



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
ONE CONGRESS STREET SUITE 1100
BOSTON, MASSACHUSETTS 02114-2023

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ENVIR. APPEALS BOARD

BY FAX

October 31, 2006

Eurika Durr
Clerk of the Board
U.S. Environmental Protection Agency
Environmental Appeals Board
Ariel Rios Building,
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Re: City of Newburyport Wastewater Treatment Facility
NPDES Appeal No. 04-05

Dear Ms. Durr:

Enclosed please find an original and five copies of a *Notification of Issuance of Final Permit Modification and Request to Withdraw Pending City of Newburyport Petition for Review on Permit Modification in NPDES Appeal No. 04-05.*

Sincerely,

A handwritten signature in black ink, appearing to read "Tonia Bandrowicz", with a long horizontal flourish extending to the right.

Tonia Bandrowicz
Senior Enforcement Counsel

cc: Barry P. Fogel, Esq.,
Maria R. Eigerman
David McFarlane
John A. Pike, Esq.

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

_____)	
In the Matter of:)	
)	
City of Newburyport, Wastewater)	
Treatment Facility)	NPDES Appeal No. 04-05
)	
Permit Number: MA0101427)	
_____)	

**NOTIFICATION OF ISSUANCE OF FINAL PERMIT MODIFICATION
AND REQUEST TO WITHDRAW PENDING
CITY OF NEWBURYPORT PETITION FOR REVIEW**

On May 4, 2006, the City of Newburyport (the "City") and the New England Regional Office of the U.S. Environmental Protection Agency (the "Region") filed a Settlement Agreement in this matter.

Under the terms of the Settlement Agreement, the Region agreed to, among other things, modify the City's NPDES permit in certain respects and issue a public notice of the draft permit modification within 60 days of execution of the Settlement Agreement. On June 7, 2006, the Region notified the Board that it had public noticed a permit modification that was substantively in accordance with the modification attached to the Settlement Agreement and that it would apprise the Board of when the permit modification was finalized.

The public comment period on the permit modification subsequently closed. The Region received comments from several interested entities. On October 19, 2006, the Region issued a response to comments and a final permit modification that is identical to the version it public noticed on June 2, 2006. (See attached Response to Comments and Final Permit Modification.)

Under Paragraph 7 of the Settlement Agreement, the City and the Region agreed that upon the satisfaction of the conditions set forth in paragraph 9 and 10 of the Settlement Agreement, the City's Petition shall, through operation of the Settlement Document, be fully and completely withdrawn, with the City and Region each waiving all rights to administrative and judicial review of the Permit, except that, as set forth in Paragraph 12 of the Settlement Agreement, the City reserved its rights to seek review of any other modifications to the Permit, including without limitation any changes that might arise out of the permit modification process and remand proceedings, or any administrative appeal of the Region's determination regarding the permit modification. As the permit modification has been finalized in accordance with the Settlement Agreement, the Region moves, with the City's consent, to affirm the withdrawal of the City's pending Petition for Review in accordance with the remaining terms of the Settlement Agreement.

Respectfully submitted,

United States EPA/Region I



Tonia Bandrowicz
Office of Regional Counsel
US EPA Region 1 (SEL)
One Congress St. - Suite 1100
Boston, MA 02114-2023
Phone: (617) 918-1734
Fax: (617) 918-1809

Dated: October 31, 2006

In the Matter of:
City of Newburyport Wastewater Treatment Facility
NPDES Appeal No. 04-05

CERTIFICATE OF SERVICE

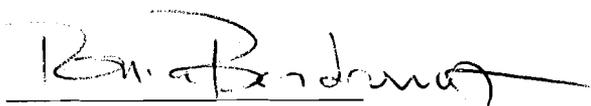
I, Tonia Bandrowicz, hereby certify that one original and five copies of the foregoing *Notification of Issuance of Final Permit Modification and Request to Withdraw Pending City of Newburyport Petition for Review* was mailed by First Class Mail on this 31st day of October, 2006 to the Environmental Appeals Board 1103B, Ariel Rios Building, 1200 Pennsylvania Avenue, NW, Washington, DC 20460, and that a copy of the foregoing was sent by First Class Mail, postage prepaid, to the following person:

Barry P. Fogel, Esq.
Keegan, Werlin & Pabian, LLP
265 Franklin Street
Boston, MA 02110-3113

Maria R. Eigerman, President
Islands Future Group, Inc.
P.O. Box 1392
Newburyport, MA 01950

David McFarlane
c/o Islands Future Group, Inc.
P.O. Box 1392
Newburyport, MA 01950

John A. Pike, Esq.
Conservation Law Foundation
62 Summer Street
Boston, MA 02110-1016



Tonia Bandrowicz
Office of Regional Counsel
US EPA Region 1 (SEL)

Dated: October 31, 2006

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

10/24/06

Brendan O'Regan, Superintendent
 City of Newburyport
 Newburyport Wastewater Treatment Facility
 157 Water Street
 Newburyport, MA 01950

Re: Public Notice
 NPDES Application No. MA0101427

Dear Mr. O'Regan:

Enclosed is your final National Pollutant Discharge Elimination System (NPDES) permit modification issued pursuant to the Clean Water Act (the "Federal Act"), as amended, and the Massachusetts Clean Waters Act (the "State Act"), 21 M.G.L. §§43-45, as amended. The Environmental Permit Regulations, at 40 C.F.R. §124.15, 48 Fed. Reg. 14271 (April 1, 1983), require this permit modification to become effective on the date specified in the permit.

Also enclosed is a copy of the Massachusetts State Water Quality Certification for your permit modification, the Agency's response to the comments received on the draft permit modification, if any, and information relative to appeals and stays of NPDES permits. Should you desire to contest any provision of the permit modification, your petition should be submitted to the Environmental Appeals Board as outlined in the enclosure and a similar request should also be filed with the Director of the Office of Watershed Management in accordance with the provisions of the Massachusetts Administrative Procedures Act, the Division's Rules for the Conduct of Adjudicatory Proceedings and the Timely Action Schedule and Fee Provisions (see enclosure).

We appreciate your cooperation throughout the development of this permit modification. Should you have any questions concerning the permit modification, feel free to contact Michele Barden at 617/918-1539.

