing further studies, and will participate in the review and permitting process associated with proposed dam removals.

In addition to following the progress of the ACOE study, the Stow Conservation Commission reviewed and commented on the Environmental Impact Reports prepared for the Assabet River Consortium (EOEEA #12348) and raised concerns regarding the proposed increases in discharge from the Marlborough Wastewater Treatment Facility. Our concerns expressed in those letters are renewed in this letter. One of our comments was that the permit conditions consider an amendment to Marlborough's permit conditions to reduce its winter phosphorus limits to equal its summer limits (winter: 1.0 mg, summer 0.1 mg)[4].

In December 2007 the Town Board of Selectmen request that the Town be able to participate in the Assabet River Consortium in order to follow the progress of the study

[3] Modeling Report, pages ES-1 and -2.
[4] Letter from Stow Conservation Commission to EEOEA, November 26, 2007

and the progress of the consortium communities in managing their waste water treatment facilities (WWTF)[5]. That request was authorized and Stow will be sending a representative to attend the Consortium meetings.

Concerns regarding the Draft NPDES Permit Modification of July 9, 2008

The Town is concerned that the proposed permit modification to allow the City of Marlborough to discharge an additional 1.26 mgd of effluent from the Marlborough Westerly WWTF to the Assabet River will further aggravate the existing polluted condition of the river and add to the complexities in efforts to meet state water quality standards. The proposed discharge is an increase of approximately 40% over currently permitted discharge, much of this increase being growth in the allocation to Northborough.

The DEP TMDL report states: "Based upon the modeling results current permitted flows will be allowed. However, any request to increase a discharge beyond currently permitted volumes would require supporting documentation satisfying DEP's Antidegradation Policy that no other feasible alternative exists including, but not limited to, the discharge of additional treated effluent to groundwater to help restore tributary flows." (p. 8)

As was written in the Town's Conservation Commission comments on the Draft and Final EIR[6], the discussion of alternatives to the proposed discharge needs to be thorough and accurate. In addition, given the potential that the cost for treating the proposed increased volume to the proposed summer standard of 0.07 mg/l[7], the Town questions whether some of the alternatives originally dismissed in the Draft and Final EIRs as too expensive may now be feasible and may need to be re-evaluated. Further, as this is a Phase I proposed limit, the Town is concerned that Phase II limits may be stricter and more expensive. Depending on the results of efforts to reduce Phosphorus flux (including the results of the ACOE study), Phase II limits may in fact be more stringent.

The Town is therefore concerned that the proposed increase, without an accurate and updated evaluation of alternatives, may violate the State and Federal Antidegradation Policies.

In the EOEA Secretary's Certificate (12/03/07) on the final CWMPs for the Assabet Consortium, Secretary Ian Bowles reiterated the concern regarding an evaluation of alternatives. The Certificate also stated that the City of Marlborough will be required to satisfactorily demonstrate that an increase in flow "would not cause or contribute to" a violation of water quality standards. As stated above, it is the Town's

[5] The Assabet Consortium communities include Hudson, Marlborough, Maynard, Northborough (discharges to Marlborough Westerly plant), Shrewsbury (discharges to Westborough plant), and Westborough.
[6] Town of Stow Conservation Commission letters dated June 21 and November 27, 2007
[7] Third page of Draft Statement of Basis states "In order to achieve these mass limits as the discharge flow increases, the facility must achieve ever-lower concentrations of total phosphorus, down to 0.07 mg/l to achieve the summer limits at the new design flow and 0.7 mu/l to achieve the winter limits at the new design flow."

concern that the proposed permit modification will complicate current efforts to meet water quality standards in the Assabet River.

Alternatives include water conservation, infiltration and inflow (I/I) removal, groundwater recharge, and water use alternatives. In addition, as stated in the Conservation Commission's June 21, 2007 letter on the Draft EIR, "The SCC questions the planning and projections behind the requested increases in flow and nutrient loading. Land use planning should be a part of any municipal study that plans continued and increased reliance on centralized Waste Water Treatment Plants (WWTP). We recognize that a Needs Analysis was conducted in 2001, however, in the current climate of increased sustainability and low impact development, combined with the need to maintain stream base flows, ground water recharge, and maintenance of overall watershed health, it is difficult to understand the apparent narrow approach to expansion of centralized waste water treatment. The need for the proposed increases in discharge and nutrient loading is based on projected population increases, based on 2001 zoning and land use practices."

We are aware that OAR is preparing a detailed analysis of the specific proposed conditions of the draft permit modifications. We concur with many of the comments proposed by OAR, including that regulatory highest and best practicable treatment be considered for winter phosphorus discharge in the issuance of any permit modification.

