

**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),

**Town of Amherst
Department of Public Works
586 South Pleasant Street, Amherst Massachusetts 01002**

is authorized to discharge from the facility located at

**Amherst Massachusetts Wastewater Treatment Plant
1 Mullins Way, Hadley, Massachusetts 01035**

to receiving water named

Connecticut River (Connecticut River Watershed – MA34-04)

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective December 1, 2006

This permit and the authorization to discharge expire at midnight on November 30, 2011.

This permit supersedes the permit issued on July 11, 2000 and expired September 30, 2005.

This permit consists of 11 pages in Part I including effluent limitations, monitoring requirements, Attachment A and 35 pages in Part II including General Conditions and Definitions.

Signed this 29th day of SEPTEMBER, 2006

/s/ SIGNATURE ON FILE

Director
Office of Ecosystem Protection
Environmental Protection Agency
Boston, MA

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

PART I

A.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 the Connecticut River. Such discharge shall be limited and monitored by the permittee as specified below.

<u>EFFLUENT CHARACTERISTIC</u>	<u>EFFLUENT LIMITS</u>						<u>MONITORING REQUIREMENTS</u>	
	Mass Limits			Concentration Limits				
PARAMETER	AVERAGE MONTHLY	AVERAGE WEEKLY	MAXIMUM DAILY	AVERAGE MONTHLY	AVERAGE WEEKLY	MAXIMUM DAILY	MEASUREMENT FREQUENCY	SAMPLE TYPE²
FLOW ¹	***	***	***	7.1 MGD	***	Report MGD	METER	RECORDER
FLOW ¹	***	***	***	Report MGD	***	Report MGD	METER	RECORDER
CBOD ₅	1480 lbs/Day 673 kgs/Day	2369 lbs/Day 1076 kgs/Day	Report	25 mg/l	40 mg/l	Report mg/l	2/WEEK	24-HOUR COMPOSITE ³
TSS	1776 lbs/Day 807 kgs/Day	2665 lbs/Day 1211 kgs/Day	Report	30 mg/l	45 mg/l	Report mg/l	2/WEEK	24-HOUR COMPOSITE ³
pH RANGE ⁴	6.0 - 8.3 SU SEE PERMIT PAGE 5 OF 12, PARAGRAPH I.A.2.b.						1/DAY	GRAB
FECAL COLIFORM ^{4,5} (April 1- October 31)	***	***	***	200 cfu/100 ml	***	400 cfu/100 ml	2/WEEK	GRAB
<i>E- coli</i> ^{4,5} (April 1- October 31)	***	***	***	Report cfu/100 ml	***	Report cfu/100 ml	1/MONTH	GRAB
CHLORINE, T. R. ⁶ (April 1- October 31)	***	***	***	***	***	1.0 mg/l	1/DAY (when in use)	GRAB
TOTAL PHOSPHORUS	***	***	***	Report mg/l	***	***	1/MONTH	24-HOUR COMPOSITE ³
TOTAL AMMONIA AS N	***	***	***	Report mg/l	***	***	1/MONTH	24-HOUR COMPOSITE ³
TOTAL KJELDAHL NITROGEN	***	***	***	Report mg/l	***	***	1/MONTH	24-HOUR COMPOSITE ³
TOTAL NITRITE	***	***	***	Report mg/l	***	***	1/MONTH	24-HOUR COMPOSITE ³
TOTAL NITRATE	***	***	***	Report mg/l	***	***	1/MONTH	24-HOUR COMPOSITE ³
WET ^{7,8,9}	ACUTE LC ₅₀ ≥ 50%						2/YEAR	24-HOUR COMPOSITE ³

Footnotes:

1. Report annual average, monthly average, and the maximum daily flow. The limit is an annual average, which shall be reported as a rolling average. The value will be calculated as the arithmetic mean of the monthly average flow for the reporting month and the monthly average flows of the previous eleven months.
2. A routine sampling program shall be developed in which samples are taken at the same location, same time and same days of the week each month. Occasional deviations from the routine sampling program are allowed, but the reason for the deviation shall be documented in correspondence appended to the applicable discharge monitoring report.

All samples shall be tested using the 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.

All required effluent samples shall be collected at the point specified herein. Any change in sampling location must be reviewed and approved in writing by EPA and MassDEP	
PARAMETER	SAMPLE LOCATION
FLOW	Influent Parshall Flumes
BOD ₅ and TSS	Directly after Parshall flumes (Influent) Effluent Discharge Pipe (Effluent)
pH RANGE, FECAL COLIFORM, <i>E.-COLI</i> , CHLORINE RESIDUAL, TOTAL PHOSPHORUS, TOTAL AMMONIA AS N, TOTAL KJELDAHL NITROGEN, TOTAL NITRITE, TOTAL NITRATE and WHOLE EFFLUENT TOXICITY	Effluent Discharge Pipe

3. 24-hour composite samples will consist of at least twenty four (24) grab samples taken during one consecutive 24 hour period, either collected at equal intervals and combined proportional to flow or continuously collected proportionally to flow.
4. Required for State Certification.

5. The monthly average limit for fecal coliform is expressed as a geometric mean. Fecal coliform monitoring shall be conducted concurrently with a total residual chlorine sample and an *E-coli* sample (1/month).
6. The chlorination system shall have alarm(s) to indicate system interruptions or malfunctions. Any interruption or malfunction of the chlorine dosing system that may result in inadequate disinfection system that may result in excessive levels of chlorine in the final effluent shall be reported with the monthly DMRs. The report shall include the date and time of the interruption or malfunction, the nature of the problem, and the estimated amount of time that the reduced/excessive levels of chlorine occurred. Also, the permittee must address steps taken to prevent future malfunctions of the same nature.

Whenever more than two grab samples are taken per day, the monthly DMR shall include an attachment documenting the individual grab sample results for that day, including the date and time of each sample, and a summary of any operational modifications implemented in response to sample results. All test results shall be used in the calculation and reporting of the monthly average and maximum daily data submitted on the DMR (see Part II. Section D.1.d.(2)).

7. The permittee shall conduct acute toxicity tests two (2) times per year using a single species, the daphid, Ceriodaphnia dubia. Toxicity test samples shall be collected during the second week of the months of June and October. The test results shall be submitted by the last day of the month following the completion of the test. The results are due by July 31 and November 30, respectively. 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 LC₅₀
June October	July 31 November 30	<u>Ceriodaphnia dubia</u>	≥ 50%

8. The LC₅₀ is the concentration of effluent which causes mortality to 50% of the test organisms. Therefore, a 50% limit means that a sample of 50% effluent shall cause no more than a 50% mortality rate.

9. If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall follow procedures outlined in **Attachment A, Section IV, DILUTION WATER** in order to obtain permission to use an alternate dilution water. In lieu of individual approvals for alternate dilution water required in **Attachment A**, EPA-New England has developed a Self-Implementing Alternative Dilution Water Guidance document (called "Guidance Document") which may be used to obtain automatic approval of an alternate dilution water, including the appropriate species for use with that water. If this Guidance document is revoked, the permittee shall revert to obtaining approval as outlined in **Attachment A**. The "Guidance Document" has been sent to all permittees with their annual set of DMRs and Revised Updated Instructions for Completing EPA's Pre-Printed NPDES Discharge Monitoring Report (DMR) Form 3320-1 and is not intended as a direct attachment to this permit. Any modification or revocation to this "Guidance Document" will be transmitted to the permittees as part of the annual DMR instruction package. However, at any time, the permittee may choose to contact EPA-New England directly using the approach outlined in **Attachment A**.

Part I.A.2.

- 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 6.0 nor greater than 8.3 at any time.
 - 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 carbonaceous biochemical oxygen demand. The percent removal shall be based on monthly average values.
 - f. The results of sampling for any parameter done in accordance with EPA approved methods above its required frequency must also be reported.
 - g. The permittee shall minimize the use of chlorine while maintaining adequate bacterial control.
 - h. The permittee is required, when the average annual flow in any calendar year exceeds 80% of the facilities design flow, to submit a report to MassDEP on how the permittee will remain in compliance with the limitations in the permit, especially flow.
3. All 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.

4. 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.

5. 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.

6. Numerical Effluent Limitations for Toxicants

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 I.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). [Note: SSO Reporting Form (which includes MassDEP Regional Office telephone numbers) for submittal of written report to MassDEP is available on-line at <http://www/mass.gov/dep/water/approvals/surffms.htm#sso>.]

