

**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 Athol
Department of Public Works**

is authorized to discharge from the facility located at

**Athol Wastewater Treatment Plant
Jones Street
Athol, MA 01331**

to the receiving water named

Millers River (Segment MA35-04)

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

This permit will become effective on August 1, 2008.

This permit and the authorization to discharge expire at midnight on July 31, 2013.

This permit supersedes the permit issued on December 29, 2003.

This permit consists of Part I including effluent limitations and monitoring requirements, Part II including General Conditions and Definitions, Attachment A, the Freshwater Chronic Toxicity Test Procedure and Protocol, and Attachment B, Summary of Required Reports.

Signed this 30th day of June, 2008

/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. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge treated effluent from outfall serial number **001**. Such discharges shall be limited and monitored by the permittee as specified below.

<u>Effluent Characteristic</u>	<u>Units</u>	<u>Effluent Limitations</u>			<u>Monitoring Requirements</u>	
		Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type²
Flow ¹	mgd	1.75 Report	*** ***	Report ***	continuous	Recorder
BOD ³	mg/l lbs/day	30 438	45 657	Report	1/week	24-hour composite ⁴
TSS ³	mg/l lbs/day	30 438	45 657	Report	1/week	24-hour composite
pH ⁵	s.u.		6.5 – 8.3		1/day	grab
Dissolved Oxygen		NOT LESS THAN 6.0 mg/l AT ANY TIME			1/day	grab
Fecal Coliform ^{5,6} (April 1 – October 31)	cfu/100ml	200	***	400	1/week	grab
<i>E. coli</i> ^{5,6} (April 1 – October 31)	cfu/100ml	126	***	409	1/week	grab
Total Residual Chlorine ^{5,7,8}	mg/l	Report	***	Report	1/day	grab
Total Phosphorus ⁹ (April 1 – October 31)	mg/l	0.52	***	Report	1/week	24-hour composite
(November 1 – March 31)	mg/l	1.0	***	Report	1/week	24-hour composite

<u>Effluent characteristic</u>	<u>Units</u>	<u>Effluent Limitations</u>			<u>Monitoring Requirements</u>	
		<u>Average Monthly</u>	<u>Average Weekly</u>	<u>Maximum Daily</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Dissolved Orthophosphate (November 1- March 31)	mg/l	Report	***	Report	1/month	24-hour composite
Total Nitrogen ¹⁰	mg/l lbs/day	Report Report	*** ***	Report	1/month	24-hour composite
Total Kjeldahl Nitrogen	mg/l lbs/day	Report Report	*** ***	Report	1/month	24-hour composite
Total Ammonia Nitrogen	mg/l lbs/day	Report Report	*** ***	Report	1/month	24-hour composite
Nitrate + Nitrite Total	mg/l	Report	***	Report	1/month	24-hour composite
	lbs/day	Report	***	Report	1/month	24-hour composite
Copper ¹¹	ug/l	28	***	38	1/month	24-hour composite
Silver ¹²	ug/l	***	***	Report	1/month	24-hour composite
Whole Effluent Toxicity ^{13,14,15}	%		Acute LC50 ≥100% Chronic NOEC ≥ 10%		1/quarter	24-hour composite

Footnotes:

