

# TOWN OF ANDOVER, MASSACHUSETTS

JACK PETKUS, P.E.  
DIRECTOR



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(978) 623-8350

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(978) 623-8359

*12/29/09  
received*

## DEPARTMENT OF PUBLIC WORKS

WATER TREATMENT PLANT  
397 LOWELL STREET 01810-4416

December 18, 2009

US Environmental Protection Agency  
PWTF GP Processing, Municipal Assistance Unit (CMU)  
1 Congress Street, Suite 1100  
Boston, MA 02114-2023

To Whom It May Concern:

Enclosed please find the completed notice of intent (NOI) form and other pertinent documents that are being submitted by the Town of Andover for a potable water treatment facility general permit (PWTF GP) for discharge from the Andover Water Treatment Plant. This facility was administratively continued for coverage under the general permit that expired November 15, 2005.

Discharge consists entirely of backwash effluent residuals originating from the coagulation and media filtration treatment of surface water released to Haggetts Pond, a designated Class A water body within the Merrimack River Watershed.

The facility meets all obligations under the Endangered Species Act as there are no federally listed threatened or endangered species or designated critical habitats present in the area of the discharge. Additionally, a review of permit eligibility criteria for protection of historic properties indicates that no historic properties will be affected by the discharge.

Should you have any questions, please feel free to call me at 978-623-8350 ext.527 or email [jpollano@andoverma.gov](mailto:jpollano@andoverma.gov).

Sincerely,

John J. Pollano  
WTP Superintendent

Attachments – 6

cc: Jack Petkus, P.E., Director of Public Works



Enter your transmittal number

W068354

Transmittal Number

Your unique Transmittal Number can be accessed online: <http://www.mass.gov/dep/counter/trasmfrm.shtml> or call DEP's InfoLine at 617-338-2255 or 800-462-0444 (from 508, 781, and 978 area codes).

Massachusetts Department of Environmental Protection

## Transmittal Form for Permit Application and Payment

1. Please type or print. A separate Transmittal Form must be completed for each permit application.

2. Make your check payable to the Commonwealth of Massachusetts and mail it with a copy of this form to: DEP, P.O. Box 4062, Boston, MA 02211.

3. Three copies of this form will be needed.

Copy 1 - the original must accompany your permit application. Copy 2 must accompany your fee payment. Copy 3 should be retained for your records

4. Both fee-paying and exempt applicants must mail a copy of this transmittal form to:

DEP  
P.O. Box 4062  
Boston, MA  
02211

\* Note:  
For BWSC Permits,  
enter the LSP.

### A. Permit Information

BRP WM 13

1. Permit Code: 7 or 8 character code from permit instructions

Water Treatment Plant

3. Type of Project or Activity

NPDES General

2. Name of Permit Category

### B. Applicant Information – Firm or Individual

Town of Andover Department of Public Works

1. Name of Firm - Or, if party needing this approval is an individual enter name below:

2. Last Name of Individual

397 Lowell Street

5. Street Address

Andover

6. City/Town

John J. Pollano

11. Contact Person

3. First Name of Individual

MA

7. State

01810

8. Zip Code

9786238350

9. Telephone #

527

10. Ext. #

12. e-mail address (optional)

### C. Facility, Site or Individual Requiring Approval

Andover Water Treatment Plant (Robert E. McQuade WTP)

1. Name of Facility, Site Or Individual

397 Lowell Street

2. Street Address

Andover

3. City/Town

MA

4. State

01810

5. Zip Code

9786238350

6. Telephone #

527

7. Ext. #

8. DEP Facility Number (if Known)

9. Federal I.D. Number (if Known)

10. BWSC Tracking # (if Known)

### D. Application Prepared by (if different from Section B)\*

1. Name of Firm Or Individual

2. Address

3. City/Town

4. State

5. Zip Code

6. Telephone #

7. Ext. #

8. Contact Person

9. LSP Number (BWSC Permits only)

### E. Permit - Project Coordination

1. Is this project subject to MEPA review?  yes  no  
If yes, enter the project's EOE file number - assigned when an Environmental Notification Form is submitted to the MEPA unit:

EOEA File Number

### F. Amount Due

DEP Use Only

Permit No:

Rec'd Date:

Reviewer:

#### Special Provisions:

1.  Fee Exempt (city, town or municipal housing authority)(state agency if fee is \$100 or less).  
*There are no fee exemptions for BWSC permits, regardless of applicant status.*  
2.  Hardship Request - payment extensions according to 310 CMR 4.04(3)(c).  
3.  Alternative Schedule Project (according to 310 CMR 4.05 and 4.10).  
4.  Homeowner (according to 310 CMR 4.02).

Check Number

Dollar Amount

Date

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

Request for General Permit Authorization to Discharge Wastewater  
(Notice of Intent to be covered by the General Permit (NOI))

Potable Water Treatment Facility (PWTF)  
NPDES General Permit No. MAG640000 and NHG640000

A. Facility Information

Mass DEP Transmittal #W068354

1. Facility Owner:

Name Town of Andover e-mail manager@andoverma.gov  
Street/PO Box 36 Bartlet Street City Andover  
State Massachusetts Zip Code 01810  
Contact Person Reginald S. Stapczynski Telephone Number 978.623.8225  
Town Manager

2. Facility Operator (if different from above):

Name \_\_\_\_\_ e-mail (optional) \_\_\_\_\_  
Street/PO Box \_\_\_\_\_ City \_\_\_\_\_  
State \_\_\_\_\_ Zip Code \_\_\_\_\_  
Contact Person \_\_\_\_\_ Telephone Number \_\_\_\_\_

3. Facility Data (attach topographic map or other map showing facility/discharge location):

Name Andover Water Treatment Plant e-mail (optional) jpollano@andoverma.gov  
Street/PO Box 397 Lowell Street City Andover  
State Massachusetts Zip Code 01810-4416  
Contact Person John Pollano, Super. Telephone Number 978.623.8350 x527  
Latitude 42.64446 Longitude -71.19624