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 §403.3(o))

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. SPECIAL CONDITION

The permittee shall conduct a study of sources of phosphorus within the collection system to address high effluent phosphorus levels at the Treatment Plant. The report shall identify sources contributing significant loads of total phosphorus to the collection system, along with recommendations for reducing such loads. A report summarizing the findings of the study shall be submitted to both EPA and MassDEP at the addresses listed in Section F of this permit, **no latter than one year from the effective date of the permit.**

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
Western Regional Office - Bureau of Resource Protection
436 Dwight Street
Springfield, Massachusetts 01103

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

F. 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.

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND - REGION I
ONE 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: **MA0100218**

NAME AND ADDRESS OF APPLICANT:

**Town of Amherst
Department of Public Works
586 South Pleasant Street, Amherst Massachusetts 01002**

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

**Amherst Massachusetts Wastewater Treatment Plant
1 Mullins Way, Hadley, Massachusetts 01035**

RECEIVING WATER: **Connecticut River (Connecticut River Watershed – MA34-04)**

CLASSIFICATION: **Class B - Warm Water Fishery**

I. PROPOSED ACTION

The above named applicant has applied to the U.S. Environmental Protection Agency for the re-issuance of its National Pollutant Discharge Elimination System (NPDES) permit to discharge into the designated receiving water. The current permit was signed on July 11, 2000 and became effective on September 30, 2000. The permit expired September 30, 2005. A re-application was received on January 20, 2005. This draft permit, after it becomes effective, will expire five (5) years from the effective date of issuance.

II. TYPE OF FACILITY AND DISCHARGE LOCATION

The facility is a 7.1 million gallon per day (mgd) secondary wastewater treatment facility, which discharges to the Connecticut River in the Connecticut River Watershed.

The facility's discharge outfalls are listed below:

<u>Outfall</u>	<u>Description of Discharge</u>	<u>Receiving Water</u>
001	Treated Effluent	Connecticut River

III. DESCRIPTION OF DISCHARGE

Quantitative descriptions of the discharge in terms of significant effluent parameters based on recent discharge monitoring reports (DMRs) for May 1, 2005 through April 30, 2006 may be found in Fact Sheet Attachment A.

IV. RECENT PERMIT HISTORY

September 29, 1995	NPDES Permit reissued
March 15, 2000	EPA Issues Application Complete Letter
January 20, 2000	NPDES Permit Application received by EPA
July 11, 2000	NPDES Permit Reissued
September 30, 2000	NPDES Permit becomes effective
January 20, 2005	NPDES Permit Application received by EPA
March 8, 2005	EPA Issues Application Complete Letter
September 30, 2005	Current Permit Expired and is administratively continued

V. LIMITATIONS AND CONDITIONS

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

VI. PERMIT BASIS AND EXPLANATION OF EFFLUENT LIMITATION DERIVATION

A. PROCESS DESCRIPTION

The Amherst Wastewater Treatment Plant is a secondary treatment facility with a design capacity of 7.1 million gallons per day which treats domestic wastewaters with no industrial contribution. See Figure 1 and 2 with Location of the WWTP and Flow Diagram respectively. The following is a brief description of the collection system and the treatment plant.

Wastewater flow is brought to the plant by gravity sewers from three regions, the University of Massachusetts, North Amherst, and Amherst. The collection system is a 100% separate sanitary system serving 38,500 inhabitants. Plant influent passes through three Parshall flumes, then to preliminary treatment by two comminutors, and two grit collectors. An onsite septage receiving station discharges septage waste to the head of the treatment plant. Flow is then pumped to three primary sedimentation tanks where the heavier solids are settled out. Clarified wastewater overflows the primary sedimentation tanks and flows to three aeration tanks. The mixture of wastewater and activated sludge, called the "mixed liquor", then flows by gravity to the three secondary sedimentation tanks for final settling. Clarified wastewater, which overflows from the secondary tanks, is discharged to the effluent wet well and pumped through 3.5 mile force main to a 36 inch outfall. A chlorine diffuser doses the wastewater with chlorine soon after pumping. The required chlorine contact time for disinfection is assured by the 45 minute detention time in the effluent force main and outfall before discharge. The treated effluent is discharged into the main channel of the Connecticut River through a series of diffusers.

The sludge which settles in the primary sedimentation basins is co-thickened with waste activated sludge to above 7% solids and pumped to a 9000 gallon tank truck for transport to offsite incineration facilities.

B. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. Overview of Federal and State Regulations

Pursuant to 40 C.F.R. § 122.44 (d), permittees must achieve water quality standards established under Section 303 of the Clean Water Act (CWA), including state narrative criteria for water quality. Additionally, under 40 C.F.R. § 122.44 (d)(1)(i), "Limitations must control all pollutants or pollutant parameters which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard." When determining whether a discharge causes, or has the reasonable potential to cause or contribute to an in-stream excursion above a narrative or numeric criterion, the permitting authority shall use procedures which account for existing controls on point and non-point sources of pollution, and where appropriate, consider 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 restrict the relaxation of permit limits, standards, and conditions. Therefore effluent limits in the reissued permit must be at least as stringent as those of the previous permit. Effluent limits based on technology, water quality, and state certification requirements must meet anti-backsliding provisions found under section 402 (o) and 303 (d) of the CWA, and in 40 CFR 122.44 (1).

In accordance with regulations found at 40 CFR Section 131.12, MassDEP has developed and adopted a statewide antidegradation policy to maintain and protect existing in-stream water quality. The Massachusetts Antidegradation Policy is found at Title 314 CMR 4.04. No lowering of water quality is allowed, except in accordance with the antidegradation policy. All existing uses of the Connecticut River must be protected. This draft permit is being reissued with allowable discharge limits as, or more, stringent than those in the current permit and with the same parameter coverage, with the exception of the change from BOD₅ to CBOD₅ and the elimination of the maximum daily BOD₅ and TSS limits. There is no change in outfall location. The public is invited to participate in the antidegradation finding through the permit public notice procedure.

Under Section 301(b)(1) of the Clean Water Act ("CWA"), publicly owned treatment works ("POTWs") must have achieved effluent limitations based upon Secondary Treatment by July 1, 1977.

The secondary treatment requirements are set forth at 40 C.F.R. Part 133.102. In addition, Section 301(b)(1)(C) of the CWA requires that effluent limitations based on water quality considerations be established for point source discharges when such limitations are necessary to meet state or federal water quality standards that are applicable to the designated receiving water.

2. Water Quality Standards and Designated Uses

The Amherst WWTP discharges to the Connecticut River Segment MA34-04(b). Segment MA34-04 runs from the confluence with the Deerfield River, Greenfield/Montague/Deerfield to the Holyoke Dam, Holyoke/South Hadley, a length of 34.2 miles.

The Connecticut River has been designated as a Class B water, warm water fishery. The Massachusetts Surface Water Quality Standards, 314 Code of Massachusetts Regulations (“CMR”) 4.05(3) (b) states that Class B waters are designated as habitat for fish, other aquatic life and wildlife, and for primary and secondary contact recreation. They shall be suitable for irrigation and other agricultural uses and for compatible industrial cooling and process uses. The waters should have consistently good aesthetic value.

A warm water fishery is defined in the Massachusetts Surface Water Quality Standards (314 CMR 4.02) as waters in which the maximum mean monthly temperature generally exceeds 20° Celsius during the summer months and are not capable of supporting a year-round population of cold water stenothermal aquatic life.

The objective of the Federal Clean Water Act (CWA) is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. To meet this goal the CWA requires states to develop information on the quality of their water resources and report this information to the U.S. Environmental Protection Agency (EPA), the U.S. Congress, and the public. To this end the EPA released guidance on November 19, 2001, for the preparation of an integrated “List of Waters” that could combine reporting elements of both § 305 (b) and 303(d) of the CWA. The integrated list format allows the states to provide the status of all their assessed waters in one list. States choosing this option must list each water body or segment in one of the following five categories:

1) Unimpaired and not threatened for all designated uses; 2) Unimpaired waters for some uses and not assessed for others; 3) Insufficient information to make assessments for any uses; 4) Impaired or threatened for one or more uses but not requiring the calculation of a Total Maximum Daily Load (TMDL); and 5) impaired or threatened for one or more uses and requiring a TMDL.

The segment of the Connecticut River, (*Segment MA34- Reach 04B: Confluence of Sawmill River, Montague to confluence of Mill River Hadley*) where the Amherst discharge occurs, is classified in the State's Integrated List of Waters as category 5, as not in attainment and requiring a TMDL. The listed impairments for this segment are priority organics and pathogens.

The Amherst WWTP effluent does not contain detectable levels of PCBs and is not believed to be the source of the contamination found in fish tissue samples. The permit has fecal coliform limits to insure that the WWTP discharge does not contribute to the impairment of the river.

The MassDEP 1998 Water Quality Assessment Report for the Connecticut River, which is the basis for the 303(d) list, stated that the aquatic life use is assessed as “supported” for this segment based on in-stream water chemistry and whole effluent toxicity data. There is a fish advisory for much of the Connecticut River, including this segment, for polychlorinated biphenyl (PCB) contamination.

Available Dilution

Water quality based limits are established with the use of a calculated available dilution. Title 314 CMR 4.03(3)(a) requires that effluent dilution be calculated based on the receiving water 7Q10. The 7Q10 is the lowest observed mean river flow for 7 consecutive days, occurring over a 10-year recurrence interval. Additionally, the facility design flow is used to calculate available effluent dilution (40 CFR §122.45(b)(i)).