1. The average monthly flow limit is an annual average limit which shall be reported as a rolling average. The DMR will report the average flow that is calculated from that month and the previous 11 months. In addition, report the average monthly flow and maximum daily flow for each month.
2. All sampling shall be representative of the influent and of the effluent discharged through outfall 001 to the Millers River. A routine sampling program shall be developed in which samples are taken at the same location, same time, and same days of every month. Any deviations from the routine sampling program shall be documented in correspondence appended to the applicable discharge monitoring report that is submitted to EPA. 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.
3. Sampling required for influent and effluent.
4. 24-hour composite samples will consist of at least twenty-four (24) grab samples taken during a consecutive 24-hour period (e.g. 7:00 am Monday to 7:00 am Tuesday) and combined proportional to flow.
5. Required for State certification.
6. The average monthly limits for fecal coliform and *E. coli* are expressed as geometric means. The fecal coliform limits shall expire one year after the effective date of this permit. The *E. coli* limits shall become effective one year after the effective date of this permit. For the first year, the *E. coli* limits shall be report only. The samples for *E. coli* and fecal coliform shall be taken at the same time.
7. The use of chlorine for disinfection is prohibited. A sample for Total Residual Chlorine shall be taken whenever a source of chlorine is introduced into the wastewater treatment process and shall be taken at the appropriate time to be representative of the chlorine levels in the discharge. After submitting one year of sampling results demonstrating “no reasonable potential” to exceed the water quality criteria, the permittee may request that this chlorine reporting requirement be eliminated.
8. The minimum level (ML) for Total Residual Chlorine (TRC) is defined as 20 ug/l using EPA approved methods found in the most currently approved version of Standard Methods for the Examination of Water and Wastewater, Method 4500 CL-E and G. One of these methods must be used to determine TRC. The ML is not the minimum level of detection, but rather the lowest point on the curve used to calibrate the test equipment for the pollutant of concern. If EPA approves a more sensitive method of analysis for TRC, the permit may be reopened to require the use of the new method with a corresponding lower ML. When reporting sample data at or below the ML, see the latest EPA Region NPDES Permit Program Instructions for the Discharge Monitoring Report Forms (DMRs) for guidance.

9. See Part I.E. COMPLIANCE SCHEDULE for phosphorus limits.
10. See Part I.F. SPECIAL CONDITIONS for requirements to evaluate and implement optimization of nitrogen removal.
11. The minimum level (ML) for copper is defined as 3 ug/l. This value is the minimum level for copper using the Furnace Atomic Absorption analytical method (EPA Method 220.2). This method or other EPA-approved method with an equivalent or lower ML shall be used for effluent limitations less than 3 ug/l. Compliance/non-compliance will be determined based on the ML. Sampling results of 3 ug/l or less shall be reported as zero on the Discharge Monitoring Report.
12. The minimum level (ML) for silver is defined as 2 ug/l. This value is the minimum level for silver using the Furnace Atomic Absorption analytical method (EPA Method 220.2).
13. The permittee shall conduct toxicity tests 4 times per year. The permittee shall test the daphnid, *Ceriodaphnia dubia*, only. Toxicity test samples shall be collected during the second week in the months of January, April, July, and October. The test results shall be submitted by February 28th, May 31st, August 31st, and November 30th, respectively. The tests must be performed in accordance with the Freshwater Chronic Toxicity Test Procedure and Protocol (Attachment A).
14. If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall either follow procedures outlined in **Attachment A (Toxicity Test Procedure and Protocol) Section IV., DILUTION WATER** in order to obtain an individual approval for use of an alternate dilution water, or the permittee shall follow the Self-Implementing Alternative Dilution Water Guidance which may be used to obtain automatic approval of an alternate dilution water, including the appropriate species for use with that water. This guidance is found in Attachment G of NPDES Program Instructions for the Discharge Monitoring Report Forms (DMRs) which is sent to all permittees with their annual set of DMRs and may also be found on the EPA, Region I web site at <http://www.epa.gov/region1/enforcementandassistance/dmr2007.pdf>. If this guidance is revoked, the permittee shall revert to obtaining individual approval as outlined in **Attachment A**. Any modification or revocation to this guidance 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**.
15. The LC₅₀ is the concentration of effluent which causes mortality to 50% of the test organisms. Therefore, a 100% limit means that a sample of 100% effluent shall cause no more than a 50% mortality rate. C-NOEC (chronic-no observed effect concentration) is defined as the highest concentration of toxicant or effluent to which organisms are exposed in a life cycle or partial life cycle test which causes no adverse effect on growth, survival, or reproduction at a specific time of observation as determined from hypothesis testing where the test results exhibit a linear dose-response relationship. However, where the test results do not exhibit a linear dose-response relationship, the permittee must report the lowest concentration where there is no observable effect. The "10% or greater"

limit is defined as a sample which is composed of 10% (or greater) effluent, the remainder being dilution water.