Sincerely,

Roger Janson, Chief
 Municipal NPDES Branch

Enclosures

cc: Paul Hogan, MADEP, Division of Watershed Management
 Paul Diodati, Director, Commonwealth of Massachusetts, Division of Marine Fisheries
 Christine Tabak, Acting Executive Director, Merrimack River Watershed Council

SYMBOL	CMP	CMP					
SURNAME	Barden	PTT					
DATE	10-19-06	10/19/06					



COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ONE WINTER STREET, BOSTON, MA 02108 617-292-5500

MITT ROMNEY
Governor

KERRY HEALEY
Lieutenant Governor

ROBERT W. GOLLEDGE, Jr.
Secretary

ARLEEN O'DONNELL
Commissioner

October 17, 2006

Brian Pitt
NPDES Municipal Permits Branch
USEPA – New England
1 Congress Street, Suite 1100
Boston, MA 02114-2023

**Re: Water Quality Certification
NPDES Permit MA0101427- Permit Modification
City of Newburyport Wastewater Treatment Plant**

Dear Mr. Pitt:

Your office has requested the Massachusetts Department of Environmental Protection to issue a water quality certification pursuant to Section 401(a) of the Federal Clean Water Act ("the Act") and 40 CFR 124.53 for the above referenced NPDES permit modification. The Department has reviewed the proposed permit modification and has determined that the conditions of the permit modification will achieve compliance with sections 208(e), 301, 302, 303, 306, and 307 of the Federal Act, and with the provisions of the Massachusetts Clean Waters Act, M.G.L. c. 21, ss. 26-53, and regulations promulgated thereunder. The permit modification conditions are sufficient to comply with the antidegradation provisions of the Massachusetts Surface Water Quality Standards [314 CMR 4.04] and the policy [October 6, 1993] implementing those provisions.

The Department hereby certifies the referenced permit modification.

Sincerely,

A handwritten signature in black ink, appearing to read "Glenn Haas".

Glenn Haas, Director
Division of Watershed Management
Bureau of Resource Protection

cc: Paul Hogan
Todd Callaghan, MACZM
file

10/24/06

Modification Package sent to:

1. Brendan O'Regan
Newburyport
(Via Certified Mail)

2. Paul Hogan
MA DEP
(Via Certified Mail)

Via "regular" (non-certified) mail:

3. Paul Diodati
Marine Fisheries

4. Christine Tabak

5. David McFarlane

RESPONSE TO PUBLIC COMMENTS

From June 2, 2006 to July 1, 2006, the United States Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) solicited Public Comments on a draft NPDES permit modification. The conditions in the draft permit modification were negotiated with the City of Newburyport, an appellant of the permit issued to the City of Newburyport for the Newburyport Wastewater Treatment Facility. Upon final issuance of the draft permit modification, the City of Newburyport, has agreed to withdraw its appeal, whereupon the permit modification will go into effect.

After a review of the comments received, EPA has made a final decision to issue the permit modification authorizing the discharge. The following response to comments describes the changes that have been made to this permit modification from the draft, the reasons for these changes and briefly describes and responds to the comments on the draft permit during the public comment period. A copy of the final permit may be obtained by writing or calling Michele Barden, United States Environmental Protection Agency, 1 Congress Street, Suite 1100 (CMP), Boston, Massachusetts 02114-2023; Telephone (617) 918-1539.

A) Comments submitted by Christine Tabak, Acting Executive Director, Merrimack River Watershed Council, Inc., dated June 29, 2006.

Comment #1: *We fully support the installation of the continuous TRC analyzers at pre-dechlorination and post-dechlorination of the effluent as well as a low TRC alarm on the pre-dechlorination TRC analyzer. Though these measures are welcome, we still feel that grab samples give the most reliable analytical data. The frequency in the existing permit of four (4) grab sample daily, two(2) prior to dechlorination and two (2) post-chlorination, will serve better for QA/QC purposes as they will give more representative readings than the proposed modification of two (2) grab sample daily, one (1) prior to dechlorination and one (1) post-chlorination. These requirements should be maintained for one year and depending on the results obtained; these results can be used as the basis for the future frequency modification.*

Response: Both the Statement of Basis and the Permit Modification explain that permit compliance will be based on the results of the grab samples (See Permit Modification, Part I.A.1 Total Residual Chlorine and footnotes 7 and 8).

EPA believes the reduction in sampling frequency for TRC from four samples (2 pre-dechlorination and 2 post-dechlorination) to two samples (1 pre-dechlorination and 1 post-dechlorination) is appropriate given the improvements at the facility. The four samples per day requirement was proposed several years ago when there were questions regarding quality of TRC data being reported by the permittee in DMRs. However, since that time, the permittee has addressed EPA concerns and has proceeded to install the equipment and establish the operating procedures necessary to meet the enhanced requirements of the appealed permit.

It should also be noted that the analytical results from the daily grab samples will be compared with data from the continuous analyzers. The permittee is required to submit weekly recording charts from the continuous analyzers with their monthly DMRs. In the

period since the existing permit (signed May 3, 2004) was issued, the permittee has met the limits for TRC with the exception one month, even though the limits were appealed; and therefore, are not currently in effect.

Comment # 2: *It is apparent that the existing influent and effluent flow meters do not give the correct flow measurements. The importance of correct flow measurement cannot be emphasized and the requirement in the existing permit of monthly calibration of flow meters and an annual volumetric calibration should be maintained until such a time that consistent readings are obtained and/or a more reliable flow meters are installed. Modifying this requirement now without any justifiable cause such as the flow meters giving correct flow readings does not seem appropriate at this time.*

Response: In 2002, both the influent and effluent meters were tested and calibrated. A meter calibration and a volumetric calibration were conducted on the influent meter. The test showed that the influent meter was accurate to within 1%. The effluent meter, however, showed a higher error of +13% when compared with the influent meter. Since that time, the influent meter has been used for NPDES reporting.

The permittee has continued to make additional efforts to gain a better understanding of the metering situation and assure that the influent meter is properly calibrated. It should be noted that the issue of meter discrepancy is unusual, since, it is not typical for a facility to have both influent and effluent meters. The permittee has conducted three additional volumetric calibrations on the influent meter since 2004. The 2004 test was within +0.06%. The 2005 test was within $\pm 2.03\%$. The preliminary results of the 2006 test showed the meter was within $\pm 2.69\%$ of the actual flow. These errors are minimal when compared with industry wide expectations. It should also be noted that this permit requirement was appealed by the City, and therefore, has not currently been in effect.

The permit modification still requires the permittee to conduct an annual volumetric calibration and that the permit does not permit any further reduction in frequency unless new meters are installed. The permit modification does reduce the frequency of equipment calibration from monthly to quarterly. EPA, however, believes that this requirement continues to be very conservative. It should be noted that this requirement has not been made of any other POTW in Massachusetts.