The facility design flow is 7.1 million gallons per day or 10.98 cubic feet per second (cfs). The nearest United States Geological Survey (USGS) streamflow gage to the discharge point is located upstream in Montague. The Montague (01170500) gage station has a drainage area of 7860 square miles (mi²). The USGS calculated 7Q10 at the gage Station is 1727 cfs for the record years 1905-1999. The drainage area at Route 116 [upstream of Amherst] is 7916 sq mi. Downstream of Rte 116, the Russellville Brook adds 7 sq mi of drainage for a total drainage area downstream of Rte 116 of 7923 sq mi. at the Amherst WWTP. The 7Q10 at the Amherst WWTP is determined by multiplying the ratio of 7Q10 to drainage area at the Montague Gage Station by the drainage area at the Amherst WWTP.

WWTP is = 7923 sq mi.

Flow factor = $1727/7860 = 0.22$ cfs/sq mi
Flow @ Amherst = $0.22 \times 7923 = 1743$ cfs

Dilution Ratio: $7.1 \text{ MGD} \times 1.547 = 10.98$ cfs;
 $1743 + 10.98/10.98 = 159.7:1 =$ Dilution Factor

Flow - The flow limit of 7.1 mgd is based on the annual average design flow of the treatment plant. Federal regulations found at 40 CFR §122.45(b)(i) require that effluent limitations be calculated based on design flow which is found in the Permit Application Form 2A, Part A, Section a.6. Flow is to be measured continuously. The permittee shall report the annual average monthly flow using the annual rolling average method (See Permit Footnote 1).

The maximum, minimum and total flow for each operating date shall also be reported. Discharge monitoring reports (DMRs) submitted by the Town show that the facility consistently achieves the limit. (See Attachment A of this Fact Sheet)

OUTFALL 001 - CONVENTIONAL POLLUTANTS

Biochemical Oxygen Demand to Carbonaceous Biochemical Oxygen Demand (CBOD₅) - Publicly Owned Treatment Works (POTWs) are subject to the secondary treatment requirements set forth at 40 CFR Part 133. The BOD₅ limits have been changed to CBOD₅ (Carbonaceous BOD) during this permit reissuance. EPA allows the use of CBOD₅ limits in place of BOD₅ limits to minimize test interference as a result of nitrogenous pollutants which cause error in the BOD₅ test method. The secondary treatment limitations for CBOD₅ are an average monthly concentration of 25 mg/l, and a weekly average concentration of 40 mg/l. These limits are based on secondary treatment requirements at 40 CFR §133.102(a)(4)(i and ii). The maximum daily limit has been removed because it is no longer required as a condition for obtaining state certification. The maximum daily concentration shall continue to be reported.

Monthly average and weekly average CBOD₅ mass (lbs per day) limits are required to ensure that there is no degradation of receiving waters due to the change in the flow limit from a monthly average to an annual average. Discharge monitoring reports (DMRs) submitted by the permittee show that the facility consistently achieves the (lbs/day) limit. The mass limitations for CBOD₅ are based on the 7.1 mgd design flow.

Total Suspended Solids (TSS) - Publicly Owned Treatment Works (POTWs) are subject to the secondary treatment requirements set forth at 40 CFR 133.102 (b)(1), (2) and 40 CFR 122.45 (f). The secondary treatment limitations are a monthly average TSS concentration of 30 mg/l and a weekly average concentration of 45 mg/l. The maximum daily limit has been removed because it is no longer required as a condition for obtaining state certification. The maximum daily concentration shall continue to be reported.

Monthly average and weekly average TSS mass (lbs per day) limits have been maintained to ensure that there is no degradation of receiving waters due to the change in the flow limit from a monthly average to an annual average. Discharge monitoring reports (DMRs) submitted by the permittee show that the facility consistently achieves the (lbs/day) limit. The mass limitations for TSS are based on the 7.1 MGD design flow.

CBOD₅ and TSS Mass Loading Calculations:

Calculations of maximum allowable loads for average monthly BOD₅ and TSS are based on the following equation:

$$L = C \times DF \times 8.34 \text{ or } L = C \times DF \times 3.79 \text{ where:}$$

L = Maximum allowable load in lbs/day.

C = Maximum allowable effluent concentration for reporting period in mg/l.

Reporting periods are average monthly and weekly and daily maximum.

DF = Design flow of facility in mgd.

8.34 = Factor to convert effluent concentration in mg/l and design flow in MGD to lbs/day.

3.79 = Factor to convert effluent concentration in mg/l and design flow in MGD to kgs/day.

CBOD₅

(Concentration limit) [40] X 8.34 (Constant) X 7.1 (design flow) = 2369 lbs/day

(Concentration limit) [40] X 3.79 (Constant) X 7.1 (design flow) = 1076 kgs/day

(Concentration limit) [25] X 8.34 (Constant) X 7.1 (design flow) = 1480 lbs/day

(Concentration limit) [25] X 3.79 (Constant) X 7.1 (design flow) = 673 kgs/day

TSS

(Concentration limit) [45] X 8.34 (Constant) X 7.1 (design flow) = 2665 lbs/day

(Concentration limit) [45] X 3.79 (Constant) X 7.1 (design flow) = 1211 kgs/day

(Concentration limit) [30] X 8.34 (Constant) X 7.1 (design flow) = 1776 lbs/day

(Concentration limit) [30] X 3.79 (Constant) X 7.1 (design flow) = 807 kgs/day

Eighty-Five Percent (85%) CBOD₅ Removal - the provisions of 40 CFR §133.102(a)(4)(iii), require that the 30 day average percent removal for CBOD₅ be not less than 85%.

Eighty-Five Percent (85%) TSS Removal - the provisions of 40 CFR 40 CFR §133.102(a)(3) require that the 30 day average percent removal for TSS be not less than 85%. The limit is maintained in the draft permit.

pH - The draft permit includes pH limitations which are required by state water quality standards, and are protective of pH standards set forth at Title 314 CMR 4.05(b)(3), for Class B waters. The pH requirements are more stringent than those required under 40 C.F.R. §133.102(c). The pH limits are carried forward from the current permit. The monitoring frequency is once (1) per day.

Fecal Coliform Bacteria - The draft permit includes fecal coliform bacteria limitations which are in accordance with the Massachusetts Surface Water Quality Standards 314 CMR 4.05 (4)(b). The proposed limits in the draft permit are 200 colony forming units (cfu)/100 ml for the average monthly limit and 400 colony forming units (cfu)/100 ml for the maximum daily limit. Fecal coliform bacteria limits are seasonal from April 1 through October 31 of each year. The limits are extended from October 15th in the current permit to October 31 to be consistent with other reissued Massachusetts NPDES Permits.

E. coli - Monthly sampling and “reporting” for *E. coli* is required in anticipation of the future adoption of *E. coli* as the bacterial criteria in the Massachusetts Surface Water Quality Standards. MassDEP is requiring *E. coli* monitoring as a certification requirement under Section 401 of the CWA.

OUTFALL 001 - NON-CONVENTIONAL POLLUTANTS

Total Residual Chlorine - (TRC) Chlorine compounds produced by the chlorination of wastewater, as well as chlorine, can be extremely toxic to aquatic life. The instream chlorine criteria for the Connecticut River are defined in the EPA Quality Criteria for Water, as adopted by the MassDEP into the state water quality standards [Title 314 CMR 4.05(5)(e)], and as revised in the Federal Register: December 27, 2002 (Volume 67, Number 249). The criterion states that the average total residual chlorine in the receiving water should not exceed 11 ug/l (chronic) and 19 ug/l (acute). The following is a water quality based calculation of chlorine limits:

Acute Chlorine WQC = 19 ug/l

Chronic Chlorine WQC = 11 ug/l

Total Residual Chlorine Limitations:

(acute criteria * dilution factor) = Acute (Maximum Daily)

19 ug/l x 159.7 = 3034.3 ug/l /1000 = 3.03 mg/l Maximum Daily.

(chronic criteria * dilution factor) = Chronic (Average Monthly)

11 ug/l x 159.7 = 1756.7 ug/l /1000 = 1.76 mg/l Average Monthly

The draft permit has a more protective TRC limit of 1.0 mg/l based on the Massachusetts Water Quality Standards Implementation Policy For The Control Of Toxic Pollutants In Surface Waters, February 23, 1990. The Implementation Policy states that: “Waters shall be protected from unnecessary discharges of excess chlorine. In segments with dilution factors greater than 100, the maximum effluent concentration of chlorine shall not exceed 1.0 mg/l.” The maximum daily TRC limit of 1.0 mg/l will be carried forward from the current permit. Because the maximum daily TRC limit is well below the calculated average monthly limit, no average monthly permit limits is necessary.

