

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
NEW ENGLAND  
1 CONGRESS STREET, SUITE 1100  
BOSTON, MASSACHUSETTS 02114-2023**

**FACT SHEET**

DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES.

NPDES PERMIT NO.: **MA0101591**

Date of Public Notice: 7/8/03

NAME AND ADDRESS OF APPLICANT:

**Town of Middleborough  
Town Hall  
Nickerson Avenue  
Middleborough, MA 02346**

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

**Middleborough Water Pollution Control Facility  
Everett Street  
Middleborough, MA 02346**

RECEIVING WATER: **Nemasket River (Taunton River Basin, State Code - 62)**

CLASSIFICATION: **B**

**I. Proposed Action, Type of Facility, and Discharge Location.**

The above named applicant has requested that the U.S. Environmental Protection Agency (EPA) reissue its NPDES permit to discharge into the designated receiving waters. The facility is engaged in the collection and treatment of municipal and industrial wastewater. The discharge is from the Middleborough Water Pollution Control Facility to the Nemasket River. The wastewater treatment facility is an advanced treatment facility.

## **II. Description of Discharge.**

A quantitative description of the discharge in terms of significant effluent parameters based on recent monitoring data is shown on Attachment A.

## **III. Limitations and Conditions.**

The effluent limitations of the draft permit and the monitoring requirements may be found in the draft NPDES permit.

## **IV. Permit Basis and Explanation of Effluent Limitation Derivation.**

### **A. Description**

The Middleborough Water Pollution Control Facility is a 2.16 mgd advanced treatment facility which discharges to the Nemasket River. The facility processes include primary clarification, activated sludge treatment, secondary clarification, sand filters, seasonal chlorination and dechlorination (using sodium bisulfite), and post aeration. The facility removes phosphorus seasonally through chemical precipitation using ferric chloride. The facility maintains year-round nitrification. Septage is received from the Towns of Middleborough and Lakeville. Sludge is disposed in the Middleborough Town landfill (refer to Figure 1. for process details and flow diagram and Figure 2. for geographical location).

### **B. POTW Discharges**

EPA is required to consider technology and water quality requirements when developing permit effluent limits. Technology based treatment requirements represent the minimum level of control that must be imposed under Sections 402 and 301 (b) of the ACT (see 40 CFR Subpart A) to meet Best practicable Control Technology Available (BPT), Best Conventional Control technology (BCT) for conventional pollutants and Best Available Technology Economically Achievable (BAT) for toxic pollutants. For publicly owned treatment works (POTWs), technology based requirements are effluent limitations based on secondary treatment requirements of Section 301 (b) (1) (B) of the Clean Water Act (CWA) as defined in 40 CFR 133.102.

EPA regulations require NPDES permits to contain effluent limits more stringent than technology-based limits where more stringent limits are necessary to maintain or achieve federal or state water quality standards.

Under Section 301 (b) (I) (c) of the CWA, discharges are subject to effluent limitations based on water quality standards. The Massachusetts Surface Water Quality Standards (314 CMR 4.00) requirements for the regulation and control of toxic constituents and also require that EPA criteria, established pursuant to Section 304 (a) of the CWA, shall be used unless a site specific criteria is established. The state will limit or prohibit discharges of pollutants to surface waters to assure that surface water quality standards of the receiving waters are protected and maintained, or attained.

The permit must limit any pollutant or pollutant parameter (conventional, non-conventional, toxic, and whole effluent toxicity) may not be discharged at a level that caused, has reasonable

potential to cause, or contributes to an excursion above any water quality criterion. An excursion occurs if the projected or actual instream concentrations exceed the applicable criterion. In determining reasonable potential, EPA considers existing controls on point and non-point sources of pollution, variability of the pollutant in the effluent, sensitivity of the species to toxicity and, where appropriate, the dilution of the effluent in the receiving water.

A permit may not be renewed, reissued, or modified with less stringent limitations or conditions than those contained in the previous permit unless in compliance with the anti-backsliding requirements of the CWA.

EPA's anti-backsliding provisions found in 40 CFR 122.44(1) restrict the relaxation of permit limits, standards, and conditions. Therefore, except under certain limited conditions, limits in the reissued permit must be at least as stringent as those of the previous permit. Technology-based effluent limits as well as those based on BPL, water quality, and state certification requirements must meet the anti-backsliding provisions found under Section 402 (o) and 303 (d) (4) of the CWA, as described in 40 CFR 122.44 (1).