Comment #3: *There is always the potential of a disinfection failure or TRC concentrations exceeding the permit limit. This is one of the main reasons why continuous TRC analyzers and daily grab samples are necessary. In case of this happening, it would be important to notify the Division of Marine Fisheries as these events will have adverse effects on the marine life. An immediate warning system developed in conjunction with Massachusetts Division of Marine Fisheries as required in the existing permit is important.*

Response: EPA acknowledges the comment.

B) Comments submitted by Paul Diodati, Director, Commonwealth of Massachusetts, Division of Marine Fisheries, dated June 27, 2006.

Comment #1: *The Division of Marine Fisheries (MarineFisheries) has reviewed the draft modification to the discharge permit that allows the City of Newburyport to discharge secondary treated sewage effluent to the receiving waters of the Merrimack River (MA-84A-06) which are classified SB by the Massachusetts Department of Environmental Protection. MarineFisheries believes the effluent limitation in the permit modification, including enhanced monitoring of the chlorination process for the effluent, will serve to better protect anadromous and marine fishery resources in the designated receiving waters. We acknowledge the continuing cooperation of the permittee which supports our efforts to manage shellfish resources in the receiving waters.*

Response: EPA acknowledges the comment.

Other Issues: As previously noted, the existing permit (issued in 2004) was appealed to the Environmental Appeals Board (EAB) by the City of Newburyport and the Island Futures Group (IFG), an environmental advocacy group "dedicated to the restoration and protection of the Merrimack River Estuary and its coastal environs." One of the issues argued by IFG was that the Region's effluent limitation for total residual chlorine was not consistent with national criteria. This comment was not made by IFG during the comment period but by another commenter, who is also a member of IFG, David McFarlane. The EAB concluded that the Region did not clearly and appropriately respond to Mr. McFarlane's comment. The EAB remanded the permit on this issue so that the Region could respond to the permit "in a fashion that is sufficiently clear and adequately encompasses the issues raised." The Region's response to Mr. McFarlane's comment is found below:

Comment submitted by David McFarlane, dated July 27, 2003.

Concerns remain about the actual levels of TRC being discharged to the estuary as estimates are based on uncertainty in the effluent metering, past repetitive DMR reports containing the maximum level in the existing permit of 0.3 mg/l, uncertainty in the diffuser condition and dilution, the 30 percent increase in a maximum value and the actual acute and chronic criteria specified in the draft permit.

Notwithstanding the dilution factor, measurement and flow uncertainties, the TRC acute criteria are listed as maximum daily in the draft permit and the chronic criteria is listed as a monthly average. EPA gold books list the chronic criteria level used as a 1-hour average not to be exceeded more than once every three years on average, and the chronic criteria level used as a four day average not to be exceeded more than once every three years on average. These gold book levels seem more stringent than those included in the draft permit primarily due to the 1 hour and four day average as opposed to a maximum daily and monthly average. It is unclear how, the Gold Book standards for TRC will be calculated and reported if they are the appropriate criteria.

Questions: Are TRC values listed appropriately in the draft permit as average monthly values and maximum daily values? How does this relate to the Gold Book criteria? How will these levels be calculated and reported and how will they be calculated and reported if they are as defined in the EPA gold book for marine waters?

Response:

It is true that the Gold Book guidance specifies the criteria as 4-day and 1-hour averages, they are ambient water quality criteria and not necessarily adopted directly as limits. As stated in the Technical Support Document for Water Quality-based Toxics Control ("TSD") EPA/505/2-90-001, March 1991(Ex. 32, A.R. V.2), "EPA's water quality criteria are not threshold values above which definite measurable environmental impacts are expected. Rather, the criteria embody conservative assumptions such that small excursions above the criteria should not result in measurable environmental impacts upon the biota." *See Id.* at p. 2, Section 1.21.

Section 5.2.3 of the TSD (page 96) notes that the NPDES regulations at 40 CFR 122.45(d) require that all permit limits must be expressed, unless impracticable, as both average monthly and maximum daily values for all discharges other than POTWs and as average weekly and average monthly limits for POTWs. The TSD goes on to state that "EPA believes that a maximum daily permit limit can be directly used to express an effluent limit for all toxic pollutants or pollutant parameters except chronic whole effluent toxicity", and further states that "...in lieu of an average weekly limit for POTWs, EPA recommends establishing a maximum daily limit for toxic pollutant and pollutant parameters in water quality permitting." *See Id.* at p. 96 (Ex. 32, A.R. V.2). The TSD also states that a "maximum daily limit, which is measured by a grab sample, would be toxicologically protective of potential acute toxicity impacts" *See Id.* at p. 96 (Ex. 32, A.R. V.2). The TSD therefore recommends the use of maximum daily limits in lieu of weekly average limits for POTWs and acknowledges the regulatory requirements for monthly average limits. For that reason, the Region developed average monthly and maximum daily TRC effluent limitations. EPA applied the procedures specified in the TSD to establish effluent limitation that "derive from and comply with" the applicable water quality standards pursuant to 40 C.F.R. 122.44(d)(1)(vii)(A).

In using the criteria to calculate limits, the TSD identifies a number of considerations which should be made and outlines a number of different methods for calculating limits. Among these considerations are an appropriately conservative dilution factor, considerations of background quantities of the pollutant, and variability of the pollutant discharge.