The period of applicability has been changed from April 1 - October 15 to April 1 - October 31 to be consistent with other discharges in the Connecticut River and is a reflection of the increased recreational use of the river. The permittee is required to have an alarm to system to warn of a chlorination system malfunction. This a best management practice (BMP), and is being required under authority of 40 CFR §122.44(k)(4). The permit requires the submission of the results to EPA of any additional testing done than that required in the permit, if it is conducted in accordance with EPA approved methods, consistent with the provisions of 40 CFR §122.41(l)(4)(ii).

Total Phosphorus - The Massachusetts Surface Water Quality Standards (314 CMR 4.00) do not contain numerical criteria for Total phosphorus. The narrative criteria for nutrients are found in 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 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). The Connecticut River at the point of discharge is not listed as impaired for pollutants associated with eutrophication.

EPA has produced several guidance documents which contain recommended total phosphorus criteria for receiving water. The 1986 Quality Criteria of Water (“Gold Book”) recommends in-stream phosphorus concentration 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 ponds, and 0.025 mg/l within the lake or reservoir.

The Discharge Monitoring Reports (DMR) submitted by the permittee report total phosphorus values between 2.2 mg/l – 11 mg/l with an average of 6.21 mg/l.

Assuming zero in-stream background phosphorus, the calculated instream contribution for the Connecticut River at point of discharge using the Gold Book (0.1 mg/l) criteria times the dilution factor of 176.7, would afford the municipality a 17.65 mg/l limit which is higher than the maximum daily concentrations reported in the DMRs. Therefore, EPA is not recommending a phosphorus limit at this time. The permittee is required to continue monitoring and reporting total phosphorus concentrations.

Nitrogen Monitoring: Total Kjeldahl Nitrogen, Total Nitrate, Total Nitrite, and Ammonia Nitrogen: Nutrient modeling conducted as part of the Long Island Sound Program has been demonstrated that excessive nitrogen loadings are causing significant water quality problems in Long Island Sound, including dissolved oxygen. The State of Connecticut has begun to impose nitrogen limitations on Connecticut discharges to Long Island Sound and its tributaries. EPA agrees there is a need to determine the loadings of nitrogen from sources in Massachusetts which are tributary to Long Island Sound, and to help determine what limits, if any should be imposed on discharges in Massachusetts. Therefore, based on Section 308 of the Clean Water Act, EPA has maintained quarterly requirements for testing for total nitrogen as Kjeldahl nitrogen, nitrate and nitrite, and ammonia in the draft permit.

The information submitted by the permittee will help to establish a database of nitrogen loadings, which can be used quantitatively to assess the impact of loading and transport to Long Island Sound

Whole Effluent Toxicity – (WET) Under Section 301(b)(1)(C) of the CWA, discharges are subject to effluent limitations based on water quality standards. The Massachusetts Surface Water Quality Standards include the following narrative statement and requires that EPA criteria established pursuant to Section 304(a)(1) of the CWA be used as guidance for interpretation of the following narrative criteria: “All surface waters shall be free from pollutants in concentrations or combinations that are toxic to humans, aquatic life or wildlife.”

National studies conducted by the EPA have demonstrated that domestic sources contribute toxic constituents. These constituents include metals, chlorinated solvents, aromatic hydrocarbons and others. The Region’s current policy is to include toxicity testing requirements in all permits, while Section 101(a) (3) of the CWA specifically prohibits the discharge of toxic pollutants in toxic amounts.

Based on the potential for toxicity resulting from domestic sewage, in accordance with EPA national and regional policy, and in accordance with MassDEP policy, the draft permit includes acute toxicity limitations and monitoring requirements. (See Policy for the Development of Water Quality-Based Permit Limitations for Toxic Pollutants, 50 Fed. Reg. 30,784 (July 24, 1985); EPA's Technical Support Document for Water Quality-Based Toxics Control", September, 1991; and MassDEP's Implementation Policy for the Control of Toxic Pollutants in Surface Waters (February 23, 1990).)

Pursuant to EPA, Region I and MassDEP policy, discharges having a dilution factor greater than 100:1 (159.7 for this discharge) require acute toxicity testing and an acute LC₅₀ limit of 50%. The draft permit requires the permittee to conduct two acute WET tests per year. The tests the use the species, Ceriodaphnia dubia, in accordance with existing permit conditions, and are to be conducted in accordance with the EPA Region I Toxicity protocol found in the draft permit Attachment A.

IV. OPERATION AND MAINTENANCE OF THE SEWER SYSTEM

The permit standard conditions for "Proper Operation and Maintenance" are found at 40 CFR 122.41(e). These require proper operation and maintenance of permitted wastewater systems and related facilities to achieve permit conditions. Similarly, the permittee has a 'duty to mitigate' are stated in 40 CFR §122.41(d). This requires the permittee to take all reasonable steps to minimize or prevent any discharge in violation of the permit which has the reasonable likelihood of adversely affecting human health or the environment. EPA and MassDEP maintain that these programs are an integral component of ensuring permit compliance under both these provisions.

The draft permit includes requirements for the permittee to control infiltration and inflow (I/I). Infiltration is groundwater that enters the collection system through physical defects such as cracked pipes, or deteriorated joints. Inflow is extraneous flow entering the collection system through point sources such as roof leaders, yard and area drains, sump pumps, manhole covers, tide gates, and cross connections from storm water systems. Significant I/I in a collection system may displace sanitary flow reducing the capacity and the efficiency of the treatment works and may cause bypasses to secondary treatment. It greatly increases the potential for sanitary sewer overflows (SSO) in separate systems.

The permittee estimates the rate of I/I in the collection system to be one million gallons per day (2005 permit application). The permittee has recorded daily maximum flow rates of more than 15 mgd.

The permittee shall develop an I/I removal program for its separate sewers commensurate with the severity of the I/I in the collection system. Where portions of the collection system have little I/I, the control program will logically be scaled down.

This requires the permittee to take all reasonable steps to minimize or prevent any discharge in violation of the permit which has a reasonable likelihood of adversely affecting human health or the environment. EPA and MassDEP maintain that an I/I removal program is an integral component to insuring permit compliance under both of these provisions.

The MassDEP has stated that inclusion of the I/I conditions in the draft permit shall be a standard State Certification requirement under Section 401 of the Clean Water Act and 40 CFR §124.55(b).

V. SLUDGE INFORMATION AND REQUIREMENTS

The Amherst WWTP produces approximately 9018 metric tons of sludge each year. Section 405(d) of the Clean Water Act requires that sludge conditions be included in all POTW permits. Primary and secondary thickened sludge from the Amherst WWTF is currently trucked off-site to four facilities for incineration. Casella Transportation, Inc., hauls the sludge to Fitchburg, MA, The City of Glens Falls, NY, Mattabsett Sewer District, in Cromwell, CT, and to the Upper Blackstone WPAD in Millbury, MA. If the ultimate sludge disposal method changes, the permittee must notify EPA and MassDEP and the requirements pertaining to sludge monitoring and other conditions would change accordingly (See Attached Sludge Guidance document).

VI. 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 Service (NMFS) if EPA's action or proposed actions that it funds, permits, or undertakes, "may adversely impact any essential fish habitat," 16 U.S.C. § 1855(b).

The Amendments broadly define “essential fish habitat” (EFH) as: “waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity,” 16 U.S.C. § 1802(10). “Adverse 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. Id.

Essential fish habitat is only designated for fish 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.

Only Atlantic salmon are present during one or more life stages within the EFH area to which the WWTP discharges. There is no “habitat of particular concern” as defined under §600.815(a)(9) of the Magnuson-Stevens Act, designated for this site.

EPA and MassDEP have determined that a formal EFH consultation with NMFS for this discharge is not required. The proposed discharge permit is developed to meet State Surface Water Quality Standards and will not adversely impact EFH.

VII ENDANGERED SPECIES ACT CONSULTATION FOR SHORTNOSED STURGEON

Section 7(a) of the Endangered Species Act of 1973, as amended (Act") grants authority to and imposes requirements upon Federal agencies regarding endangered or threatened species of fish, wildlife, or plants (A listed species") and habitat of such species that has been designated as critical (A critical habitat").

Section 7(a)(2) of the Act requires every Federal agency, in consultation with and with the assistance of the Secretary of the Interior, to insure that any action it authorizes, funds, or carries out, in the United States or upon the high seas, is not likely to jeopardize the continued existence of any listed species or results in the destruction or adverse modification of critical habitat. The National Marine Fisheries Service (NMFS) administers Section 7 consultations for marine species and anadromous fish. The United States Fish and Wildlife Service (USFWS) administers Section 7 consultations for freshwater species.

The Department of the Interior has listed the Shortnosed Sturgeon (*Acipenser brevirostrum*) as endangered for portions of the Connecticut River. Therefore, EPA has entered into consultation with NMFS and USFWS regarding the reissuance of the NPDES permits to be reissued in the Connecticut River Watershed.

VIII. UNAUTHORIZED DISCHARGES

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

Notification of SSOs to MassDEP shall be made on its SSO Reporting Form (which includes DEP Regional Office telephone numbers). The reporting form and instruction for its completion may be found on-line at <http://www.mass.gov/dep/water/approvals/surffms.htm#sso>.