4. Standard Industrial Classification (SIC Codes) and Descriptions of Processes:

SIC Code(s) 4941  
Description(s) Public Water Supply

5. Current Permitting Status (please check yes or no):

1. Has a prior NPDES permit been granted for the discharge? Yes  (Permit Number: MAG640058)  
No
2. Is the discharge a "new discharge" as defined by 40 CFR Section 122.22? Yes  No
3. Is the facility covered by an individual NPDES permit? Yes  (Permit Number \_\_\_\_\_) No
4. Is there a pending application on file with EPA for this discharge? Yes  (Date of submittal: \_\_\_\_\_)  
No

B. Discharge Information

1. Name of Receiving Waterbody Haggetts Pond
2. Type of Receiving Waterbody (e.g. stream, lake, reservoir, estuary etc) Reservoir
3. State Water Quality Classification: A Freshwater: Yes Marine Water: \_\_\_\_\_
4. Describe the discharge activities for which the owner/applicant is seeking coverage, including process discharges not specifically authorized in the PWTF GP which need to be authorized for discharge (and which attain the

effluent limits and other conditions of the general permit). This description should include all treatment methods used on the wastewater prior to discharge including lagoons, baffles, filter presses etc. If lagoons are used at the facility, please include the number and size of lagoons; the size and elevation of the entry pipe; the time of travel from the entry point of the discharge into the lagoon to the entry point to the receiving water; and the length of backwash cycle for any combination of number of filters. (attach extra sheets if necessary):

[SEE ATTACHMENT A]

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5. Please provide a diagram depicting the treatment methods, outfalls, and receiving water. [SEE ATTACHMENT B]

6. Number of outfalls: 1

For each outfall:

7. What is the proposed sampling location(s) and proposed consistent times of the month for collecting samples:  
Composite samples are collected weekly from filter troughs during a backwash cycle. Composite samples consist of 4 grab samples collected at approximately equal intervals on a flow weighted basis during the time when discharge is entering the receiving water.

**C. Effluent Characteristics**

1. List here and attach information on any water additives used at the facility (Including chemicals for pH adjustment, dechlorination, control of biological growth, and control of corrosion and scale in water pipes): Ozone, Powdered Activated Carbon, Aluminum Sulfate, Sodium Hydroxide, Sodium Hypochlorite, and Hydrofluorosilicic Acid [SEE ATTACHMENT C]

2. Please report here any known remediation activities or water-quality issues in the vicinity of the discharge.  
None

3. Are aluminum-containing coagulants used at this facility? Yes X No     

4. Does the discharge contain residual chlorine? Yes X No     

5. Does the facility provide treatment to remove arsenic from the raw water source? Yes      No X

6. Are phosphorus-containing chemicals added to the treated water at this facility? Yes      No X

7. All applicants must attach a separate sheet listing all laboratory results (minimum of five) for total recoverable aluminum (in micrograms per liter) taken within the last six months. Do not include dilution when recording your results. See Section 4.4.5 of General Permit for more information. [SEE ATTACHMENT D]

8. Please include the following effluent data for each outfall:

<u>Characteristic (report if measured)</u>	<u>Average Monthly</u>	<u>Maximum Daily</u>	
Discharge Flow (gpd)	<u>12,000,000</u>	<u>1,089,000</u>	[SEE ATTACHMENT E]
TSS (mg/l)	<u>23.9</u>	<u>43</u>	
pH (s.u.)	(min) <u>6.56</u>	(max) <u>7.04</u>	
Total Recoverable Aluminum (ug/l)	<u>4349</u>	<u>6900</u>	
Total Residual Chlorine (ug/l)	<u>119.4</u>	<u>200</u>	

(continued on next page)

8. Continued

Characteristic (report if measured)

Whole Effluent Toxicity (%) LC50 >100 and/or C-NOEC 50

9. If the discharge contains aluminum and/or residual chlorine, please provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water, the dilution factor, and attach any calculations used to support stream flow and dilution calculations (See Appendix VII for dilution calculations and additional information):

7Q10 \_\_\_\_\_ cfs Dilution Factor 10 cfs

**D. Endangered Species Act Eligibility**

1. Using the instructions in Appendix I of the PWTF GP, under which criterion listed in Part II are you eligible for coverage under this general permit?

A X B \_\_\_\_\_ C \_\_\_\_\_ D \_\_\_\_\_ E \_\_\_\_\_ F \_\_\_\_\_

2. If you selected criteria D or F, has consultation with the federal services been completed? Yes \_\_\_\_\_ No \_\_\_\_\_

3. If consultation with U.S. Fish and Wildlife Service and/or NOAA Fisheries Service was completed, was a written concurrence finding that the discharge is “not likely to adversely affect” listed species or critical habitat received? Yes \_\_\_\_\_ No \_\_\_\_\_

4. Attach documentation of ESA eligibility as described below and required at Part 3.4.1 and Appendix I, Part III, Step 4, of the General Permit. [SEE ATTACHMENT F]

*Criterion A - No federally-listed threatened or endangered species or federally-designated critical habitat are present:* A copy of the most current county species list pages for the county(ies) where your site or facility and discharges are located. You must also include a statement on how you determined that no listed species or critical habitat are in proximity to your site or facility or discharge locations.

*Criterion B - Section 7 consultation completed with the Service(s) on a prior project:* A copy of the USFWS's and/or NMFS's, as appropriate, biological opinion or concurrence on a finding of “unlikely to adversely effect” regarding the ESA Section 7 consultation.

*Criterion C - Activities are covered by a Section 10 Permit:* A copy of the USFWS's and/or the NMFS's, as appropriate, letter transmitting the ESA Section 10 authorization.

*Criterion D - Concurrence from the Service(s) that the discharge is “not likely to adversely affect” federally-listed species or federally-designated critical habitat (not including the four species of concern identified in Section I of Appendix I):* A copy of the USFWS's and/or the NMFS's, as appropriate, letter or memorandum concluding that the discharge is consistent with the general permit's “not likely to adversely affect” determination.

*Criterion E - Activities are covered by certification of eligibility:* A copy of the documents originally used by the other operator of your site or facility (or area including your site) to satisfy the documentation requirement of Criteria A, B, C or D.