I.A.1. (continued)

- a. The discharge shall not cause a violation of the water quality standards of the receiving waters.
 - b. The discharge shall not cause objectionable discoloration of the receiving waters.
 - c. The effluent shall not contain a visible oil sheen, foam, or floating solids at any time.
 - d. The permittee's treatment facility shall maintain a minimum of 85 percent removal of both total suspended solids and biochemical oxygen demand. The percent removal shall be based on monthly average values.
 - e. Sample results using EPA approved methods for any parameter above its required frequency must also be reported.
 - f. If the average annual flow in any calendar year exceeds 80 percent of the facility's design flow, the permittee shall submit a report to MassDEP by March 31 of the following calendar year describing its plans for further flow increases and describing how it will maintain compliance with the flow limit and all other effluent limitations and conditions.
2. 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/or
 - 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 the permit issuance.
 - c. For the purposes of this paragraph, adequate notice shall include information on:
 - (i) The quantity and quality of effluent introduced into the POTW; and
 - (ii) Any anticipated impact of the change on the quantity and quality of effluent to be discharged from the POTW.
3. Prohibitions Concerning Interference and Pass Through
- a. Pollutants introduced into POTWs by a non-domestic source (user) shall not pass through the POTW or interfere with the operation or performance of the works.
 - b. If, within 30 days after notice of an interference or pass through violation has been sent by EPA to the POTW, and to persons or groups who have requested such notice, the

POTW fails to commence appropriate enforcement action to correct the violation, EPA may take appropriate enforcement action.

4. Toxics Control

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

5. Numerical Effluent Limitations for Toxicants

EPA or the 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 permit only authorizes discharges in accordance with the terms and conditions of this permit and only from the outfall listed in PART 1.A.1. of this permit. Discharges of wastewater from any other point sources, including sanitary sewer overflows (SSOs) from any portion of the collection system 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). 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>.

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 months of the effective date of this permit and shall describe the permittee's program for preventing I/I 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 I/I. 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 the 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 I/I 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. This summary report shall, at a minimum, include:

- A map and description of inspection and maintenance activities conducted and corrective actions taken during the previous year.
- Expenditures for any I/I related maintenance activities and corrective actions taken during the previous year.
- A map with areas identified for I/I-related investigation/action during the coming year.
- A calculation of the annual average I/I, the maximum month I/I for the reporting year.

- A report of any I/I related corrective actions taken as a result of unauthorized discharges reported pursuant to 314 CMR 3.19(20) and reported pursuant to Section B. UNAUTHORIZED DISCHARGES of this permit.

4. Alternative Power Source

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

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 uses 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 sludge 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 requirements)
 - Management practices
 - Record keeping
 - Monitoring
 - Reporting

Depending upon the quality of the 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 one of the following frequencies. The frequency is based upon the volume of sewage sludge generated at the facility in dry metric tons per year:

<u>Volume of dry sludge</u>	<u>Frequency</u>
less than 290	1/year
290 to less than 1,500	1/quarter
1,500 to less than 15,000	6/year
Over 15,000	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 by the permittee is not required when the permittee is not the 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. COMPLIANCE SCHEDULE

1. For one year after the effective date of this permit, the Town shall optimize phosphorus removal at the WWTF to determine whether the April 1- October 31 total phosphorus limitations can be achieved by the existing WWTF. Optimization efforts shall include effluent monitoring of total phosphorus at a frequency sufficient to demonstrate whether compliance is achievable. The 1.0 mg/l phosphorus limit for the period November 1 – March 31 shall become effective November 1, 2008.
2. By November 30, 2009, the Town shall submit a report to EPA and the Massachusetts Department of Environmental Protection (“MassDEP”) describing its optimization efforts and notify EPA and MassDEP whether, based on its optimization efforts, the WWTF is capable of achieving the seasonal phosphorus limitation of 0.52 mg/l. If it determines it is capable of achieving that limit, then the Town shall meet the April 1 - October 31 limitation commencing on April 1, 2010.
3. If the Town determines that the permit’s seasonal phosphorus limit of 0.52 mg/l cannot be met through optimization alone, then the Town shall plan, design, and construct an upgrade and achieve the total phosphorus limits in accordance with the following schedule.