IX. MONITORING AND REPORTING

The permittee is obliged to monitor and report sampling results to EPA and the MassDEP within the time specified in the permit. The effluent monitoring requirements have been established to yield data representative of the discharge by the authority under Section 308(a) of the CWA in accordance with 40 CFR, 122.44, and 122.48.

X. STATE PERMIT CONDITIONS

The NPDES Permit is issued jointly by the U. S. Environmental Protection Agency and the Massachusetts Department of Environmental Protection under federal and state law, respectively. As such, all the terms and conditions of the permit are, therefore, incorporated into and constitute a discharge permit issued by the MassDEP Commissioner.

XI. GENERAL CONDITIONS

The general conditions of the permit are based primarily on the NPDES regulations 40 CFR 122 through 125 and consist primarily of management requirements common to all permits.

XII. STATE CERTIFICATION REQUIREMENTS

EPA may not issue a permit unless the State Water Pollution Control Agency with jurisdiction over the receiving waters certifies that the effluent limitations contained in the permit are stringent enough to assure that the discharge will not cause the receiving water to violate State Water Quality Standards. 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.

Comment Period, Hearing Requests, 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 Doug Corb, U.S. EPA, Office of Ecosystem Protection, Municipal Permits Branch, 1 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 if the criteria stated in 40 C.F.R. § 124.12 are satisfied. In reaching a final decision on the Draft Permit, the EPA 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 any public hearings, if such hearings are held, the EPA 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. Within 30 days following the notice of the Final Permit decision, any interested person may submit a petition for review of the permit to EPA's Environmental Appeals Board consistent with 40 C.F.R. § 124.19.

XIII. EPA 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:

Doug Corb
Office of Ecosystem Protection
U.S. Environmental Protection Agency
One Congress Street, Suite-1100 (CMP)
Boston, MA 02114-2023
Telephone: (617) 918-1565
Corb.Doug@epa.gov

Date:
August 10, 2006

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

MA0100218 FACT SHEET ATTACHMENT A DMR DATA & VIOLATIONS

Acronyms: MVDT = DMR Date NODI = No discharge Code MQAV & MCAV = Monthly Average Limit
 MQMX & MCMX = Daily Maximum Limit
 VQAV, VQMX, VCMN, VCAV & VCMX = Percent Violations in Corresponding columns

MA0100218 AMHERST W W T P		M PUB SEWERAGE SYSTEMS						CONNECTICUT RIVER			
DSDG PIPE		PRAM		LQUC		LCUC		MLOC			
001A	BOD, 5-DAY PERCENT REMOVAL						PER- CENT PERCENT REMOVAL				
MVDT	NODI	MQAV	MQMX	VQAV	VQMX	MCMN	MCAV	MCMX	VCMN	VCAV	VCMX
05/31/04		0	0	94.6		0	0	0			
06/30/04		0	0	97.4		0	0	0			
07/31/04		0	0	95.1		0	0	0			
08/31/04		0	0	89.7		0	0	0			
09/30/04		0	0	94		0	0	0			
10/31/04		0	0	92.7		0	0	0			
11/30/04		0	0	92.9		0	0	0			
12/31/04		0	0	93.6		0	0	0			
01/31/05		0	0	95.2		0	0	0			
02/28/05		0	0	95.2		0	0	0			
03/31/05		0	0	93.6		0	0	0			
04/30/05		0	0	95		0	0	0			
05/31/05		0	0	96.6		0	0	0			
06/30/05		0	0	92.6		0	0	0			
07/31/05		0	0	95.6		0	0	0			
08/31/05		0	0	94.5		0	0	0			
09/30/05		0	0	98.1		0	0	0			
10/31/05		0	0	98.7		0	0	0			
11/30/05		0	0	97.9		0	0	0			
12/31/05		0	0	98.1		0	0	0			
01/31/06		0	0	98		0	0	0			
02/28/06		0	0	99		0	0	0			
03/31/06		0	0	99.1		0	0	0			
04/30/06		0	0	99		0	0	0			

001A

SOLIDS, SUSPENDED PERCENT REMOVAL

MVDT	NODI	MQAV	MQMX	VQAV	VQMX	MCMN	MCAV	MCMX	VCMN	VCAV	VCMX
05/31/04		0	0	98.5		0	0	0			
06/30/04		0	0	98.7		0	0	0			
07/31/04		0	0	98.7		0	0	0			
08/31/04		0	0	98.7		0	0	0			
09/30/04		0	0	98.7		0	0	0			
10/31/04		0	0	98.4		0	0	0			
11/30/04		0	0	98.4		0	0	0			
12/31/04		0	0	98.3		0	0	0			
01/31/05		0	0	98.2		0	0	0			
02/28/05		0	0	98.8		0	0	0			
03/31/05		0	0	98		0	0	0			
04/30/05		0	0	98.6		0	0	0			
05/31/05		0	0	98.2		0	0	0			
06/30/05		0	0	96.6		0	0	0			
07/31/05		0	0	98.7		0	0	0			
08/31/05		0	0	98.8		0	0	0			
09/30/05		0	0	96.8		0	0	0			
10/31/05		0	0	97.9		0	0	0			
11/30/05		0	0	97.8		0	0	0			
12/31/05		0	0	97.5		0	0	0			
01/31/06		0	0	97		0	0	0			
02/28/06		0	0	98.2		0	0	0			
03/31/06		0	0	98.4		0	0	0			
04/30/06		0	0	98.9		0	0	0			

001A	BOD, 5-DAY		(20 DEG. C)		LBS/DY		MCMX	VCMN	VCAV	VCMX
	MVDT	NODI	MQAV	MQMX	VQAV	VQMX				
05/31/04	502	0	0			0	0	0		
06/30/04	206	0	0			0	0	0		
07/31/04	289	0	0			0	0	0		
08/31/04	452	0	0			0	0	0		
09/30/04	635	0	0			0	0	0		
10/31/04	1065	0	0			0	0	0		
11/30/04	842	0	0			0	0	0		
12/31/04	868	0	0			0	0	0		
01/31/05	360	0	0			0	0	0		
02/28/05	558	0	0			0	0	0		
03/31/05	515	0	0			0	0	0		
04/30/05	568	0	0			0	0	0		
05/31/05	328	0	0			0	0	0		
06/30/05	747	0	0			0	0	0		
07/31/05	281	0	0			0	0	0		
08/31/05	325	0	0			0	0	0		
09/30/05	340	0	0			0	0	0		
10/31/05	185	0	0			0	0	0		
11/30/05	303	0	0			0	0	0		
12/31/05	226	0	0			0	0	0		
01/31/06	197	0	0			0	0	0		
02/28/06	100	0	0			0	0	0		
03/31/06	101	0	0			0	0	0		
04/30/06	101	0	0			0	0	0		

001A

MVDT	SOLIDS, TOTAL		SUSPENDED			LBS/DY					
	NODI	MQAV	MQMX	VQAV	VQMX	MCMN	MCAV	MCMX	VCMN	VCAV	VCMX
05/31/04	170	0	0			0	0	0			
06/30/04	88	0	0			0	0	0			
07/31/04	84	0	0			0	0	0			
08/31/04	74	0	0			0	0	0			
09/30/04	118	0	0			0	0	0			
10/31/04	155	0	0			0	0	0			
11/30/04	175	0	0			0	0	0			
12/31/04	169	0	0			0	0	0			
01/31/05	317	0	0			0	0	0			
02/28/05	152	0	0			0	0	0			
03/31/05	135	0	0			0	0	0			
04/30/05	141	0	0			0	0	0			
05/31/05	204	0	0			0	0	0			
06/30/05	318	0	0			0	0	0			
07/31/05	90	0	0			0	0	0			
08/31/05	75	0	0			0	0	0			
09/30/05	397	0	0			0	0	0			
10/31/05	247	0	0			0	0	0			
11/30/05	216	0	0			0	0	0			
12/31/05	187	0	0			0	0	0			
01/31/06	170	0	0			0	0	0			
02/28/06	100	0	0			0	0	0			
03/31/06	132	0	0			0	0	0			
04/30/06	101	0	0			0	0	0			