#### 7Q10 Data and Dilution Factor :

The United States Geological Survey (USGS) Gazetteer of Hydrologic Characteristics for the Taunton River Basin (WRI Report 84-4283) lists a 7 day low flow with a recurrence interval of 10-years (7Q10) for the Nemasket River at Murdock Street (Gage Station No. 01107800) of 4.2 cfs with a drainage area of 69.4 square miles. The Town's consulting engineer, Whitman and Howard, estimated a drainage area of 67.1 square miles at the WWTF (see Whitman and Howard letter dated October 29, 1993 in the permit file). Therefore, the 7Q10 at the WWTF will be equal to  $4.2 \times 67.1 / 69.4$  or 4.06 cfs. After subtracting plant flow of 1.06 cfs (the average WWTF flow during the two year operating period of the gage), a 7Q10 of 3 cfs was used in the existing permit. This is continued in the draft permit.

$$Q_e = \text{Middleborough WWTP Design Flow} : \quad 2.16 \text{ mgd} = \quad 3.34 \text{ cfs}$$

Receiving stream - Nemasket River

$$Q_s = 7 \text{ day } 10 \text{ year low flow (Q}_{10}) : \quad 3.0 \text{ cfs}$$

$$\text{Dilution Factor} = (Q_s + Q_e) / Q_e = (3.0 + 3.34) / 3.34 = 1.9$$

#### **B.1. Conventional Pollutants:**

The limits for CBOD are also based on a waste load allocation (WLA) [refer to 1981 Water Quality Management Plan Update prepared by Massachusetts Department of Environmental Quality Engineering, Division of Water Pollution Control, Technical Services Branch]. The limits for CBOD and TSS are the same as the limits found in the previous permit, and so satisfy anti-backsliding requirements.

The numerical limitations for fecal coliform, dissolved oxygen (DO), and pH are based on state certification requirements under Section 401 (a) (1) of the CWA, as described in 40 CFR 124.53 and 124.55. The requirement for DO also meets the recommendations of a WLA and is in accordance with anti-backsliding requirements.

## **B.2. Non-Conventional Pollutants:**

Phosphorus :

The Massachusetts Surface Water Quality Standards (314 CMR 4.00) do not contain numerical criteria for total phosphorus. The criteria for nutrients is found at 314 CMR 4.05(5)(c), which states that nutrients “shall not exceed the site specific limits necessary to control accelerated or cultural eutrophication”. The Water Quality Standards also require that “any existing point source discharges containing nutrients in concentrations which encourage eutrophication or growth of weeds or algae shall be provided with the highest and best practicable treatment to remove such nutrients (314 CMR 4.04). MADEP has established that a monthly average total phosphorus limit of 0.2 mg/l represents highest and best practical treatment for POTWs.

EPA has produced several guidance documents which contain recommended total phosphorus criteria for receiving waters. The 1986 Quality Criteria of Water ( the Gold Book) recommends in-stream phosphorus concentrations of 0.05 mg/l in any stream entering a lake or reservoir, 0.1 mg/l for any stream not discharging directly to lakes or impounds, and 0.025 mg/l within the lake or reservoir.

More recently, EPA has released “Eco-regional Nutrient Criteria”, established as part of an effort to reduce problems associated with excess nutrients in water bodies in specific areas of the country. The published criteria represent conditions in waters in that eco-region minimally impacted by human activities, and thus representative of water without cultural eutrophication. Middleboro is within Eco-region XIV, Eastern Coastal Plains. The total phosphorus criteria for this eco-region, found in Ambient Water Quality Criteria Recommendations, Information Supporting the Development of State and Tribal Nutrient Criteria, Rivers and Streams in Eco-region XIV, published in the December, 2000 is 24 ug/l (0.024 mg/l).