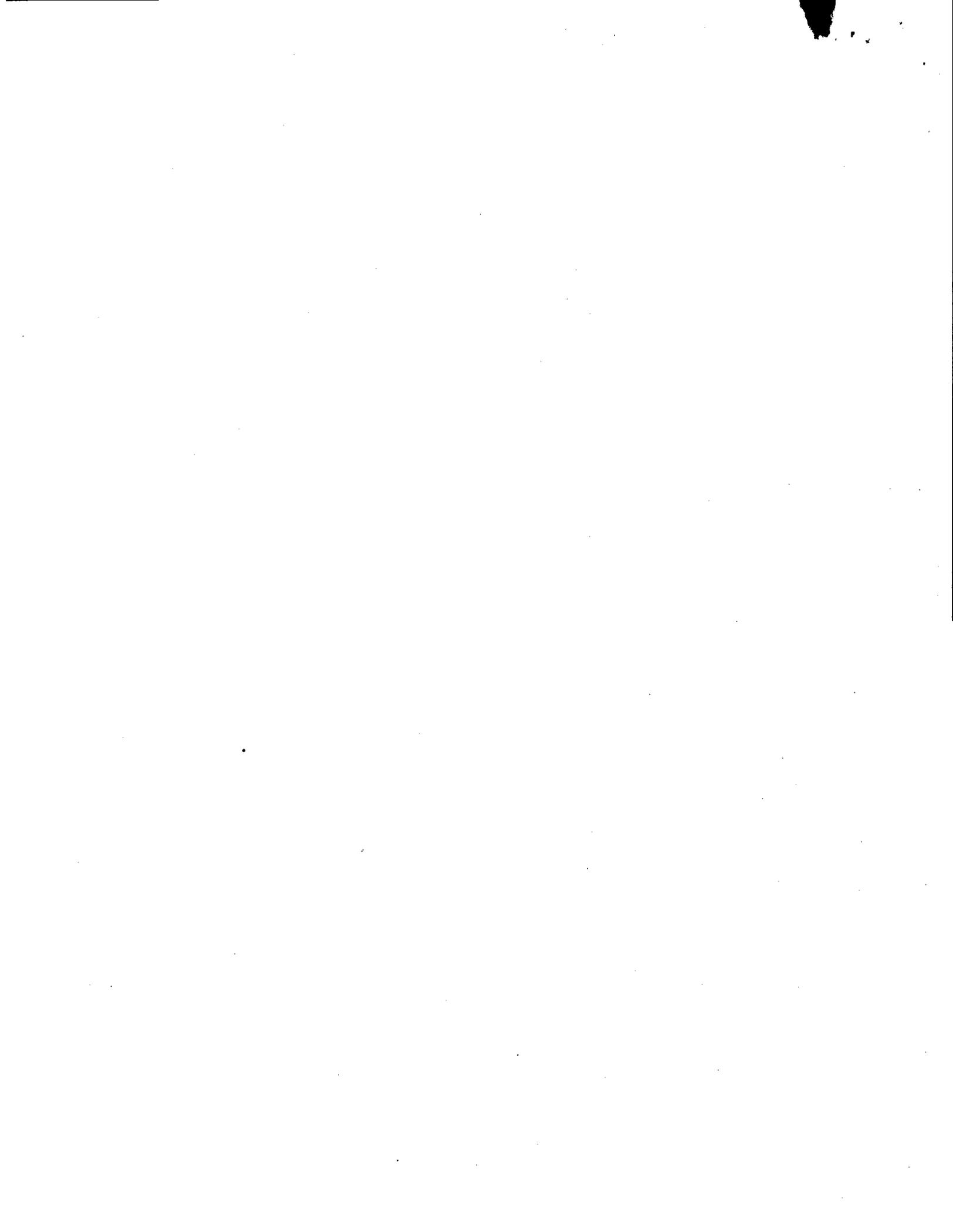
In calculating the TRC effluent limits, EPA applied the criteria for a discharge to salt water as set forth in the TSD, that is, a criteria maximum concentration (CMC) of 13 ug/l and a criteria continuous concentration (CCC) of 7.5 ug/l, and used the appropriate steady state modeling guidance in the TSD. *See TSD*, p. 97-98 (Ex. 32, A.R. V.2); Fact Sheet, p. 8 (Ex. 7, A.R. I.9). Following the TSD, EPA modeled critical low flow dilution at low slack water at spring tide. *See TSD*, p. 74 (Ex. 32, A.R. V.2); Fact Sheet, p. 8 (Ex. 7, A.R. I.9). The Region's calculations used a dilution of 30:1 at the edge of the ZID.

This dilution is lower than the 39:1 dilution used in the 1998 NPDES permit. Therefore water quality-based dilution-based permit limits, including TRC, are more stringent than those in the 1998 NPDES permit. The dilution of 30:1 is consistent with the hydrographic studies of May 20 and June 11, 1997 at mouth of the Merrimack River

published by the Department of Health and Human Services. See Draft 1997 Hydrographic Study (Ex. 34, A.R. V.9).

Regarding background concentration, the Region notes that according to the Massachusetts Department of Environmental Protection's Merrimack River Basin: 1999 Water Quality Assessment Report (Ex. 24, A.R. V.6) instream TRC concentration in this segment (MA84A-06) were all below the quantification level (MDL) of 0.05 mg/l, meaning that TRC was not detected either from other sources or from the Newburyport WWTF.

In sum, the Region was proper in establishing appropriate water quality-based effluent limits for TRC in the permit that "derive from and comply with" the applicable water quality standards pursuant to 40 C.F.R. 122.44(d)(1)(vii)(A) and expressing these limits as both an average monthly limit and a maximum daily limit pursuant to 40 C.F.R. 122.45(d). In establishing the monthly average and maximum daily effluent limits, the Region properly applied appropriately protective assumptions regarding dilution in establishing those limits.



**MODIFICATION OF AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

In compliance with the provisions of the Federal Clean Water Act as amended, (33 U.S.C. §§1251 *et seq.*; the "CWA"), and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, §§26-53),

City of Newburyport

is authorized to discharge from a facility located at
**Newburyport Wastewater Treatment Plant
157 Water Street
Newburyport, MA 01950**

to receiving waters named
Merrimack River (Merrimack River Watershed - 84)

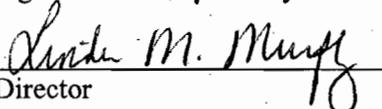
in accordance with effluent limitations monitoring requirements and other conditions set forth in the permit issued on May 3, 2004, except as set forth herein in italics and summarized as follows:

- Page 2** Removed total residual chlorine average monthly and average weekly mass limits.
Page 2 Removed four (4) month compliance schedule for meeting the new, more stringent fecal coliform bacteria limits. The more stringent fecal coliform bacteria limits will go into effect on the effective date of this modification.
Page 2 Changed the test method for fecal coliform bacteria from Multiple Tube Fermentation (MPN) to Membrane Filtration (CFU), set a limit of 400 cfu/100 ml to not be exceeded at any time and added a requirement that no more than 10% of samples exceed 260 cfu/100 ml (also see footnote 9 on page 5).
Page 2 Added dissolved oxygen monitoring requirement.
Page 3 Footnote 3 - Reduced the frequency of flow meter calibration.
Page 4 Footnote 8 - Modified the frequency and monitoring requirements for total residual chlorine.
Page 4 Eliminated Footnote 9 regarding four (4) month schedule for meeting the new, more stringent fecal coliform bacteria limits. Subsequent footnotes are re-numbered.
Page 5 Added Footnote 10 - Described the monitoring requirement for dissolved oxygen. Subsequent footnotes are re-numbered.
Page 8 Section C.5. - Clarified the effective date for the outfall inspection and report.
Page 9 Section C.6 - Clarified the effective date and the requirements for an immediate warning system with the Massachusetts Division of Marine Fisheries.