001A BOD, 5-DAY (20 DEG. C) LBS/DY MG/L EFFLUENT GROSS VALUE

QL ***** QL

MVDT	NODI	MQAV	MQMX	VQAV	VQMX	MCMN	MCAV	MCMX	VCMN	VCAV	VCMX
05/31/04	375	656	0 0	9.7	13	17	0 0	0	0	0	0
06/30/04	155	220	0 0	5.5	7.3	8.1	0 0	0	0	0	0
07/31/04	231	403	0 0	8.8	11	13.9	0 0	0	0	0	0
08/31/04	408	645	0 0	15.9	17.6	25.7	0 0	0	0	0	0
09/30/04	493	994	0 0	13.5	18.8	27.6	0 0	0	0	0	0
10/31/04	744	1319	0 0	20	27.4	30	0 0	0	0	0	0
11/30/04	657	933	0 0	19.5	25	27.7	0 0	0	0	0	0
12/31/04	540	1060	0 0	14.2	20.5	24.4	0 0	0	0	0	0
01/31/05	341	548	0 0	9.3	10.1	15.9	0 0	0	0	0	0
02/28/05	475	574	0 0	11.8	13.75	16	0 0	0	0	0	0
03/31/05	463	1149	0 0	11.5	14.4	16.6	0 0	0	0	0	0
04/30/05	464	678	0 0	10.2	12.5	15.1	0 0	0	0	0	0
05/31/05	283	353	0 0	8.2	9.5	11.1	0 0	0	0	0	0
06/30/05	360	1694	0 0	13.5	28	61	0 0	0	0	0	0
07/31/05	211	351	0 0	7.8	10.4	13.9	0 0	0	0	0	0
08/31/05	279	488	0 0	11.5	13.4	20.3	0 0	0	0	0	0
09/30/05	163	347	0 0	5.5	11.5	12.1	0 0	0	0	0	0
10/31/05	151	363	0 0	2.9	3	4	0 0	0	0	0	0
11/30/05	195	358	0 0	5	7	8	0 0	0	0	0	0
12/31/05	179	266	0 0	4.5	5.7	7.0	0 0	0	0	0	0
01/31/06	138	206	0 0	3	4	5	0 0	0	0	0	0
02/28/06	87	120	0 0	2	2	3	0 0	0	0	0	0
03/31/06	97	111	0 0	3	3	4	0 0	0	0	0	0
04/30/06	101	110	0 0	3	3	3	0 0	0	0	0	0

001A

MVDT	PH		VQAV	VQMX	SU EFFLUENT GROSS VALUE						
	NODI	MQAV			MQMX	MCMN	MCAV	MCMX	VCMN	VCAV	VCMX
05/31/04		0	0	6.1	6.8	0	0	0			
06/30/04		0	0	6.1	6.5	0	0	0			
07/31/04		0	0	6.3	7.0	0	0	0			
08/31/04		0	0	6.6	7.0	0	0	0			
09/30/04		0	0	6.5	7.1	0	0	0			
10/31/04		0	0	6.5	7.1	0	0	0			
11/30/04		0	0	6.1	6.9	0	0	0			
12/31/04		0	0	6.3	7.0	0	0	0			
01/31/05		0	0	6.4	7.6	0	0	0			
02/28/05		0	0	6.7	7.4	0	0	0			
03/31/05		0	0	6.1	7.0	0	0	0			
04/30/05		0	0	6.3	6.8	0	0	0			
05/31/05		0	0	5.8	6.7	3	0	0			
06/30/05		0	0	6.3	6.9	0	0	0			
07/31/05		0	0	6.4	7.2	0	0	0			
08/31/05		0	0	6.7	7.1	0	0	0			
09/30/05		0	0	6.9	7.2	0	0	0			
10/31/05		0	0	6.3	7.1	0	0	0			
11/30/05		0	0	6.0	7.2	0	0	0			
12/31/05		0	0	6.4	7.0	0	0	0			
01/31/06		0	0	6.4	7.1	0	0	0			
02/28/06		0	0	6.4	7.1	0	0	0			
03/31/06		0	0	6.1	7.2	0	0	0			
04/30/06		0	0	6.2	7.1	0	0	0			

001A	SOLIDS, TOTAL				SUSPENDED			LBS/DY			MG/L EFFLUENT GROSS VALUE		
MVDT	NODI	MQAV	MQMX	VQAV	VQMX	MCMN	MCAV	MCMX	VCMN	VCAV	VCMX		
05/31/04	124	220	0	0	3.2	4.4	5.7	0	0	0			
06/30/04	71	130	0	0	2.5	3.1	4.4	0	0	0			
07/31/04	68	94	0	0	2.6	3.2	3.5	0	0	0			
08/31/04	62	91	0	0	2.4	2.9	3.8	0	0	0			
09/30/04	106	205	0	0	2.9	3.5	5.7	0	0	0			
10/31/04	130	216	0	0	3.5	4.0	5.3	0	0	0			
11/30/04	125	229	0	0	3.7	5.2	6.8	0	0	0			
12/31/04	126	187	0	0	3.3	4.0	4.3	0	0	0			
01/31/05	106	317	0	0	2.9	3.9	9.2	0	0	0			
02/28/05	101	163	0	0	2.5	3.2	3.7	0	0	0			
03/31/05	145	458	0	0	3.4	3.6	6.0	0	0	0			
04/30/05	109	139	0	0	2.4	3.1	3.2	0	0	0			
05/31/05	117	470	0	0	3.4	5.9	10.2	0	0	0			
06/30/05	125	778	0	0	4.7	11.9	28	0	0	0			
07/31/05	76	128	0	0	2.8	3.3	4.8	0	0	0			
08/31/05	63	109	0	0	2.6	3.1	4	0	0	0			
09/30/05	151	453	0	0	5.1	13.4	15.7	0	0	0			
10/31/05	182	284	0	0	3.5	4	5.7	0	0	0			
11/30/05	160	224	0	0	4	5	5	0	0	0			
12/31/05	143	228	0	0	3.6	4.7	6.0	0	0	0			
01/31/06	138	218	0	0	3	4	5	0	0	0			
02/28/06	130	151	0	0	3	2	4	0	0	0			
03/31/06	97	208	0	0	3	4	6	0	0	0			
04/30/06	101	148	0	0	3	3	4	0	0	0			

001A

MVDT	NITROGEN, KJELDAHL TOTAL (AS N)						MCAV	MG/L MCMX	EFFLUENT GROSS VALUE		
	NODI	MQAV	MQMX	VQAV	VQMX	MCMN			VCMN	VCAV	VCMX
05/31/04		0	0	0		0	0	0			
06/30/04		0	0	0		0	0	0			
07/31/04		0	0	2.8		0	0	0			
08/31/04		0	0	7.0		0	0	0			
09/30/04		0	0	14		0	0	0			
10/31/04		0	0	6.3		0	0	0			
11/30/04		0	0	5.2		0	0	0			
12/31/04		0	0	1.8		0	0	0			
01/31/05		0	0	10		0	0	0			
02/28/05		0	0	11		0	0	0			
03/31/05		0	0	5.3		0	0	0			
04/30/05		0	0	4		0	0	0			
05/31/05		0	0	0		0	0	0			
06/30/05		0	0	2.9		0	0	0			
07/31/05		0	0	16		0	0	0			
08/31/05		0	0	3.9		0	0	0			
09/30/05		0	0	39		0	0	0			
10/31/05		0	0	2		0	0	0			
11/30/05		0	0	1.3		0	0	0			
12/31/05		0	0	3.7		0	0	0			
01/31/06		0	0	2.6		0	0	0			
02/28/06		0	0	16		0	0	0			
03/31/06		0	0	15		0	0	0			
04/30/06		0	0	8.5		0	0	0			

001A

NITRITE PLUS NITRATE TOTAL 1 DET. (AS N)

MG/L EFFLUENT GROSS VALUE

MVDT NODI MQAV MQMX VQAV VQMX MCMN MCAV MCMX VCMN VCAV VCMX

MVDT	NODI	MQAV	MQMX	VQAV	VQMX	MCMN	MCAV	MCMX	VCMN	VCAV	VCMX
05/31/04		0	0	12.22		0	0	0			
06/30/04		0	0	9.1		0	0	0			
07/31/04		0	0	9.31		0	0	0			
08/31/04		0	0	5.8		0	0	0			
09/30/04		0	0	6.9		0	0	0			
10/31/04		0	0	7.25		0	0	0			
11/30/04		0	0	8.45		0	0	0			
12/31/04		0	0	10.2		0	0	0			
01/31/05		0	0	4.06		0	0	0			
02/28/05		0	0	4.1		0	0	0			
03/31/05		0	0	7.06		0	0	0			
04/30/05		0	0	8.6		0	0	0			
05/31/05		0	0	10.3		0	0	0			
06/30/05		0	0	7.5		0	0	0			
07/31/05		0	0	10.2		0	0	0			
08/31/05		0	0	7.1		0	0	0			
09/30/05		0	0	6.95		0	0	0			
10/31/05		0	0	6.2		0	0	0			
11/30/05		0	0	8.3		0	0	0			
12/31/05		0	0	19.1		0	0	0			
01/31/06		0	0	4.1		0	0	0			
02/28/06		0	0	5.2		0	0	0			
03/31/06		0	0	6.27		0	0	0			
04/30/06		0	0	5.27		0	0	0			