Further, as stated in the Conservation Commission's correspondence regarding the Draft and Final EIR's, operators of other WWTFs along the river are making an effort to comply with permit conditions. Given that there is a consortium to evaluate discharges and achieve compliance, a change in this permit may affect approaches by the other WWTFs.

Thank you for the opportunity to provide these comments.

Sincerely,

Stow Board of Selectmen

Thomas Ruggiero
Chair

Stow Conservation Commission

Dennis Walsh
Vice Chair

cc: City of Marlborough
Town of Northborough
Organization for the Assabet River
Sudbury Assabet and Concord Wild & Scenic River Stewardship Council

Exhibit B

Letter dated April 28, 2006, from US EPA Region 1 and MassDEP to the permittees of the Assabet River's four POTWs re: "Assabet River TMDL and NPDES Permitting"

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

APR 28 2006

Nancy Stevens
Mayor, City of Marlborough
City Hall
140 Main Street
Marlborough, Massachusetts 01752

Donald Cowles
Chairman, Westborough Wastewater Treatment Plant Board
238 Turnpike Road
Westborough, Massachusetts 01581

Paul Blazer
Executive Assistant, Town of Hudson
78 Main Street
Town Hall
Hudson, MA 01749

Walter Sokolowksi
Superintendent, Town of Maynard Department of Public Works
195 Main Street
Maynard, Massachusetts 01754

Re: Assabet River TMDL and NPDES Permitting

Dear Mayor Stevens, Mr. Cowles, Mr. Blazer and Mr. Sokolowski:

On April 12, 2006, the Environmental Appeals Board dismissed the final remaining appeal filed in connection with the National Pollutant Discharge Elimination System ("NPDES") permits issued last year to the Westborough Wastewater Treatment Plant Board, the City of Marlborough and the Towns of Hudson and Maynard for POTW discharges to the Assabet River. We applaud all of the parties for their cooperative efforts to resolve each of the permit appeals and to avoid what would likely have been contentious, extended litigation.

As your communities proceed with planning the necessary POTW upgrades to comply with NPDES permit requirements, we wish to highlight a very important consideration regarding the current growing season phosphorus effluent limit of 0.1 mg/l.

As we earlier indicated in our response to comments to the draft permits and elsewhere on the public record, EPA and DEP intend to follow the recommended implementation plan and schedule that accompanies the Assabet River Phosphorus TMDL ("TMDL"). As explained in the TMDL implementation plan, the current phosphorus limit is an interim "Phase 1" limit. Depending on whether sediment remediation can reduce sediment phosphorus contributions enough to achieve water quality standards in the Assabet River, your facility may be required in the next permitting cycle to meet a more stringent "Phase 2" limit by 2014.

Consistent with the TMDL implementation schedule, EPA and DEP will initiate development of Phase 2 permits in Spring 2008. If we determine that sediment remediation is unlikely to achieve necessary phosphorus reductions based upon the information available at that time, the agencies will establish new Phase 2 phosphorus effluent limits designed to ensure compliance with water quality standards. As set forth in the TMDL schedule, the agencies will reissue NPDES permits to the Assabet communities upon expiration of the current permits, or five years after their effective dates. Compliance with any new phosphorus effluent limits will be required no later than April 2014. As Phase 2 phosphorus limits may be lower than the limits in the current permits, we once again strongly recommend that you give serious consideration to phosphorus removal technologies compatible with achieving phosphorus effluent limits lower than 0.1 mg/l.

We look forward to working closely with each of the communities over the coming months and years to facilitate an informed, efficient POTW upgrade process and to advance our concerted effort to restore the Assabet River watershed.

Sincerely,

Ira W. Leighton
Deputy Regional Administrator
U.S. Environmental Protection Agency
1 Congress Street
Boston, Massachusetts 02114-2023

Robert W. Golledge
Commissioner
Massachusetts Department of Environmental Protection
One Winter Street
Boston, Massachusetts 02108

cc: Senator Edward M. Kennedy, US Senate
Senator John F. Kerry, US Senate
Senator James McGovern, US House of Representatives
Senator Pamela P. Resor, Massachusetts State Senate
Representative Stephen P. LeDuc, Massachusetts House of Representatives
Representative Patricia A. Walrath, Massachusetts House of Representatives
Glenn Haas, DEP
Selectman Edward P. Perry, Jr., Town of Stow Board of Selectmen
Julia Blatt, OAR
Chris Hatfield, U.S. Army Corps of Engineers