*Criterion F - Concurrence from the Service(s) that the discharge is “not likely to adversely affect” species of concern, as identified in Section I of Appendix I:* A copy of the USFWS and/or the NMFS, as appropriate, concurrence with the applicant's determination that the discharge is “not likely to adversely affect” listed species.

**E. National Historic Properties Act Eligibility**

1. Using the instructions in Appendix III of the PWTF GP, under which criterion listed in Part III are you eligible for coverage under this general permit?

1 X 2      3     

2. Have any State or Tribal historic preservation officers been consulted in this determination? Yes      No X  
If yes, attach the results of the consultation(s).

### F. Certification

I certify that the discharge for which I am seeking coverage under the general permit consists solely of a surface water discharge from a potable water treatment facility. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature Reginald S. Stapczynski Date 12/18/09  
Printed Name and Title Reginald S. Stapczynski, Town Manager

Federal regulations require this application to be signed as follows:

1. For a corporation, by a principal executive officer of at least the level of vice president;
2. For partnership or sole proprietorship, by a general partner or the proprietor, respectively, or,
3. For a municipality, State, Federal or other public facility, by either a principal executive officer or ranking elected official.

Note: Permits No. MAG640000 and NHG640000 may be found at [www.epa.gov/region1/npdes/pwtfgp.html](http://www.epa.gov/region1/npdes/pwtfgp.html)

## Attachment A Description of Methods Used Prior to Discharge

### Intake, Screening and Pumping

Raw water obtained from Haggetts Pond reservoir is pumped into the Andover Water Treatment Plant through a 36-inch diameter pipe after passing through two traveling water screens. After leaving the low lift pump room, normal operation is that all raw water enters the ozone contactors, after being metered in the raw water venturi meter. During those periods of time when the ozone system is not used, the plant raw water influent flows through the ozone by-pass. Pretreatment provisions are made to apply powdered activated carbon slurry. Raw water is continually pumped to the laboratory for monitoring quality.

### Pretreatment

Upon leaving the ozone building, flow is hydraulically split to eight pretreatment units that consist of one carbon contact chamber, two rapid mix basins, two flocculators, and one double tray sedimentation basin. Each rapid mix basin and flocculation basin is equipped with mixers to ensure uniform distribution of raw water and chemical coagulant: aluminum sulfate. Gentle agitation allows suspended particles and collected material to generate a settable floc. Flocculated water flows to its corresponding double-floored sedimentation basin that provides quiescent conditions required to settle out floc from the treated water. A collection mechanism along the sedimentation basin floor pushes settled floc to sumps. Sludge is drawn from these sumps and discharged into holding tanks and pumped to a wastewater treatment plant.

### Filtration

Clarified water leaving the sedimentation basins is distributed to eight granular activated carbon filters where particles too light to be removed in the pretreatment units will be removed by filtration. Clarified water is applied to the top of the filter and flows by gravity down through the media. An underdrainage system beneath the media collects the filtered water and conveys it to a finish water clearwell. Finish water is stored in the clearwell before being pumped to the distribution system. The pH of the clearwell water is adjusted with sodium hydroxide, disinfected with sodium hypochlorite, and fluoride applied as hydrofluorosilicic acid. As the filters are used, foreign material filtered from the water accumulates and clogs the filter media, which requires them to be periodically cleaned by backwashing.

### Backwashing

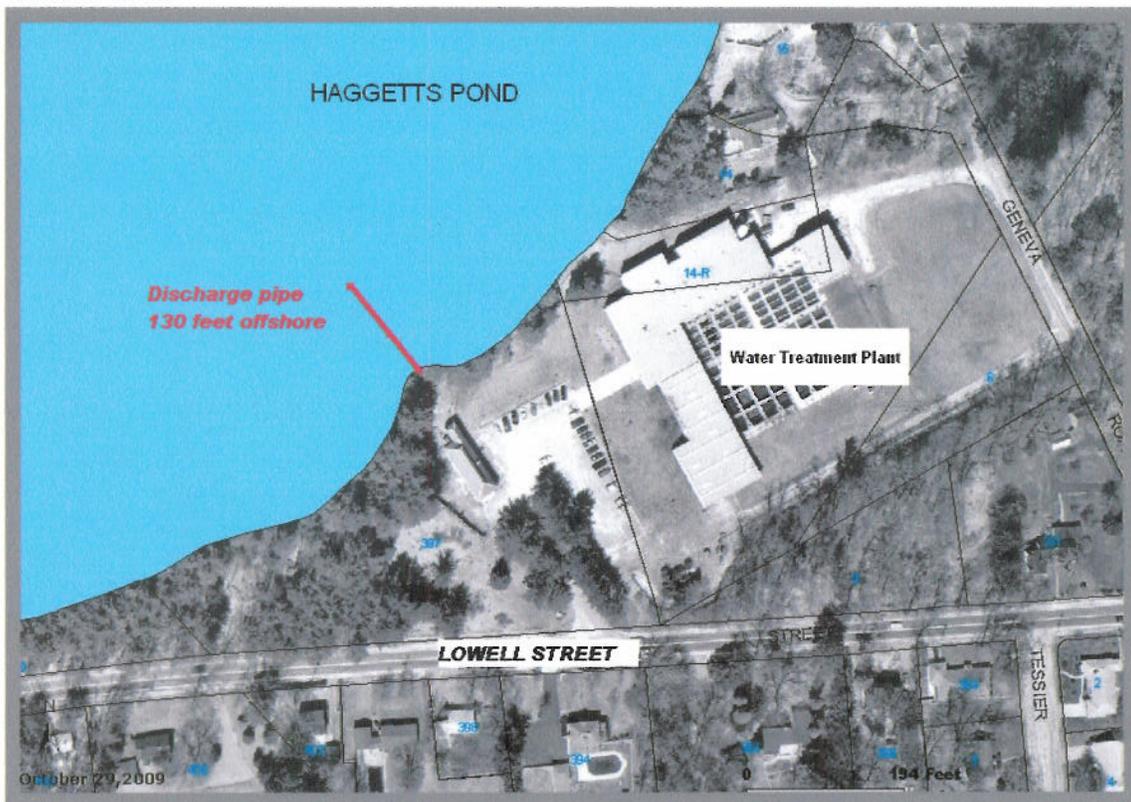
The backwash system uses pumps to withdraw clean water from the clearwell. Clean water flows up through the filter media at three controlled flows (low, high, low), and with the help of surface wash water, dislodges the collected matter, leaving the filter media clean. During the backwashing process, turbidity and flow are continually monitored. The dirty wash water is collected in filter troughs, carried through the drain channel and directed to be discharged to Haggetts Pond reservoir through a 14-inch drain pipe. The discharge exits the drain pipe 130 feet from the shore of Haggetts Pond at approximately 7 feet below the water surface. Page 2 of Attachment A contains a pictorial of the discharge location with map coordinates.