During the Fall of 1996, MADEP published draft report titled “Taunton Watershed 1996 Assessment, Taunton River Basin”. This report confirms that eutrophication is a problem in the Nemasket River due to elevated nutrient levels and recommends that the nutrients be controlled and further evaluated. Data for the Nemasket River shows a range of total phosphorus concentrations of 0.017 to 0.057 mg/l upstream of the Middleborough WWTF and 0.031 to 0.105 mg/l downstream of the Middleborough WWTF during the period from June to October of 1996. The data shows that the downstream concentrations are significantly higher than the upstream concentrations. The major source of phosphorus between the two sampling point is the Middleborough WWTF.

The 1996 MADEP draft report did not collect in-stream phosphorus data from downstream impoundments in the main stem of the Taunton River at the confluence of Nemasket River. However, during 1986 MADEP prepared a Water Quality Survey Report of Taunton River.

Table 20 of page 31 of this report, a phosphorus value of .50 mg/l was measured at the Station Number TR 08 which is located in the Taunton River down-stream of the Nemasket River. This value far exceeds all of the recommended phosphorus criteria published by EPA and also suggests that phosphorus should be controlled in the receiving water to prevent eutrophication.

The present permit has a monthly average limit of 1.0 mg/l and daily maximum limit of 2.0 mg/l from April 1 to October 31. Effluent data from DMRs for the period April 2002 to October 2002 shows a range of 0.38 to 0.88 mg/l of total phosphorus.

The current limits in the permit would be expected to exceed the national guidance for in-stream phosphorus concentration after mixing with the receiving water. At the permitted effluent limit of 1 mg/l and under 7Q10 conditions, the calculated in-stream concentration due to the Middleborough discharge would be about 0.5 mg/l (1 mg/l divided by the dilution factor of 1.9). Under the same flow conditions, an effluent limit of 0.2 mg/l would result in an in-stream contribution of about 0.1 mg/l, which meets the Gold Book criteria for streams not directly discharging to lakes or impoundments (assuming minimal upstream contributions), although not the more stringent eco-region criteria.

It is clear that the existing limits must be made more stringent to address the documented eutrophication problems in the receiving water. Given that the state has not yet adopted numerical phosphorus criteria, the draft permit will not establish limits based on the EPA eco-region guidance but will instead establish a monthly average total phosphorus limit of 0.2 mg/l based on the "highest and best" practical treatment as defined by the MA WQS. This limit will be in effect seasonally, from April 1 to October 31. The draft permit also contains total phosphorus monitoring requirements from November 1 to March 31.

When, in the future MADEP adopts nutrient criteria, a TMDL is completed, or additional water quality information shows that the phosphorus limit is not stringent enough to meet water quality standards, a more stringent limit may be imposed.

### **B.3. Toxic Pollutants:**

Chlorine:

Chlorine compounds produced by the chlorination of wastewater, as well as chlorine, can be extremely toxic to aquatic life. The river may not provide sufficient dilution of these compounds discharged by the WWTF to meet the EPA recommended in-stream criteria for acute and chronic toxicity levels specified in the water quality criteria document. EPA's National Recommended Water Quality Criteria : 2002 states that the average total residual chlorine (TRC) in the receiving water should not exceed 11 ug/l and the maximum TRC should not exceed 19 ug/l to protect freshwater aquatic life.

The following is a calculation of the chlorine limits:

Acute Chlorine WQC = 19 ug/l

Chronic Chlorine WQC = 11 ug/l

7Q10 = 3.00 cfs \*\*

Design Flow = 2.16 mgd = 3.34 cfs

Dilution Factor = (3.34 cfs + 3.00 cfs)/3.34 cfs = 1.90

Daily Maximum Chlorine Limit = (1.90) x (19 ug/l) = 36.1 ug/l

Average Monthly Chlorine Limit = (1.90) x (11 ug/l) = 20.9 ug/l

A monthly average limit of 20.9 ug/l and maximum daily limit of 36.1 ug/l are included in the draft permit using the appropriate water quality criteria multiplied by the dilution factor.

#### Metals:

Certain metals in water can be toxic to aquatic life. There is a need to limit toxic metal concentrations in the effluent where aquatic life may be impacted. The present permit contains water quality based limits for copper. An evaluation (see below) of the reasonable potential of toxicity on the concentration of metals in the effluent shows that there is reasonable potential of toxicity for copper and lead.

Calculation of reasonable potential for copper, lead, zinc and nickel :

All effluent metals data are taken from the Discharge Monitoring Reports from the period October 2000 to October 2002.