001A	PHOSPHORUS, TOTAL (AS P)							MG/L EFFLUENT GROSS VALUE				
	MVDT	NODI	MQAV	MQMX	VQAV	VQMX	MCMN	MCAV	MCMX	VCMN	VCAV	VCMX
05/31/04			0	0	9		0	0	0			
06/30/04			0	0	7.1		0	0	0			
07/31/04			0	0	7.9		0	0	0			
08/31/04			0	0	6.4		0	0	0			
09/30/04			0	0	7.5		0	0	0			
10/31/04			0	0	7.9		0	0	0			
11/30/04			0	0	10.4		0	0	0			
12/31/04			0	0	8.4		0	0	0			
01/31/05			0	0	5.1		0	0	0			
02/28/05			0	0	2.2		0	0	0			
03/31/05			0	0	6.5		0	0	0			
04/30/05			0	0	7.2		0	0	0			
05/31/05			0	0	11		0	0	0			
06/30/05			0	0	5.5		0	0	0			
07/31/05			0	0	7.4		0	0	0			
08/31/05			0	0	8.5		0	0	0			
09/30/05			0	0	9.9		0	0	0			
10/31/05			0	0	5.6		0	0	0			
11/30/05			0	0	6.4		0	0	0			
12/31/05			0	0	7.6		0	0	0			
01/31/06			0	0	4.5		0	0	0			
02/28/06			0	0	5.5		0	0	0			
03/31/06			0	0	8.3		0	0	0			
04/30/06			0	0	8.3		0	0	0			

001A

NITROGEN, AMMONIA, TOTAL (AS NH3)

MG/L EFFLUENT GROSS VALUE

MVDT NODI MQAV MQMX VQAV VQMX MCMN MCAV MCMX VCMN VCAV VCMX

MVDT	NODI	MQAV	MQMX	VQAV	VQMX	MCMN	MCAV	MCMX	VCMN	VCAV	VCMX
05/31/04		0	0	0.5		0	0	0			
06/30/04		0	0	0.4		0	0	0			
07/31/04		0	0	1.5		0	0	0			
09/30/04		0	0	9.85		0	0	0			
08/31/04		0	0	2.14		0	0	0			
10/31/04		0	0	6.25		0	0	0			
11/30/04		0	0	4.1		0	0	0			
12/31/04		0	0	2		0	0	0			
01/31/05		0	0	9.5		0	0	0			
02/28/05		0	0	9.9		0	0	0			
03/31/05		0	0	4.7		0	0	0			
04/30/05		0	0	3.7		0	0	0			
05/31/05		0	0	3.95		0	0	0			
06/30/05		0	0	5		0	0	0			
07/31/05		0	0	1.8		0	0	0			
08/31/05		0	0	9.9		0	0	0			
09/30/05		0	0	13.1		0	0	0			
10/31/05		0	0	2.6		0	0	0			
11/30/05		0	0	1.6		0	0	0			
12/31/05		0	0	3.65		0	0	0			
01/31/06		0	0	3.8		0	0	0			
02/28/06		0	0	13.3		0	0	0			
03/31/06		0	0	13.2		0	0	0			
04/30/06		0	0	10.6		0	0	0			

001A	FLOW, IN CONDUIT OR THRU TREATMENT PLANT							MGD			EFFLUENT GROSS VALUE		
MVDT	NODI	MQAV	MQMX	VQAV	VQMX	MCMN	MCAV	MCMX	VCMN	VCAV	VCMX		
05/31/04	4.63	0	0			0	0	0					
06/30/04	3.39	0	0			0	0	0					
07/31/04	3.15	0	0			0	0	0					
08/31/04	3.08	0	0			0	0	0					
09/30/04	4.38	0	0			0	0	0					
10/31/04	4.46	0	0			0	0	0					
11/30/04	4.04	0	0			0	0	0					
12/31/04	4.56	0	0			0	0	0					
01/31/05	4.4	0	0			0	0	0					
02/28/05	4.83	0	0			0	0	0					
03/31/05	4.83	0	0			0	0	0					
04/30/05	5.45	0	0			0	0	0					
05/31/05	4.14	0	0			0	0	0					
06/30/05	3.2	0	0			0	0	0					
07/31/05	3.25	0	0			0	0	0					
08/31/05	2.91	0	0			0	0	0					
09/30/05	3.55	0	0			0	0	0					
10/31/05	6.25	0	0			0	0	0					
11/30/05	5.19	0	0			0	0	0					
12/31/05	4.76	0	0			0	0	0					
01/31/06	5.5	0	0			0	0	0					
02/28/06	5.2	0	0			0	0	0					
03/31/06	3.86	0	0			0	0	0					
04/30/06	4.04	0	0			0	0	0					

001A MVDT	CHLORINE, TOTAL		RESIDUAL				MG/L EFFLUENT GROSS VALUE				
	NODI	MQAV	MQMX	VQAV	VQMX	MCMN	MCAV	MCMX	VCMN	VCAV	VCMX
05/31/04		0	0		0.62	0	0	0			
06/30/04		0	0		0.72	0	0	0			
07/31/04		0	0		0.58	0	0	0			
08/31/04		0	0		0.62	0	0	0			
09/30/04		0	0		0.54	0	0	0			
10/31/04		0	0		0.63	0	0	0			
11/30/04		0	0		0	0	0	0			
12/31/04 9		0	0		0	0	0	0			
01/31/05		0	0		0	0	0	0			
02/28/05		0	0		0	0	0	0			
03/31/05 C		0	0			0	0	0			
04/30/05		0	0		0.64	0	0	0			
05/31/05		0	0		0.59	0	0	0			
06/30/05		0	0		0.98	0	0	0			
07/31/05		0	0		0.7	0	0	0			
08/31/05		0	0		0.67	0	0	0			
09/30/05		0	0		0.68	0	0	0			
10/31/05		0	0		0.62	0	0	0			
11/30/05		0	0		0	0	0	0			
12/31/05		0	0		0	0	0	0			
01/31/06		0	0		0	0	0	0			
02/28/06		0	0		0	0	0	0			
03/31/06		0	0		0	0	0	0			
04/30/06		0	0		0.53	0	0	0			

001A	COLIFORM, FECAL GENERAL						#/	100ML EFFLUENT GROSS VALUE			
MVDT	NODI	MQAV	MQMX	VQAV	VQMX	MCMN	MCAV	MCMX	VCMN	VCAV	VCMX
05/31/04		0	0	25	50	0	0	0			
06/30/04		0	0	15	44	0	0	0			
07/31/04		0	0	36	48	0	0	0			
08/31/04		0	0	34	60	0	0	0			
09/30/04		0	0	77	395	0	0	0			
10/31/04		0	0	26	130	0	0	0			
04/30/05		0	0	21	120	0	0	0			
05/31/05		0	0	17	71	0	0	0			
06/30/05		0	0	63	212	0	0	0			
07/31/05		0	0	51	100	0	0	0			
08/31/05		0	0	10	35	0	0	0			
09/30/05		0	0	37	70	0	0	0			
10/31/05		0	0	21	74	0	0	0			
04/30/06		0	0	21	100	0	0	0			

001B	WET TEST RESULTS			LC50 STAT 48HR ACU CERIODAPHNIA				PER-CENT EFFLUENT GROSS VALUE			
MVDT	NODI	MQAV	MQMX	VQAV	VQMX	MCMN	MCAV	MCMX	VCMN	VCAV	VCMX
06/30/02		0	0	100		0	0	0			
10/31/02		0	0	100		0	0	0			
06/30/03		0	0	100		0	0	0			
10/31/03		0	0	100		0	0	0			
06/30/04		0	0	100		0	0	0			

RESPONSE TO PUBLIC COMMENTS
Amherst Massachusetts Wastewater Treatment Plant
National Pollutant Discharge Elimination System (NPDES) No. MA0100218

The U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) are issuing a final National Pollutant Discharge Elimination System (NPDES) permit for the Amherst Massachusetts Wastewater Treatment Plant in Amherst, Massachusetts. The Final Permit authorizes the Town of Amherst to discharge wastewater to Connecticut River in accordance with the requirements of the Federal Clean Water Act (CWA), 33 U.S.C. §§ 1251 *et. seq.*, and the Massachusetts Clean Waters Act, M.G.L. Ch. 21, §26-35.

The Draft Permit public comment period began August 18, 2006, and ended on September 16, 2006. The following sources submitted comments:

- The Connecticut River Watershed Counsel (CRWC)(Questions 1-7)
- Riverways Program, Massachusetts Department of Fish and Game (Riverways) Questions 1-7 were essentially paraphrased from the CRWC comments. Question 8 was posed by Riverways
- The Town of Amherst Department of Public Works (The Permittee) (Questions (9-10))

The comment letters received by EPA are part of the administrative record. To obtain a copy of these comments and/or the Final Permit, please write or call Doug Corb, EPA Massachusetts Municipal NPDES Permits Program (CMP), 1 Congress Street, Suite 1100, Boston, MA 02114-2023; telephone: (617) 918-1565.

This document presents EPA's responses to public comments on the Draft Permit, in accordance with the provisions of 40 C.F.R. 124.17. This document also describes any changes in the Final Permit that have been made as a result of those comments. A summary of the changes made in the Final Permit is listed below.