This modification shall become effective 60 days from the date of signature.

This permit modification and the authorization to discharge expires five years from the effective date of the permit which was March 13, 2006.

Signed this 19 day of October, 2006


Director
Office of Ecosystem Protection
Environmental Protection Agency
Boston, MA


Director
Division of Watershed Management
Department Environmental Protection
Commonwealth of Massachusetts
Boston, MA

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge from outfall serial number 001, treated effluent to Merrimack River. Such discharges shall be limited and monitored as specified below.		EFFLUENT LIMITS					MONITORING REQUIREMENTS		
PARAMETER	AVERAGE MONTHLY	AVERAGE WEEKLY	AVERAGE MONTHLY	AVERAGE WEEKLY	MAXIMUM DAILY	MEASUREMENT FREQUENCY	SAMPLE TYPE		
FLOW ³	***	***	3.4 MGD ²	***	REPORT MGD	CONTINUOUS	RECORDER		
BOD ₅ ⁵	851 lbs/Day 387 kgs/Day	1276 lbs/Day 580 kgs/Day	30 mg/l	45 mg/l	REPORT	3/WEEK	24-HOUR COMPOSITE ⁶		
TSS ⁵	851 lbs/Day 387 kgs/Day	1276 lbs/Day 580 kgs/Day	30 mg/l	45 mg/l	REPORT	3/WEEK	24-HOUR COMPOSITE ⁶		
pH ¹	6.5 - 8.5 SU SEE PERMIT PAGE 5 PARAGRAPH I.A.1.b.								
TOTAL RESIDUAL CHLORINE ^{1,7,8}	***	***	0.23 mg/l	***	0.39 mg/l	1/DAY	GRAB		
FECAL COLIFORM BACTERIA ^{1,8,9}	***	***	88 CFU/100 ml	***	400 CFU/100 ml	1/DAY	GRAB		
AMMONIA NITROGEN	***	***	***	***	REPORT	1/MONTH	24-HOUR COMPOSITE ⁶		
TOTAL KJELDAHL NITROGEN	***	***	***	***	REPORT	1/MONTH	24-HOUR COMPOSITE ⁶		
NITRITE & NITRATE NITROGEN	***	***	***	***	REPORT	1/MONTH	24-HOUR COMPOSITE ⁶		
DISSOLVED OXYGEN ¹⁰	***	***	REPORT	REPORT	REPORT (minimum daily)	5/WEEK	GRAB		
WHOLE EFFLUENT TOXICITY ^{11,12}	Acute LC ₅₀ ≥ 100%								
						4/YEAR	24-HOUR COMPOSITE ⁶		

Footnotes:

1. Required for State Certification.
2. For flow, report maximum and minimum daily rates and total flow for each operating date. This is an annual average, which shall be reported as a rolling average. The first value will be calculated using the monthly average flow for the first full month ending after the effective date of the permit and the eleven previous monthly average flows. Each subsequent month's DMR will report the annual average flow that is calculated from that month and the previous 11 months.
3. *The permittee must develop a plan for conducting calibration of the influent and effluent flow meters to assure representative flows are reported. During the first year of the permit, the permittee must conduct quarterly (4/year) instrument calibrations and conduct an annual (1/year) volumetric calibration test.*

After one year of performing calibrations according to the above schedule, the permittee may request a reduction of calibration frequency to not less than semi-annual (2/year) instrument calibration and not less than annual volumetric calibration. Any requested reduction must be submitted to EPA and MassDEP in writing and must demonstrate that the previous calibrations support such a reduction. Any reduction in calibration frequency must be approved by EPA in a certified letter to the City before the reduction becomes effective.

After two years of performing calibrations according to the required schedule, the permittee may request a reduction of calibration frequency to not less than annual instrument and volumetric calibration. Any requested reduction must be submitted to EPA and MassDEP in writing and must demonstrate that the previous calibrations support such a reduction. Any reduction in calibration frequency must be approved by EPA in a certified letter to the City before the reduction becomes effective.

A copy of the calibration plan must be submitted to EPA and MassDEP within 60 days of the effective date of the permit. The plan methodology shall be followed within 30 days of submittal, if there is no comment from EPA or MassDEP. If comments are received from either EPA or MassDEP, the plan shall become effective within 30 days of approval by EPA and MassDEP. Annually, by July 1 of each year, the permittee shall submit a report documenting the equipment calibrations and the annual volumetric calibration of the influent and effluent meters. All reported flows must be certified as consistent with the Part II - General Conditions attached to the permit. This requirement will be reconsidered should the facility install new flow meters.

4. Samples taken in compliance with monitoring requirements specified in this permit shall be taken at a representative point prior to mixing with the receiving water. Any change in sampling location must be reviewed and approved in writing by EPA and MassDEP. All samples shall be tested using analytical methods found in 40 CFR § 136, or alternative methods approved by EPA in accordance with the procedures in 40 CFR § 136. All samples shall be 24-hour composites unless specified as a grab sample in 40 CFR § 136.
5. Sampling required for influent and effluent.
6. A 24-hour composite sample will consist of at least twenty-four (24) grab samples taken during

one working day.

7. The minimum level (ML) for total residual chlorine is defined as 20 ug/l. This value is the minimum level for chlorine using EPA approved methods found in the most currently approved version of Standard Methods for the Examination of Water and Wastewater, Method 4500 CL-E and G or USEPA Manual of Methods of Analysis of Water and Wastes, Method 330.5. One of these methods must be used to determine total residual chlorine. For effluent limitations less than 20 ug/l, compliance/non-compliance will be determined based on the ML. Sample results of 20 ug/l or less shall be reported as zero on the discharge monitoring report.
8. *Total Residual Chlorine (TRC) shall be monitored continuously both before and after dechlorination of the effluent, however, the permittee shall continue to report the results of grab samples on its DMRs for compliance determination. The permittee must collect two (2) TRC grab samples daily, one (1) before dechlorination and one (1) after dechlorination before mixing with other waters. The TRC samples must be collected concurrent with the daily Fecal Coliform Bacteria sample. Only the TRC sample taken after dechlorination will be used to determine compliance with the effluent limit. The TRC sample taken before dechlorination is a 'report only' requirement.*

Results of the grab samples shall be compared with data from the continuous analyzers. The date and time each grab sample is taken shall also be recorded. The permittee shall also submit four (4) continuous recording charts or their equivalent, one chart per week showing weekly data from the post-dechlorination continuous chlorine analyzer. All of this required information shall be attached to the monthly Discharge Monitoring Reports (DMRs).