Allowable Receiving Water Concentration,  $C = \text{Criteria (Total Recoverable.)} \times \text{Dilution Factor}$

Water Quality Criteria are from EPA's National Recommended Water Quality Criteria : 2002. . The criteria for metals are hardness dependant. A hardness of 30 mg/l has been used in the existing permit. This was based on the review of the in-stream sampling data from the 1988 water quality survey for the Nemasket River performed by MADEP. The hardness varied from a low of 15 mg/l to a high of 46 mg/l with an average of 28.3 mg/l. MADEP performed in-stream sampling for hardness for the Nemasket River during 1993 to 1998. The hardness varied from a low of 4 mg/l to a high of 78.4 mg/l with an average of 25 mg/l. Due to wide variation the existing hardness of 30 mg/l is continued in the draft permit.

Copper :	Chronic	$C = 3.33 \times 1.9 = 6.3 \text{ ug/l}$ which is less than the monthly average effluent concentration range of 11 - 26 ug/l. So, reasonable potential exists.
	Acute	$C = 4.50 \times 1.9 = 8.6 \text{ ug/l}$ which is less than the maximum effluent concentration of 26 ug/l. So, reasonable potential exists.
Lead :	Chronic	$C = 0.69 \times 1.9 = 1.3 \text{ ug/l}$ which is less than the monthly average effluent concentration range of 1 - 5.8 ug/l. So, reasonable potential exists.

	Acute	$C = 17.63 \times 1.9 = 33.5 \text{ ug/l}$ which is greater than the maximum effluent concentration of 5.8 ug/l. So, reasonable potential does not exist.
Zinc :	Chronic	$C = 43.20 \times 1.9 = 82.1 \text{ ug/l}$ which is far greater than the monthly average effluent concentration range of 25-64 ug/l. So, reasonable potential does not exist.
	Acute	$C = 43.2 \times 1.9 = 82.1 \text{ ug/l}$ which is far greater than the maximum effluent concentration of 64 ug/l. So, reasonable potential does not exist.
Nickel :	Chronic	$C = 18.84 \times 1.9 = 35.8 \text{ ug/l}$ which is greater than the monthly average effluent concentration range of 5-15 ug/l. So, reasonable potential does not exist.
	Acute	$C = 169.43 \times 1.9 = 321.9 \text{ ug/l}$ which is greater than the maximum effluent concentration of 15 ug/l. So, reasonable potential does not exist.

Based on the above evaluation the monthly average and maximum daily limits for copper will continue and new monthly average limit for lead is added in the draft permit.

Derivation of Permit Limits :

The limits for copper are calculated based on EPA's National Recommended Water Quality Criteria : 2002 with a hardness of 30 mg/l and a dilution factor of 1.9.

Water Quality Criteria for hardness-dependent metals, see equations below :

$$\text{Acute Criteria (dissolved)} = \exp\{m_a[\ln(\text{hardness})] + b_a\} (\text{CF})$$

Where:  $m_a$  = pollutant-specific coefficient  
 $b_a$  = pollutant-specific coefficient  
 $h$  = Hardness = 30 mg/l as  $\text{CaCO}_3$   
 $\ln$  = natural logarithm  
CF = pollutant-specific conversion factor (CF is used to convert total recoverable to dissolved metal)

$$\text{Chronic Criteria (dissolved)} = \exp\{m_c[\ln(\text{hardness})] + b_c\} (\text{CF})$$

Where:  $m_c$  = pollutant-specific coefficient  
 $b_c$  = pollutant-specific coefficient  
 $h$  = Hardness = 30 mg/l as  $\text{CaCO}_3$   
 $\ln$  = natural logarithm  
CF = pollutant-specific conversion factor (CF is used to convert total recoverable to dissolved metal)

Calculation of acute limit for copper :

$$m_a = 0.9422 \quad b_a = -1.7 \quad \text{CF} = 0.96$$

$$\text{Acute criteria (dissolved)} = \exp\{0.9422[\ln(30)] - 1.7\} (.96) = 4.32 \text{ ug/l}$$

$$\text{Dilution Factor} = 1.9$$

$$\text{Effluent Limitation:} = 1.9 \times 4.32 \text{ ug/l} = 8.21 \text{ ug/l (dissolved)}$$

$$\text{Total Recoverable} = 8.21 / \text{CF} = 8.21 / 0.96 = 8.6 \text{ ug/l} *$$