## Monitoring NPDES discharge

The laboratory staff collects discharge samples to monitor effluent characteristics. Composite samples are collected weekly from the filter troughs during a backwash cycle. Composite samples consist of four grab samples collected at approximately equal intervals on a flow weighted basis during the time when discharge is entering the receiving water. All samples are collected and analyzed by in-house water treatment plant laboratory staff for the following parameters: total suspended solids (TSS), pH, total chlorine residual, turbidity, and aluminum. Data regarding the backwash flow rate, filter number, service hours, loss of head, as well as gallons filtered and discharged are recorded by the facility supervisory control and data acquisition (SCADA) system. Pages 3- 5 of Attachment A illustrate SCADA system control of filter backwashing operations.

## Discharge Location

AERIAL PHOTO



**PIPE COORDINATES (SHORELINE)**

**LATITUDE: 42.64436**

**LONGITUDE: -71.19734**

**STATE PLANE COORDINATES – NAD83 FEET**

**NORTHING: 737599.49, EASTING: 3059990.59**

**PIPE COORDINATES (END OF PIPE)**

**LATITUDE: 42.64465**

**LONGITUDE: -71.19763**

**STATE PLANE COORDINATES – NAD83 FEET**

**NORTHING: 737521.53, EASTING: 3060095.08**

START  
BACKWASH

BACKWASH AVAILABLE

# FILTER 5 BACKWASH SETPOINTS

- = AUTO
- = MANUAL
- FILTER 1 BW AUTO
- FILTER 2 BW AUTO
- FILTER 3 BW AUTO
- FILTER 4 BW AUTO
- FILTER 5 BW AUTO
- FILTER 6 BW AUTO
- FILTER 7 BW AUTO
- FILTER 8 BW AUTO

BACKWASH MODE AUTO  
 BACKWASH STEP 0  
 TIME REMAINING IN STEP 0.00 MINUTES  
 BACKWASH FLOW SETPOINT 0 GPM  
 BACKWASH FLOW 0 GPM  
 SURFACE WASH FLOW SETPOINT 2500 GPM  
 SURFACE WASH FLOW 0 GPM  
 HIGH WASH EXTEND TIME 2.0 MINUTES

DRAWDOWN EFFLUENT SETPOINT 1.40 MGD  
 ACTUAL EFFLUENT SETPOINT 0.00 MGD  
 DRAWDOWN TIMEOUT SETPOINT 4.0 MIN

FLOW SETPOINT 7707 GPM  
 MANIFOLD PRESSURE 4.76 PSI



BACKWASH FLOW CONTROL

BKWASH START LOCATION	SOC
HIGH WASH SP SOURCE	SOC-AUTO
SOC-AUTO HI WASH SP	7707 GPM
SOC-MANUAL HI WASH SP	60.0 %
FCC-AUTO HI WASH SP	240037 GPM
FCC-MANUAL HI WASH SP	3.9 %

EFFLUENT FLOW CONTROL

EFF FLOW SP SOURCE	SOC-AUTO
SOC-AUTO EFF FLOW SP	1.16 MGD
SOC-MANUAL EFF FLOW SP	27.11 %
FCC-AUTO EFF FLOW SP	60.01 MGD
FCC-MANUAL EFF FLOW SP	1600.2 %
EFF FLOW RAMP TIME	3.0 MIN