The permittee shall install a low TRC level alarm on the pre-dechlorination TRC analyzer. The alarm shall be set at a level that ensures an adequate kill of fecal coliform bacteria. The alarm will be connected to the Wastewater Treatment Facility (WWTF) alarm pager system. Once notified of low TRC levels, the WWTF staff shall visit the plant to investigate the cause of the alarm. All alarms must be recorded in the operator's log book including the time of alarm, time of system investigation, duration and magnitude of the event, the cause for the alarm and how the event was resolved.

If the alarm-triggering event resulted in the discharge of un-disinfected effluent, the permittee must immediately sample the effluent for TRC and fecal coliform bacteria. The permittee must also notify the Massachusetts Division of Marine Fisheries (MADMF) within 4 hours (See Section C.6, Page 9 of 13 for description of the related immediate warning system to be developed with MA DMF).

After one year of reporting the results of its continuous chlorine monitoring, the permittee may request reduction or elimination of the continuous chlorine reporting requirements. Any requested reduction must be submitted to EPA and MassDEP in writing and must demonstrate that the previously reported data support such a reduction. Any reduction in reporting frequency must be approved by EPA in a certified letter to the City before the reduction becomes effective. The City may only request a reduction or elimination of the continuous chlorine monitoring reporting frequency; reductions of monitoring frequency will not be allowed. If a reporting frequency reduction is allowed, the permittee must maintain the continuous chlorine monitoring records on site.

The permittee shall install the second post-dechlorination continuous chlorine analyzer and chart recorder, and the low-level alarm on the pre-dechlorination continuous chlorine analyzer within four (4) months after the effective date of this modification.

9. *A monthly geometric mean limit of 88 cfu per 100 ml and a maximum daily limit of 400 cfu per 100 ml shall apply. No more than 10% of samples shall exceed 260 cfu per 100 ml. Monitoring of this parameter shall be conducted concurrently with the TRC sampling.*
10. *Dissolved oxygen of the effluent shall be monitored immediately following the effluent weir, just prior to the outfall pipe. The monitoring frequency is five days per week.*

If, after one year of monitoring, the data clearly establishes that the effluent DO is greater than 5.0 mg/l, thereby demonstrating that there is no reasonable potential for the discharge to cause a violation of the water quality standard for DO, the permittee may submit a written request to EPA seeking a reduction in frequency or elimination of the monitoring requirement. The permittee is required to continue monitoring as required in the permit until the permittee is notified by certified mail from the EPA that the requirement has been reduced in frequency or eliminated.

11. The permittee shall perform modified acute toxicity tests four times per year. The tests must be performed in accordance with test procedures and protocols specified in **Attachment A** of this permit.

Test Dates Second Week in:	Submit Results By:	Test Species	Acute Limit LC ₅₀
February May August November	March 31 st June 30 th September 30 th December 31 st	Mysid Shrimp Inland Silverside	≥ 100%

After submitting four consecutive sets of WET test results, all of which demonstrate compliance with the WET permit limits, the permittee may request a reduction in the frequency of required WET testing. The permittee is required to continue testing at the frequency specified in the permit until notice is received by certified mail from the EPA that the WET testing requirement has been changed.

12. The LC50 is the concentration of effluent which causes mortality to 50% if the test organisms. Therefore a 100% limit means that a sample of 100% effluent (no dilution) shall cause no more than a 50% mortality rate.

Part I.A.1.

- a. The discharge shall not cause a violation of the water quality standards of the receiving waters.
- b. The pH of the effluent shall not be less than 6.5 nor greater than 8.5 at any time and not more than 0.2 units outside the normally occurring range, unless these values are exceeded due to natural causes.

- c. The discharge shall not cause objectionable discoloration of the receiving waters.
- d. The effluent shall contain neither a visible oil sheen, foam, nor floating solids at any time.
- e. The permittee's treatment facility shall maintain a minimum of 85 percent removal of both total suspended solids and biochemical oxygen demand. The percent removal shall be based on monthly average values.
- f. When the effluent discharged for a period of 90 consecutive days exceeds 80 percent of the designed flow, the permittee shall submit to the permitting authorities a projection of loadings up to the time when the design capacity of the treatment facility will be reached, and a program for maintaining satisfactory treatment levels consistent with approved water quality management plans.
- g. The permittee shall minimize the use of chlorine while maintaining adequate bacterial control.
- h. The results of sampling for any parameter above its required frequency must also be reported.

2. POTWs must provide adequate notice to the Director of the following:

- a. Any new introduction of pollutants into that POTW from an indirect discharger in a primary industry category discharging process water; and
- b. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
- c. For purposes of this paragraph, adequate notice shall include information on:
 - (1) the quantity and quality of effluent introduced into the POTW; and
 - (2) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

3. Prohibitions Concerning Interference and Pass-Through:

- a. Pollutants introduced into POTW's by a non-domestic source (user) shall not pass through the POTW or interfere with the operation or performance of the works.
- b. If, within 30 days after notice of an interference or pass through violation has been sent by EPA to the POTW, and to persons or groups who have requested such notice, the POTW fails to commence appropriate enforcement action to correct the violation, EPA may take appropriate enforcement action.

4. Toxics Control

- a. The permittee shall not discharge any pollutant or combination of pollutants in toxic amounts.
- b. Any toxic components of the effluent shall not result in any demonstrable harm to aquatic life or violate any state or federal water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be revised or amended in accordance with such standards.

5. Numerical Effluent Limitations for Toxicants

- a. EPA or MassDEP may use the results of the toxicity tests and chemical analyses conducted pursuant to this permit, as well as national water quality criteria developed pursuant to Section 304(a)(1) of the Clean Water Act (CWA), state water quality criteria, and any other appropriate information or data, to develop numerical effluent limitations for any pollutants, including but not limited to those pollutants listed in Appendix D of 40 CFR Part 122.

B. UNAUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with the terms and conditions of this permit and only from the outfall listed in Part 1.A.1 of this permit. Discharges of wastewater from any other point sources, including sanitary sewer overflows (SSOs) are not authorized by this permit and shall be reported in accordance with Section D.1.e.(1) of the General Requirements of this permit (Twenty-four hour reporting).

C. OPERATION AND MAINTENANCE OF THE SEWER SYSTEM

Operation and maintenance of the sewer system shall be in compliance with the General Requirements of Part II and the following terms and conditions:

1. Maintenance Staff

The permittee shall provide an adequate staff to carry out the operation, maintenance, repair, and testing functions required to ensure compliance with the terms and conditions of this permit.

2. Preventative Maintenance Program

The permittee shall maintain an ongoing preventative maintenance program to prevent overflows and bypasses caused by malfunctions or failures of the sewer system infrastructure. The program shall include an inspection program designed to identify all potential and actual unauthorized discharges.

3. Infiltration/Inflow Control Plan:

The permittee shall develop and implement a plan to control infiltration and inflow (I/I) to the separate sewer system. The plan shall be submitted to EPA and MassDEP **within six (6)**

months of the effective date of this permit (see page 1 of this permit for the effective date) and shall describe the permittee's program for preventing infiltration/inflow related effluent limit violations, and all unauthorized discharges of wastewater, including overflows and by-passes due to excessive infiltration/inflow.

The plan shall include:

- An ongoing program to identify and remove sources of infiltration and inflow. The program shall include the necessary funding level and the source(s) of funding.
- An inflow identification and control program that focuses on the disconnection and redirection of illegal sump pumps and roof down spouts. Priority should be given to removal of public and private inflow sources that are upstream from, and potentially contribute to, known areas of sewer system backups and/or overflows.
- Identification and prioritization of areas that will provide increased aquifer recharge as the result of reduction/elimination of infiltration and inflow to the system.
- An educational public outreach program for all aspects of I/I control, particularly private inflow.

Reporting Requirements:

A summary report of all actions taken to minimize I/I during the previous calendar year shall be submitted to EPA and the MassDEP annually, **by the anniversary date of the effective date of this permit**. The summary report shall, at a minimum, include:

- A map and a description of inspection and maintenance activities conducted and corrective actions taken during the previous year.
- Expenditures for any infiltration/inflow related maintenance activities and corrective actions taken during the previous year.
- A map with areas identified for I/I-related investigation/action in the coming year.
- A calculation of the annual average I/I, the maximum month I/I for the reporting year.
- A report of any infiltration/inflow related corrective actions taken as a result of unauthorized discharges reported pursuant to 314 CMR 3.19(20) and reported pursuant to the Unauthorized Discharges section of this permit.

4. Alternate Power Source

In order to maintain compliance with the terms and conditions of this permit, the permittee shall continue to provide an alternative power source with which to sufficiently operate its treatment works (as defined at 40 CFR §122.2).

5. Outfall Inspection and Report

Within eighteen (18) months of the effective date of the permit (*the uncontested elements of the permit became effective on March 11, 2006, 30 days after the permittee was notified by letter of the Uncontested and Severable Conditions, dated February 9, 2006*), the permittee shall conduct an inspection of the diffuser. The inspection is necessary to achieve several objectives: confirm the diffuser was installed as designed, gather important details of the diffuser design, including the diameter of jets in the orifice plate, and evaluate the current condition of the diffuser.

The inspection report will detail the information gathered during the inspection including rectifying the installation details and conditions with the design plans. The report shall also address the current condition of the outfall and prioritize maintenance activities so the design dilution can be achieved.

6. Immediate Warning System

Within twelve (12) months of the effective date of the permit modification, the permittee shall submit a report to EPA and MassDEP detailing the design and operation of an immediate warning system developed with input from MADMF.

At a minimum, the immediate warning system shall incorporate all of the total residual chlorine monitoring and alarm systems required in footnote 8, and shall include procedures for immediate (within 4 hours) notification of MADMF if un-disinfected effluent is discharged from the facility. The City shall work cooperatively with MADMF to develop and implement the system.

D. SLUDGE CONDITIONS

1. The permittee shall comply with all existing federal and state laws and regulations that apply to sewage sludge use and disposal practices and with the CWA Section 405(d) technical standards.
2. The permittee shall comply with the more stringent of either the state or federal (40 CFR part 503), requirements.
3. The requirements and technical standards of 40 CFR part 503 apply to facilities which perform one or more of the following use or disposal practices:
 - a. Land application - the use of sewage sludge to condition or fertilize the soil
 - b. Surface disposal - the placement of sewage sludge in a sludge only landfill
 - c. Sewage sludge incineration in a sludge only incinerator
4. The 40 CFR part 503 conditions do not apply to facilities which place sludge within a municipal solid waste landfill. These conditions also do not apply to facilities which do not dispose of sewage sludge during the life of the permit but rather treat the sludge (e.g. lagoons-reed beds), or are otherwise excluded under 40 CFR 503.6.
5. The permittee shall use and comply with the attached compliance guidance document to determine appropriate conditions. Appropriate conditions contain the following elements:

- General requirements
- Pollutant limitations
- Operational Standards (pathogen reduction requirements and vector attraction reduction requirements)
- Management practices
- Record keeping
- Monitoring
- Reporting

Depending upon the quality of material produced by a facility, all conditions may not apply to the facility.

6. The permittee shall monitor the pollutant concentrations, pathogen reduction and vector attraction reduction at the following frequency. This frequency is based upon the volume of sewage sludge generated at the facility in dry metric tons per year:

less than 290	1/ year
290 to less than 1500	1 /quarter
1500 to less than 15000	6 /year
15000 +	1 /month

7. The permittee shall sample the sewage sludge using the procedures detailed in 40 CFR 503.8.
8. The permittee shall submit an annual report containing the information specified in the guidance by **February 19**. Reports shall be submitted to the address contained in the reporting section of the permit. Sludge monitoring is not required by the permittee when the permittee is not responsible for the ultimate sludge disposal. The permittee must be assured that any third party contractor is in compliance with appropriate regulatory requirements. In such case, the permittee is required only to submit an annual report by **February 19** containing the following information:
- Name and address of contractor responsible for sludge disposal
 - Quantity of sludge in dry metric tons removed from the facility by the sludge contractor

E. INDUSTRIAL PRETREATMENT PROGRAM

1. Pollutants introduced into POTW's by a non-domestic source (user) shall not pass through the POTW or interfere with the operation or performance of the works.
2. The permittee shall develop and enforce specific effluent limits (local limits) for Industrial User(s), and all other users, as appropriate, which together with appropriate changes in the POTW Treatment Plant's Facilities or operation, are necessary to ensure continued compliance with the POTW's NPDES permit or sludge use or disposal practices. Specific local limits shall not be developed and enforced without individual notice to persons or groups who have requested such notice and an opportunity to respond.