- a. By May 31, 2010, the Town shall submit to EPA and MassDEP a Facilities Plan that, at a minimum, evaluates the capabilities of the WWTF's unit operations and processes (the "Facilities Plan") to comply with the permit's total phosphorus limits and describe all WWTF upgrades and process modifications that are recommended to achieve compliance with the total phosphorus limits contained in the permit.
 - b. By July 1, 2010, the Town shall initiate design of the recommended WWTF upgrades and process modifications recommended by the Facilities Plan.
 - c. By July 1, 2011, the Town shall complete design of the recommended WWTF upgrades and process modifications recommended by the Facilities Plan.
 - d. By March 1, 2013, the Town shall complete construction of the WWTF upgrades and modifications and shall attain compliance with the total phosphorus limitation in effect for the period April 1 through October 31.
4. If the Town determines that an upgrade is necessary, the Town shall optimize the phosphorus removal at the WWTF, and at a minimum, comply with an interim effluent limitation for total phosphorus of 1.0 mg/l.

F. SPECIAL CONDITIONS

Within one year of the effective date of the permit, the permittee shall complete an evaluation of alternative methods of operating the existing wastewater treatment facility to optimize the removal of nitrogen, and submit a report to EPA and MassDEP documenting this evaluation and presenting a description of recommended operational changes. The methods to be evaluated include, but are not limited to, operational changes designed to enhance nitrification (seasonal and year round), incorporation of anoxic zones, septage receiving policies and procedures, and side stream management. The permittee shall implement the recommended operational changes in order to maintain the existing mass discharge loading of total nitrogen. The annual average total nitrogen load from this facility (2004 – 2005) is estimated to be 199 lbs/day.

The permittee shall also submit an annual report to EPA and MassDEP, by February 1 each year, that summarizes activities related to optimizing nitrogen removal efficiencies, documents the annual nitrogen discharge load from the facility, and tracks trends relative to the previous year.

G. MONITORING AND REPORTING

Monitoring results obtained during each calendar month shall be summarized and **reported on the 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, MA 02114

and

Massachusetts Department of Environmental Protection
Bureau of Resource Protection
Western Regional Office
436 Dwight Street
Springfield, MA 01103

Signed and dated Discharge Monitoring Report Forms and toxicity test reports as well as reports indicated in Attachment B 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, MA 01608

H. STATE PERMIT CONDITIONS

This discharge permit is issued jointly by the 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 a 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.

Attachment B

Summary of Required Reports (NPDES Permit No. MA0100005)

This table is a summary of reports required to be submitted under this NPDES permit as an aid to the permittee. If there are any discrepancies between the permit and this summary, the permittee shall follow the permit requirements.

Required Report	Date Due	Submitted To: (see bottom of page for key)
Discharge Monitoring Report (DMR)	Monthly, postmarked by the 15 th of the month following the monitoring month (e.g. the March DMR is due by April 15 th).	1, 2, 3
Whole Effluent Toxicity (WET) Test Report (Part I.A.1)	May 31, August 31, November 30, and February 28 each year	1, 3
I/I Control Plan (Part I.C.3.)	Within 6 months of permit effective date	1, 2
I/I Annual Report (Part I.C.3.)	March 31 each year	1, 2
Annual Sludge Report (Part I.D.8.)	February 19 each year	1, 2
Phosphorus removal evaluation report (Part I.E.2.)	November 30, 2009	1, 2, 3
*Submit Facilities Plan to meet 0.52 mg/l phosphorus limit	May 31, 2010	1, 2
*Initiation of design of recommended upgrades	July 1, 2010	1, 2
*Complete design of necessary upgrades	July 1, 2011	1, 2
*Complete construction of necessary upgrades	March 1, 2013	1, 2
Nitrogen Removal Evaluation Report (Part I.F.)	Within 1 year of permit effective date	1, 2, 3
Annual Nitrogen Removal Optimization Report (Part I.F.)	February 1	1, 2, 3

*Necessary only if existing facilities need to be upgraded to meet seasonal phosphorus limit of 0.52 mg/l.

1. EPA
Water Technical Unit (SEW)
P.O. Box 8127
Boston, Massachusetts 02114

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