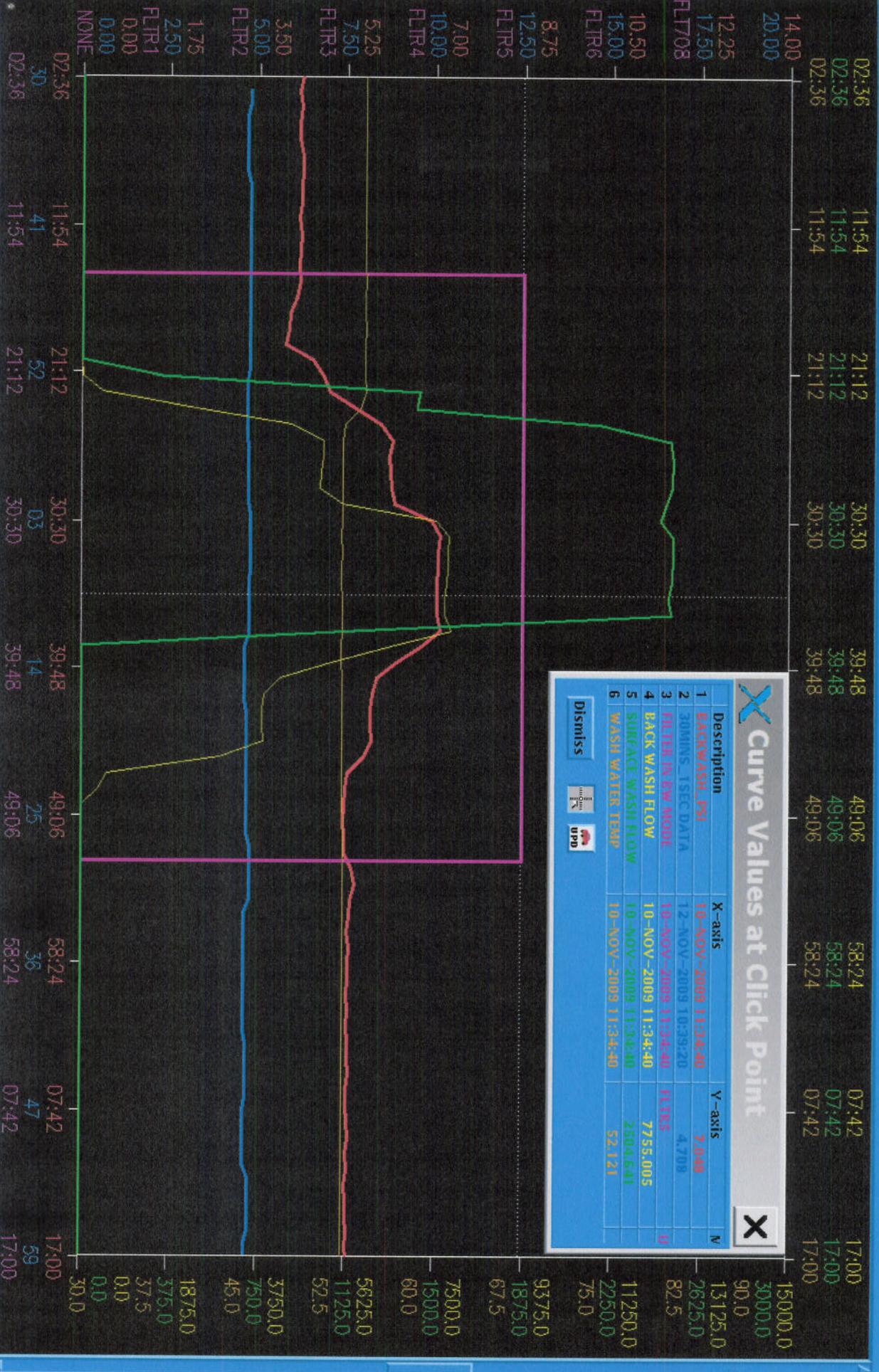
DISPLAY INDEX

PLANT OVERVIEW

PLANT OPERATIONS

FILTER SYSTEM OVERVIEW

FILTER 5 OVERVIEW



### Curve Values at Click Point

Description	X-axis	Y-axis
1 BACKWASH_PSI	10-NOV-2009 11:34:40	7.046
2 30MINS_1SEC DATA	12-NOV-2009 10:39:20	4.708
3 FILTER IN BW MODE	10-NOV-2009 11:34:40	FLTR5
4 BACK WASH FLOW	10-NOV-2009 11:34:40	7755.005
5 SURFACE WASH FLOW	10-NOV-2009 11:34:40	2504.641
6 WASH WATER TEMP	10-NOV-2009 11:34:40	52.121