\* Inverse conversion factor is used to determine total recoverable metal. EPA Metals Translator : Guidance for Calculating a Total Recoverable Permit Limit from a Dissolved Criterion (EPA-823-B-96-007) is used as the basis for using the criteria conversion factor. National guidance requires that permit limits be based on total recoverable metals and not dissolved metals. Consequently, it is necessary to apply a translator in order to develop a total recoverable permit limit from a dissolved criteria. The translator reflects how a discharge partitions between the particulate and dissolved phases after mixing with the receiving water. In the absence of site specific data on how a particular discharge partitions in the receiving water, a default assumption that the translator is equivalent to the criteria conversion factor is used in accordance with the Translator Guidance.

Therefore the acute (maximum daily), water quality based limitation for Total Recoverable Copper is 8.6 ug/l.

Calculation of chronic limit for copper :

$$m_c = 0.8545 \quad b_c = -1.7 \quad CF = 0.96$$

$$\text{Chronic criteria (dissolved)} = \exp\{0.8545[\ln(30)] - 1.7\} (.96) = 3.2 \text{ ug/l}$$

$$\text{Dilution Factor} = 1.9$$

$$\text{Effluent Limitation:} = 1.9 \times 3.2 \text{ ug/l} = 6.08 \text{ ug/l (dissolved)}$$

$$\text{Total Recoverable} = 6.08 / CF = 6.08 / 0.96 = 6.3 \text{ ug/l} *$$

Therefore the chronic (monthly average ), water quality based limitation for Total Recoverable Copper is 6.3 ug/l.

#### Other Hardness Based Limit

	mc	bc	CF	Dissolved Criteria. (ug/l)	Limit (dissolved) (ug/l)	Limit (total rec) (ug/l)
Lead, Chronic		1.273 - 4.705		0.854 1.57	0.69	1.3

#### Ammonia

Summer limits have been established before based on dissolved oxygen from the previous Waste Load Allocation (WLA). These limits will continue in the draft permit.

#### TKN, Nitrate and Nitrite :

Monitoring requirements for TKN, Nitrate and Nitrite will continue in order to have a long term data base for evaluation of the effect of nitrogen compounds in the receiving water. A nitrogen TMDL is currently being prepared for Mount Hope Bay, and information on point source discharges of nitrogen are necessary to complete this study. The draft permit contains no limits on the discharge of total nitrogen

#### **B.4. Toxicity**

The receiving water has been classified as a Class B waterway by the state. The designated uses for a Class B water are (1) the protection and propagation of fish, other aquatic life and wildlife and (2) for primary and secondary contact recreation

40 CFR 122.44 (d) requires whole effluent toxicity limits in NPDES permits when the permittee has a “reasonable potential” to cause toxicity.

National studies conducted by the EPA have demonstrated that domestic sources contribute both metal and organic toxic constituents to POTW. These constituents include metals, chlorinated solvents, aromatic hydrocarbons and other constituents. Additionally, as previously discussed, the POTW receives industrial waste which may also contain toxic constituents.

Therefore, based on the potential for toxicity from domestic contributions, the potential for toxicity resulting from industrial contributions, as discussed in the section of the fact sheet addressing pretreatment, the available dilution at the discharge location, water quality standards and in accordance with EPA regulation and policy, the draft permit includes chronic and acute effluent toxicity limitations and monitoring requirements. (See EPA’s Technical Support Document for Water Quality-Based Toxics Control, EPA/505/2-90-01). The No Observed Chronic Effect Concentration (C-NOEC) limitation in the draft permit prohibits chronic adverse effects (e.g. on survival, growth, and reproduction), when aquatic organisms are exposed to the POTW discharges at the calculated available dilution . The chronic (C-NOEC) whole effluent toxicity limits of I.A.1 was calculated using the in-stream waste concentration (“IWC”) of the WTP effluent:

$$\begin{aligned} \text{IWC} &= (Q_e / (Q_e + Q_s)) \times 100 \% \\ &= (3.34 / (3.34 + 3.0)) \times 100\% \\ &= 53\% \end{aligned}$$

The LC50 limitation prohibits acute effects (lethality to more than 50% of the test organisms when exposed undiluted (100% of effluent) to POTW effluent for a period of time.