Within 90 days of the effective date of this permit, the permittee shall prepare and submit a written technical evaluation to the EPA analyzing the need to revise local limits. As part of this evaluation, the permittee shall assess how the POTW performs with respect to influent and

effluent of pollutants, water quality concerns, sludge quality, sludge processing concerns/inhibition, biomonitoring results, activated sludge inhibition, worker health and safety and collection system concerns. In order to assist with this evaluation, the permittee shall also complete the attached form (Attachment C) with the technical evaluation to assist in determining whether existing local limits need to be revised. Justifications and conclusions should be based on actual plant data if available and should be included in the report. EPA has received a letter dated 2/5/03 reviewing current local limits, however, the completion of Attachment C will further assist with this re-evaluation. Should the evaluation reveal the need to revise local limits, the permittee shall complete the revisions within 120 days of notification by EPA and submit the revisions to EPA for approval. The Permittee shall carry out the local limits revisions in accordance with EPA Guidance Manual for the Development and Implementation of Local Discharge Limitations Under the Pretreatment Program (December, 1987).

3. The permittee shall implement the Industrial Pretreatment Program in accordance with the legal authorities, policies, procedures, and financial provisions described in the permittee's approved Pretreatment Program, and the General Pretreatment Regulations, 40 CFR 403. At a minimum, the permittee must perform the following duties to properly implement the Industrial Pretreatment Program (IPP):
 - a. Carry out inspection, surveillance, and monitoring procedures which will determine, independent of information supplied by the industrial user, whether the industrial user is in compliance with the Pretreatment Standards. At a minimum, all significant industrial users shall be sampled and inspected at the frequency established in the approved IPP but in no case less than once per year and maintain adequate records.
 - b. Issue or renew all necessary industrial user control mechanisms within 90 days of their expiration date or within 180 days after the industry has been determined to be a significant industrial user.
 - c. Obtain appropriate remedies for noncompliance by any industrial user with any pretreatment standard and/or requirement.
 - d. Maintain an adequate revenue structure for continued implementation of the Pretreatment Program.
4. The permittee shall provide the EPA and MassDEP with an annual report describing the permittee's pretreatment program activities for the twelve (12) month period ending 60 days prior to the due date in accordance with 403.12(i). The annual report shall be consistent with the format described in Attachment B of this permit and shall be submitted **no later than March 1 of each year.**
5. The permittee must obtain approval from EPA prior to making any significant changes to the industrial pretreatment program in accordance with 40 CFR 403.18(c).
6. The permittee must assure that applicable National Categorical Pretreatment Standards are met by all categorical industrial users of the POTW. These standards are published in the Federal Regulations at 40 CFR 405 et. seq.
7. The permittee must modify its pretreatment program, if necessary, to conform to all changes in

the Federal Regulations that pertain to the implementation and enforcement of the industrial pretreatment program. The permittee must provide EPA, in writing, **within 180 days of this permit's effective date** proposed changes, if applicable to the permittee's pretreatment program deemed necessary to assure conformity with current Federal Regulations. At a minimum, the permittee must address in its written submission the following areas: (1) Enforcement response plan; (2) revised sewer use ordinances; and (3) slug control evaluations. The permittee will implement these proposed changes pending EPA Region I's approval under 40 CFR 403.18. This submission is separate and distinct from any local limits analysis submission described in Part I.E.2.

F. MONITORING AND REPORTING

1. Reporting

Monitoring results obtained during each calendar month shall be summarized and reported on Discharge Monitoring Report Form(s) postmarked **no later than the 15th day of the following month.**

Signed and dated originals of these, and all other reports required herein, shall be submitted to the Director and the State at the following addresses:

Environmental Protection Agency
Water Technical Unit (SEW)
P.O. Box 8127
Boston, Massachusetts 02114

The State Agency is:

Massachusetts Department of Environmental Protection
Northeast Regional Office- Bureau of Resource Protection
205A Lowell Street
Wilmington, MA 01887

Signed and dated Discharge Monitoring Report Forms and toxicity test reports required by this permit shall also be submitted to the State at:

Massachusetts Department of Environmental Protection
Division of Watershed Management
Surface Water Discharge Permit Program
627 Main Street, 2nd Floor
Worcester, Massachusetts 01608

Reports required in Section E - Industrial Pretreatment Program should be sent to the State at:

Massachusetts Department of Environmental Protection
Bureau of Waste Prevention
Industrial Wastewater Section
1 Winter Street
Boston, MA 02108

G. STATE PERMIT CONDITIONS

This Discharge Permit is issued jointly by the U. S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) under Federal and State law, respectively. As such, all the terms and conditions of this Permit are hereby incorporated into and constitute a Discharge Permit issued by the Commissioner of the MassDEP pursuant to M.G.L. Chap. 21, §43.

Each Agency shall have the independent right to enforce the terms and conditions of this Permit. Any modification, suspension or revocation of this Permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of this Permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this Permit is declared, invalid, illegal or otherwise issued in violation of State law such permit shall remain in full force and effect under Federal law as an NPDES Permit issued by the U.S. Environmental Protection Agency. In the event this Permit is declared invalid, illegal or otherwise issued in violation of Federal law, this Permit shall remain in full force and effect under State law as a Permit issued by the Commonwealth of Massachusetts.

Information for Filing an Adjudicatory Hearing Request with the Commonwealth of Massachusetts Department of Environmental Protection

Within thirty days of the receipt of this letter the adjudicatory hearing request should be sent to:

Docket Clerk
Office of Administrative Appeals
Department of Environmental Protection
One Winter Street, Second Floor
Boston, MA 02108

In addition, a valid check payable to the Commonwealth of Massachusetts in the amount of \$100 must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211

The hearing request to the Commonwealth will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver.

The filing fee is not required if the appellant is a city, town (or municipal agency), county, district of the Commonwealth of Massachusetts, or a municipal housing authority. The Department may waive the adjudicatory hearing filing fee for a permittee who shows that paying the fee will create an undue financial hardship. A permittee seeking a waiver must file, along with the hearing request, an affidavit setting forth the facts believed to support the claim of undue financial hardship.

April 17, 2002

/NPDESappeal.wpd