Dismiss

# START BACKWASH

BACKWASH AVAILABLE

FILTER CHANNEL INFLUENT

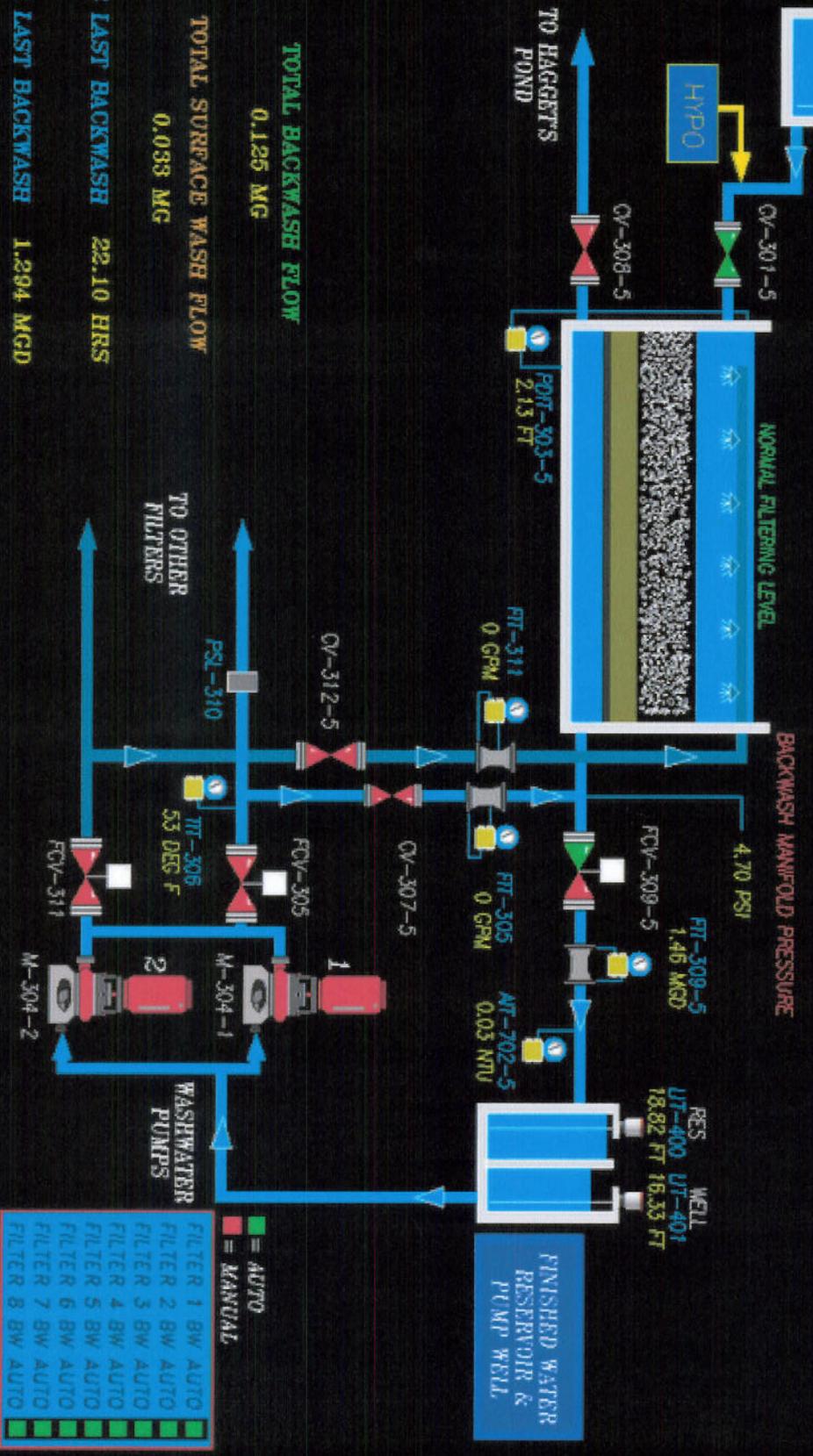
UT-300  
2.50 FT

**FILTER STATUS**  
**FCC DEVICE STATUS**  
**BACKWASH EXTEND**  
**FCC BACKWASH RESET**  
**BACKWASH SEQUENCE**

**FILTERING**  
 AUTO  
 NORMAL  
 NORMAL

EFFLUENT CNTRL MODE	LEVEL
SOC-AUTO	1.18 MGD
SOC-MANUAL	27.1 %
FCC-AUTO	80.01 MGD
FCC-MANUAL	1600.2 %
INLET CHANNEL LEVEL SP	2.52 FT

## FILTER 5 OVERVIEW



**TOTAL BACKWASH FLOW**  
0.126 MG

**TOTAL SURFACE WASH FLOW**  
0.033 MG

**TIME SINCE LAST BACKWASH** 22.10 HRS

**EFF. FLOW SINCE LAST BACKWASH** 1.294 MGD

Filter	Flow	Mode	Status
FILTER 1	8W	AUTO	█
FILTER 2	8W	AUTO	█
FILTER 3	8W	AUTO	█
FILTER 4	8W	AUTO	█
FILTER 5	8W	AUTO	█
FILTER 6	8W	AUTO	█
FILTER 7	8W	AUTO	█
FILTER 8	8W	AUTO	█

DISPLAY INDEX

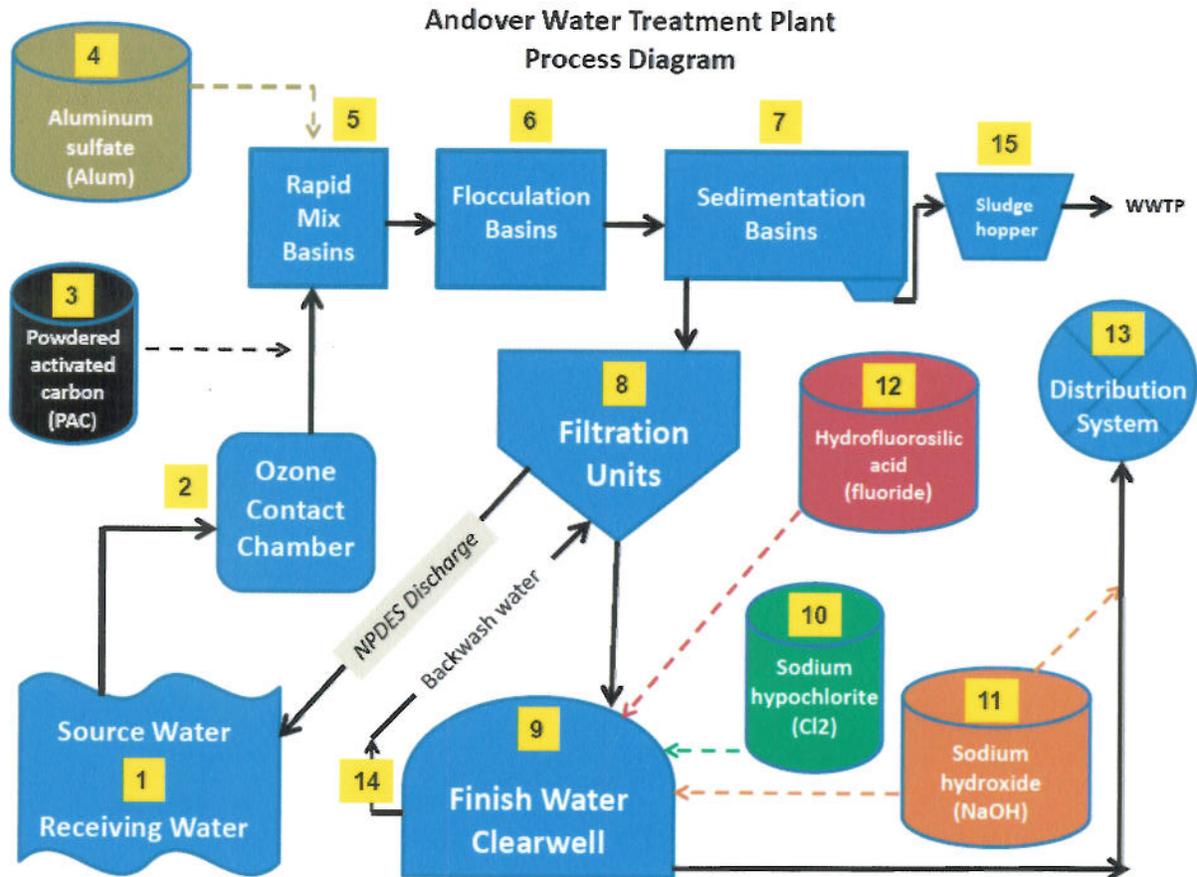
PLANT OPERATIONS

COMMUNICATION OVERVIEW

FILTER SYSTEM OVERVIEW

FILTER SETPOINT DETAIL

## Attachment B



### Diagram Description

The Andover Water Treatment Plant withdraws source water from **1** Haggetts Pond and pumps it to the ozone facility **2** where raw water is ozonated. **3** Powdered activated carbon is added before the process flow continues on to the **5** rapid mix and **6** flocculation basins to mix with **4** aluminum sulfate (alum). Chemically treated water then travels to the **7** sedimentation basins and **8** filter units where water passes through granular activated carbon (GAC) media. Settled material is collected in **15** sludge hoppers and pumped to the wastewater treatment plant. Filtered water is stored in a **9** clearwell and disinfected with **10** sodium hypochlorite (chlorine) and the pH is adjusted with **11** sodium hydroxide. Finished water is treated with **12** fluoride and the pH adjusted once again before being pumped to the **13** distribution system. Reversing the flow of the clearwell water **14** through the filtration units, utilizing backwash pumps, cleans the filters. The backwash water exits the filter via troughs and out a 30-inch drain back to **1** Haggetts Pond, the receiving water.