#### **C. Pretreatment Program**

The permittee is required to administer a pretreatment program based on the authority granted under 40 CFR § 403 and section 307 of the Clean Water Act. Middleborough’s pretreatment program received EPA approval on September 28, 1990 and , as a result, appropriate pretreatment program requirements were incorporated into the previous permit commensurate with that approval and Federal Pretreatment Regulations in effect when the permit was issued.

Since issuance of the previous permit Federal Pretreatment Regulations in 40 CFR §403 were amended in October 1988, and again in July 1990. Those amendments established new requirements for implementations of pretreatment programs. By reissuing this NPDES permit, the permittee is obligated to modify its pretreatment program to be consistent with current Federal Regulations. Those activities that the permittee must address include, but are not limited to, the following: (1) evaluating local limits; (2) revise its local sewer-user ordinance, as

appropriate, to be consistent with Federal Regulations; (3) revise an enforcement response plan; (4) implement a slug control evaluation program; (5) track significant noncompliance for industrial users; and (6) adopt a definition of significant industrial user.

These requirements are necessary to ensure continued compliance with the POTW's permit and its sludge use or disposal practices.

The draft permit requires the permittee to provide EPA in writing within 180 days of the permit's effective date a: (1) technical report analyzing their need to revise local limits; and (2) description of proposed changes to permittee's pretreatment program deemed necessary to assure conformity with current Federal Pretreatment Regulations. These requirements may be new to this draft permit and are commensurate with current EPA New England, pretreatment policy. In addition, the permittee must continue to submit, annually on October 1, a pretreatment report detailing the activities of the program for the twelve month period, 60 days prior to the due date.

Based on the potential for toxicity as a result of industrial discharges to the POTW, and as discussed subsequently, the draft permit includes effluent toxicity limitations and requires the performance of effluent toxicity tests. These tests will assist in assessing the effectiveness of the permittee's pretreatment program and also may be used as a basis for development of or revision of specific numeral pretreatment limits.

#### **D. Sludge**

The permit prohibits any discharge of sludge. Section 405 (d) of the Clean Water Act requires that sludge conditions be included in all NPDES permits. The Middleborough Water Pollution Control Facility is Class 1 (priority) sludge management facility as defined in 40 CFR 122.2. Technical sludge standards required by Section 405 of the Clean Water Act (CWA) were finalized on November 25, 1992 and were published on February 19, 1993. The regulations become effective thirty (30) days from the date of publication in the Federal Register, on March 21, 1993. Currently the Town of Middleborough disposes of its sludge in the Town owned landfill. The landfill accepts municipal solid waste in addition to the domestic sludge from the treatment plant. Landfills of this type, (co-disposal), are not regulated under the sludge standards. However, the landfill is subject to existing solid waste regulations to 40 CFR 258. The POTW must insure that the landfill is in compliance with 40 CFR 258, in order for the POTW to be in compliance with the 503 sludge standards.

The permit requires compliance with 503 standards by the deadlines stated in the rule, which was February 19, 1994 (1 year from the date of publication). Monitoring, record keeping, and reporting requirements were effective July 19, 1993. The permit further requires that the Town give prior notice to the Director of any planned changes in its sludge use or disposal methods.

#### **E. Essential Fish Habitat Determination (EFH):**

Under the 1996 Amendments (PL 104-267) to the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801 et seq. (1998)), EPA is required to consult with the National

Marine Fisheries Services (NMFS) if EPA's action or proposed actions that it funds, permits, or undertakes, may adversely impact any essential fish habitat as: waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (16 U.S.C. § 1802 (10)).

Adversely impact means any impact which reduces the quality and/or quantity of EFH (50 C.F.R. § 600.910 (a)). Adverse effects may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, reduction in species' fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

Essential fish habitat is only designated for species for which federal fisheries management plans exist (16 U.S.C. § 1855(b) (1) (A)). EFH designations for New England were approved by the U.S. Department of Commerce on March 3, 1999.

EPA has determined that a formal EFH consultation with NMFS is not required because the proposed discharge will not adversely impact EFH.