Question 1: Because the location of the outfall is in an area that is popular for primary and secondary contact recreation, the bacteria testing requirements in this permit are important. We are glad that fecal coliform testing is required twice weekly during the season April 1 to October 31. We are also supportive of the addition of *E. coli* testing in advance of the drafted changes to state water quality standards. The draft permit calls for *E. coli* testing only once per month, however, and we would recommend *E. coli* be concurrent with fecal coliform testing so that regulators and the permittee can see how closely the two concentrations are correlated.

Answer 1: The final permit shall be changed to require that the *E. coli* (1/month) be taken concurrently with a fecal coliform sample so that a correlation may be established. The frequency of sampling and actual *E. coli* limits shall be addressed in the permit, through modification or reissuance, when the *E. coli* criteria are adopted into Massachusetts Water Quality Standards.

Question 2: We would have preferred to see more than one year's worth of discharge monitoring reports (DMRs) included in Fact Sheet Attachment A, so that we could get a better sense of the typical performance of this plant.

In addition, the fecal coliform results indicate monthly testing rather than weekly or twice weekly.

Answer 2: Additional Discharge Monitoring Report (DMR) data is available on EPA's Envirofacts website at www.epa.gov/enviro for facilities such as the Amherst WWTP.

The Fact Sheet DMR data summary attachment reports the highest maximum daily value for the month and the average monthly value, for each month. The frequency of monitoring was twice per week.

Question 3: Section VIA, in the Fact Sheet states that the Amherst WWTP treats domestic wastewaters with no industrial contribution. Given that the University of Massachusetts and presumably Amherst College are connected to this system, it is likely that there are laboratories of all kinds that contribute wastewater to this plant. It is not clear if this non-domestic wastewater has been characterized and taken into consideration in this permit.

Answer 3: A review of the Discharge Monitoring Report (DMR) data, application data, and whole effluent toxicity test (WET) reports, does not show reasonable potential for pollutants other than those limited in the permit, to cause or contribute to exceedence of in-stream water quality criteria. There is no indication that the treatment plant is receiving large quantities of toxic pollutants from sources in the collection system.

EPA's New England office provided extensive compliance assistance activities, including workshops and training manuals, as well enforcement oversight of New England college campuses, including those in Amherst, beginning with an EPA initiative in 1999. The result has been awareness by colleges of their responsibility in limiting waste discharges to sanitary treatment systems from laboratories and material storage.

Question 4: Have PCBs ever been tested in wastewater from this plant?

Answer 4: EPA and MassDEP are not aware of any effluent data for PCB's from the Amherst WWTP. Fish tissue data indicates that there are PCBs in the Connecticut River. Representatives of the MassDEP believe that the source of PCB contamination in fish is from sediments that contain a historical PCB load. There is no indication that there are any significant sources of PCBs discharged to the Amherst collection system.

Question 5: The Fact Sheet on page 9 notes that, although there are no numerical criteria for total phosphorus, the 1986 Quality Criteria of Water recommends in-stream phosphorus concentrations of 0.1 mg/L for any stream not discharging directly to lakes or impoundments and 0.05 mg/L in any stream entering a lake or reservoir. Given that the discharge point for the South Hadley WWTP is upstream of the Holyoke Dam and lies within the Holyoke Dam's project area (and therefore impoundment), the facility's discharge would appear to fit somewhere between these categories. Downstream of this facility, the Log Pond Cove section of the Connecticut River in Holyoke is considered impaired because of noxious weeds.

The U.S. Fish and Wildlife Service's Conte Refuge has spent time and money eradicating non-native invasive water chestnut here. The rationale for not having a phosphorus effluent limit seems to be based on the incorrect assumption that the facility is discharging into a phosphorus-free water body. Samples collected by the US Geological Survey's New Hampshire office in 2005 indicates a concentration of 0.02-0.06 mg/L in the Connecticut River at Greenfield and at Holyoke during two sample dates in April and August (personal communication, Thor Smith). Close to the discharge location of the Amherst WWTP is where the stream flowing out of Lake Warner reaches the Connecticut River. This stream is not assessed in the Massachusetts Integrated List of Waters, but Lake Warner is impaired due to nutrients. We recommend that EPA consider limiting the phosphorus discharging from this facility because it lies within the Holyoke dam impoundment. DMRs indicate an average monthly total phosphorus concentration of 11 mg/L for the month of May 2005, which is much higher than the typical limits of 0.2 mg/L imposed on other WWTPs in Massachusetts.

Answer 5: The Massachusetts Year 2002 Integrated List of Waters places both the segment of the river into which Amherst discharges and the segment below it in "Category 5", Waters Requiring a TMDL [Total Maximum Daily Load]. The segments are not, however, listed for nutrients. The highest effluent concentration of phosphorus recorded in 2 years is 11 mg/l. Allowing for the critical low flow dilution (160:1) from the fact sheet, the in-stream concentration attributable to the Amherst discharge is 0.069 mg/l ($11 \text{ mg/l} \div 160 \text{ (dilution factor)} = 0.069 \text{ mg/l}$).

Given a background (upstream river) concentration of phosphorus as measured at Greenfield of 0.02, the combined total phosphorus during critical conditions is still under the "Gold Book" Water Quality Criteria of 0.1 mg/l.

Municipal treatment systems with similar treatment processes to those employed by Amherst generally have summer effluent total phosphorus concentrations in the range of 3-4 mg/l. The Amherst WWTP total phosphorus concentrations range two to three times higher. While not yet requiring limits, the final permit shall require that the permittee conduct a study of sources of phosphorus within the collection system to address high effluent phosphorus levels.

Question 6: We recommend that this permit follow Massachusetts State Water Quality Standards for pH, which are 6.5-8.3 in Class B waters.

Answer 6: EPA and MassDEP allow a lower pH permit limit for POTWs whose treatment processes cause a lowering in pH below 6.5 Standard Units (SU). The pH limit of 6.0 SU is acceptable where there is ample dilution and the exposure to pHs below the criteria will be minimal. The small area around the outfall exposed to pH values below the criteria is not anticipated to cause any demonstrable harm to the aquatic environment.

Question 7: The Endangered Species Act consultation did not mention the dwarf wedge mussel, which is known to be present at least in the Mill River in Hatfield, not more than two miles downstream of this discharge point. The puritan tiger beetle is present at a location approximately six miles downstream. Is this permit consistent with the Recovery Plans for both species, and were the Federal agencies consulted about these species? American eagles are also present in this vicinity and catch food in this part of the river.

Answer 7: In a letter dated August 15, 2006 EPA requested concurrence from the US Fish and Wildlife Service (F&WS) with a determination that the discharge from the Amherst Wastewater Treatment Plant discharge will not adversely affect the dwarf wedge mussel or the puritan tiger beetle. The F & WS responded on September 15, 2006 with concurrence that the authorized

discharge is unlikely to adversely affect either of the species or their habitat and that further consultation under Section 7 of the Clean Water Act will not be necessary.

The bald eagle was down listed from endangered to threatened under the Endangered Species Act in 1995. Eagles are making a strong recovery along the Connecticut River and nearby Quabbin Reservoir. There are no eagles nesting in the immediate vicinity of the discharge, however, eagles do feed along the Connecticut River. The pollutants in the discharge from the Amherst Wastewater Treatment Plant are limited by the NPDES permit to protect all aquatic species in the Connecticut River. By protecting their food source, eagle forage habitat is protected.

Question 8: The draft permit requires monitoring of nutrients, but places no limitations on nitrogen or phosphorus.

Answer 8: Phosphorus limits are addressed in answer number 4. Currently, the nitrogen loading model for Long Island Sound is being revised to establish specific nitrogen limits for dischargers in the Connecticut River Watershed. EPA and those states with dischargers contributing nitrogen to the Connecticut River watershed, agree that monitoring of nitrogen species in the discharges is appropriate until waste loads may be established for each permittee.

Question 9: The permittee requests that the whole effluent toxicity tests required in September of each year be instead, required in October. This is due to a large increase in the student population during the month of September with a corresponding increase in flow to the treatment plant

Answer 9: EPA and MassDEP agree that WET sampling in October will be more representative of normal treatment plant conditions and that the change in sampling months is acceptable. Sampling for WET shall be changed to October of each year.

Question 10: The permittee points out two errors in the Fact Sheet dated August 10, 2006.

Fact sheet Page 2, Part A. The force main to the outfall is 1.8 miles long, not 3.5 miles long

Fact sheet Page 11, Section 5. The annual sludge production is 918 metric tons, not 9,018

Answer 10: The fact sheet is not changed once the permit goes to public notice. These responses to comments serve to correct and amend the administrative record. EPA accepts the above corrections.

Summary of changes from the public notice draft to the Final Permit

The final permit shall be changed to require that the *E. coli* (1/month) be taken concurrently with a fecal coliform sample. [Comment 1]

The final permit shall require that the permittee conduct a study of sources of phosphorus within the collection system to address high effluent phosphorus levels. [Comment 4]

Sampling for whole effluent toxicity shall be changed from September to October of each year. [Comment 9]