Attachment C  
List of Water Additives

Ozone

CAS#: 010028-15-6

The use of ozone in the pretreatment of raw water oxidizes organic material which aids in the overall treatment process by removing tastes and odors, reducing the coagulant dosage required, reducing the average effluent turbidity, increasing filter runs, and reducing the formation of disinfection byproducts.

Normal Dosage Range: 1.5 – 2.5 ppm

Powdered activated carbon

CAS#: 7440-44-0

Powdered activated carbon (PAC) is used to remove the dissolved organic materials that cause objectionable taste, odor, and color from the raw water.

Normal Dosage Range: 1.5 – 3.0 ppm

Aluminum sulfate

CAS#: 010043-01-3

Aluminum sulfate (alum) is used to coagulate suspended and colloidal matter in the raw water, forming a floc heavy enough to settle out. This pretreatment greatly reduces the amount of material the filters must remove and also increases the size of particles that otherwise might not be filterable.

Normal Dosage Range: 24 – 30 ppm

### Sodium hydroxide

CAS#: 001310-73-2

Sodium hydroxide (NaOH), also known as caustic soda, is used for pH adjustment and corrosion control.

Normal Dosage Range: 13 – 18 ppm

### Sodium hypochlorite

CAS#: 007681-52-9

Sodium hypochlorite (NaOCl) provides for disinfection of the finished water. Chlorine destroys pathogenic microorganisms, oxidizes undesirable elements, and reduces some tastes and odors.

Normal Dosage Range: 1.5 – 2.0 ppm

### Hydrofluorosilicic acid

CAS#: 16961-83-4

Hydrofluorosilicic acid (fluoride) is added to the drinking water for the purpose of reducing tooth decay, particularly in children.

Normal Dosage Range: 0.9 – 1.2 ppm

Attachment D  
Aluminum Results

The following Discharge Monitoring Reports (DMR) contains results submitted to MADEP during calendar year 2009. The results are included for Section C.7 of the Notice of Intent.

- Note: (1) Aluminum results contained in the DMRs are reported in mg/l.  
(2) Results do not include any dilution.

**Summary of 2009 Total Recoverable Aluminum Data (ug/L)**

<u>Date Sampled</u>	<u>Total Recoverable Aluminum (ug/l)</u>
1/22/09	3810
2/19/09	4690
3/11/09	2560
4/7/09	6900
5/14/09	5350
6/4/09	3800
7/8/09	6030
8/18/09	3990
9/17/09	5070

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

Form Approved  
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS (include Facility Name/Location if Different)

NAME: ANDOVER WTP  
ADDRESS: DEPT OF PUBLIC WORKS  
ANDOVER, MA 01810

MAG640058  
PERMIT NUMBER

001A  
DISCHARGE NUMBER

FACILITY: ANDOVER WATER TREATMENT PLANT  
LOCATION: GENEVA ROAD  
ANDOVER, MA 01810

MONITORING PERIOD					
YEAR	MO	DAY	YEAR	MO	DAY
08	10	01	08	10	31

DMR MAILING ZIP CODE: 01810  
MINOR  
(SUBRE)  
BACKWASH DISCHARGE  
External Outfall

No Discharge

PARAMETER	SAMPLE MEASUREMENT PERMIT REQUIREMENT	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	UNITS	VALUE	UNITS	VALUE	UNITS			
pH		*****		6.59	*****	6.65	SU	0	1/07	GRAB
00400 1 0 Effluent Gross		*****		*****		*****		0	1/07	GRAB-4
Solids, total suspended		*****		26	30 MO.AVG	30		0	1/07	GRAB-4
00530 1 0 Effluent Gross		*****		*****		*****		0	1/30	GRAB-4
Aluminum, total recoverable		*****		*****		*****		0	1/07	GRAB-4
01104 1 0 Effluent Gross		*****		*****		*****		0	1/07	GRAB-4
Flow, in conduit or thru treatment plant		*****		0.496	1.5 DAILY MX	*****		0	1/07	DA
50050 1 0 Effluent Gross		*****		*****		*****		0	1/07	GRAB-4
Chlorine, total residual		*****		*****		*****		0	1/07	GRAB-4
50060 1 0 Effluent Gross		*****		*****		*****		0	1/07	GRAB-4

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER <b>John J. Polano</b>	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT 	TELEPHONE 978-665-8350	DATE 09 01 05
COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)	TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE NUMBER	YEAR MO DAY

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME: ANDOVER WTP  
ADDRESS: DEPT OF PUBLIC WORKS  
ANDOVER, MA 01810

MAG640058  
PERMIT NUMBER

001A  
DISCHARGE NUMBER

FACILITY: ANDOVER WATER TREATMENT PLANT  
LOCATION: GENEVA ROAD  
ANDOVER, MA 01810

MONITORING PERIOD					
YEAR	MO	DAY	YEAR	MO	DAY
08	11	01	08	11	30

DMR MAILING ZIP CODE: 01810  
MINOR  
(SUBRE)  
BACKWASH DISCHARGE  
External Outfall

No Discharge

PARAMETER	SAMPLE MEASUREMENT PERMIT REQUIREMENT	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	UNITS				
PH		*****	*****		6.55	*****	6.71	SU	0	1/07	GRAB
00400 1 0 Effluent Gross		*****	*****		*****	*****	*****		0	1/07	GRAB-4
Soils, total suspended		*****	*****		26	30	33	mg/L	0	1/07	GR
00530 1 0 Effluent Gross		*****	*****		*****	*****	*****		0	1/30	GRAB-4
Aluminum, total recoverable		*****	*****		*****	*****	3.30	mg/L	0	1/30	GR
01104 1 0 Effluent Gross		*****	*****		*****	*****	*****		0	1/07	GRAB-4
Flow, In conduit or thru treatment plant		*****	0.445		*****	*****	*****		0	1/07	DA
50060 1 0 Effluent Gross		*****	*****		*****	*****	*****		0	1/07	GRAB-4
Chlorine, total residual		*****	*****		0.11	Req. Mon MO-AVG	0.15	mg/L	0	1/07	GR
50060 1 0 Effluent Gross		*****	*****		*****	*****	*****		0	1/07	GRAB-4