#### **V. State Certification Requirements.**

The staff of the Massachusetts Department of Environmental Protection has reviewed the draft permit. EPA has requested permit certification by the State pursuant to 40 CFR 124.53 and expects that the draft permit will be certified.

#### **VI. Comment Period, and Procedures for Final Decisions.**

All persons, including applicants, who believe any condition of the draft permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period, to the U.S. EPA, Massachusetts Office of Ecosystem Protection (CMA), One Congress Street-Suite 1100, Boston, Massachusetts 02114-2023. Any person, prior to such date, may submit a request in writing for a public hearing to consider the draft permit to EPA and the State Agency. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held after at least thirty days public notice whenever the Regional Administrator finds that response to this notice indicates significant public interest.

In reaching a final decision on the draft permit the Regional Administrator will respond to all significant comments and make these responses available to the public at EPA's Boston office. Following the close of the comment period, and after a public hearing, if such hearing is held, the Regional Administrator will issue a final permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments or requested notice.

**VII. EPA and MA DEP Contact.**

Additional information concerning the draft permit may be obtained between the hours of 9:00 a.m. and 5:00 p.m., Monday through Friday, excluding holidays from:

Suproakash Sarker, P.E.  
MA NPDES permit Program Unit  
US Environmental Protection Agency  
New England, 1 Congress Street, Suite 1100  
Boston, MA 02114-2023  
Tele: (617) 918-1574

ISSUED

Linda M. Murphy, Director  
Office of Ecosystem Protection  
U.S. Environmental Protection Agency

Attachments A& B are included below

**ATTACHMENT A**

NPDES Permit No. MA0101591

Middleborough, Massachusetts

Description of Discharge: Treated Municipal Wastewater

Discharge Monitoring Report Data Summary for Outfall 001:

AVERAGE EFFLUENT CHARACTERISTICS AT POINT OF DISCHARGE:

Date	D.O. mg/l	pH s.u	CBOD mg/l mo/av	TSS mg/l mo/av	Flow mgd mo/av	Total Cu mo/av ug/l	TKN mg/l mo/av	TotalNH <sub>3</sub> mo/av mg/l	Total P. mg/l mo/av	TRC mg/l	Fecal Coli. cfu/100ml
02/02	8.4	7.3-8.0	4.0	3.9	1.11	43.0	1.7	0.30	----	----	----
03/02	10.6	7.4-8.0	13.8	18.4	1.05	24.4	3.8	3.1	----	----	----
04/02	8.5	6.9-7.7	2.2	3.4	0.99	22.9	1.4	0.2	0.38	0	25
05/02	8.7	7.1-7.7	1.3	2.8	0.96	14.6	< 1	0.14	0.77	0	3
06/02	8.0	6.9-7.8	1.1	2.0	1.00	25.4	1.18	0.12	0.57	0	4
07/02	8.4	7.2-8.0	0.9	1.7	0.93	15.2	< 1	0.17	0.88	0	7
08/02	8.4	7.1-8.1	0.7	1.6	1.08	18.1	< 1	0.21	0.76	0	10
09/02	7.6	7.1-8.2	0.7	1.9	0.91	18.0	1.18	0.16	0.80	0	36
10/02	8.7	7.3-8.1	1.0	1.3	0.88	17.0	----	0.21	0.59	0	3
11/02	9.0	7.2-8.0	1.1	1.3	0.93	17.4	1.23	0.17	----	----	----
12/02	9.4	7.2-7.9	1.5	1.5	0.96	17.3	1.23	0.22	----	----	----

**ATTACHMENT A (contd.)**

NPDES Permit No. MA0101591  
Middleborough, Massachusetts

Toxicity Results

Cerodaphnia dubia	Sample Date	LC50	CNOEC
	10/00	>100.00	100.00
	01/01	>100.00	100.00
	04/01	>100.00	100.00
	07/01	>100.00	100.00
	10/01	>100.00	100.00
	01/02	>100.00	100.00
	04/02	>100.00	55.00
	07/02	>100.00	25.00
	10/02	>100.00	55.00
Pimephales promelas	10/00	>100.00	100.00
	01/01	>100.00	100.00
	04/01	>100.00	100.00
	07/01	>100.00	12.50
	01/02	>100.00	100.00
	04/02	>100.00	55.00
	07/02	>100.00	100.00
	10/02	>100.00	55.00