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		TELEPHONE		DATE	
John J. Bilawa		781-623-7350		09 01 05	
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		AREA Code NUMBER YEAR MO DAY	
		[Signature]		781-623-7350 09 01 05	

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME: ANDOVER WTP  
ADDRESS: DEPT OF PUBLIC WORKS  
ANDOVER, MA 01810

MAG640058  
PERMIT NUMBER

001A  
DISCHARGE NUMBER

FACILITY: ANDOVER WATER TREATMENT PLANT  
LOCATION: GENEVA ROAD  
ANDOVER, MA 01810

ATTN: JOHN POLLANO, PLANT SUPT.

MONITORING PERIOD					
YEAR	MO	DAY	YEAR	MO	DAY
08	12	01	08	12	31

DMR MAILING ZIP CODE: 01810  
MINOR (SUBRE)  
BACKWASH DISCHARGE  
External Outfall

No Discharge

PARAMETER	SAMPLE MEASUREMENT REQUIREMENT	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	UNITS				
pH		*****	*****		6.59	6.5 MINIMUM			0	1/07	GRAB-4
00400 1 0 Effluent Gross		*****	*****		*****	*****			0	1/07	GRAB-4
Solids, total suspended	SAMPLE MEASUREMENT REQUIREMENT	*****	*****		27	30 MO AVG			0	1/30	GRAB-4
00530 1 0 Effluent Gross		*****	*****		4.33	50 DAILY MX			0	1/30	GRAB-4
Aluminum, total recoverable	SAMPLE MEASUREMENT REQUIREMENT	*****	*****		*****	Reg: Mon DAILY MX			0	1/30	GRAB-4
01104 1 0 Effluent Gross		*****	*****		*****	*****			0	1/07	DA
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT REQUIREMENT	*****	0.419	1.5 DAILY MX	*****	*****			0	1/07	DA
50050 1 0 Effluent Gross		*****	*****		0.10	Reg: Mon MO AVG			0	1/07	GRAB-4
Chlorine, total residual	SAMPLE MEASUREMENT REQUIREMENT	*****	*****		0.11	Reg: Mon DAILY MX			0	1/07	GRAB-4
50060 1 0 Effluent Gross		*****	*****		*****	*****			0	1/07	GRAB-4

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER <i>John Pollano</i>	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is true, accurate, and complete. I am not aware of any omission or provision for submitting false information, including the possibility of falsified or manipulated data or information for showing violations.	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT <i>John Pollano</i>	TELEPHONE 1786238852	DATE 09 01 05		
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

Form Approved  
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME: ANDOVER WTP  
ADDRESS: DEPT OF PUBLIC WORKS  
ANDOVER, MA 01810  
FACILITY: ANDOVER WATER TREATMENT PLANT  
LOCATION: GENEVA ROAD  
ANDOVER, MA 01810  
ATTN: JOHN POLLANO, PLANT SUPT.

MAG640058	001A
PERMIT NUMBER	DISCHARGE NUMBER

MM/DD/YYYY	MM/DD/YYYY
01/01/2009	01/31/2009
FROM	TO

DMR Waiting ZIP CODE: 01810  
MINOR (SUBR E)  
BACKWASH DISCHARGE  
External Outfall

No Discharge

PARAMETER	SAMPLE MEASUREMENT REQUIREMENT	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	UNITS			
pH		6.51	6.51	MINIMUM	6.51	6.51	SU	0	01/07	GRAB-4
00400 1 0 Effluent Gross									Weekly	GRAB-4
Solids, total suspended					2.9	4.3	mg/L	0	01/07	GRAB-4
00530 1 0 Effluent Gross									Weekly	GRAB-4
Aluminum, total recoverable						3.81	mg/L	0	01/30	GRAB-4
01104 1 0 Effluent Gross									Monthly	GRAB-4
Flow, in conduit or thru treatment plant		0.414	1.5	DAILY MX				0	01/01	DA
50050 1 0 Effluent Gross									Monthly	GRAB-4
Chlorine, total residual					0.14	0.20	mg/L	0	01/07	Comp
50060 1 0 Effluent Gross									Weekly	GRAB-4

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER <i>John J. Bellens</i>	TELEPHONE 978-628-8350	DATE 02/02/09
TYPED OR PRINTED	AREA CODE 978	NUMBER 628-8350
COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT <i>J. Bellens</i>	

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

Form Approved  
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME: ANDOVER WTP  
ADDRESS: DEPT OF PUBLIC WORKS  
ANDOVER, MA 01810  
FACILITY: ANDOVER WATER TREATMENT PLANT  
LOCATION: GENEVA ROAD  
ANDOVER, MA 01810  
ATTN: JOHN POLLANO, PLANT SUPT.

MAG640058  
PERMIT NUMBER

0014  
DISCHARGE NUMBER

MONITORING PERIOD  
MM/DD/YYYY  
FROM 02/01/2009 TO 02/28/2009

DMR Mailing ZIP CODE: 01810  
MINOR (SUBR E)  
BACKWASH DISCHARGE  
External Outfall

No Discharge

PARAMETER	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
	VALUE	VALUE	UNITS	VALUE	VALUE	UNITS			
pH	SAMPLE MEASUREMENT	*****	*****	*****	6.61	6.5-6.5 MINIMUM	0	01/07	Comp
	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	0	01/07	GRAB-4
00400 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	25	30 MO AVG	0	01/07	Comp
	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	0	01/30	Comp
Solids, total suspended 00530 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	4.69	30 DAILY MX Req. Mon. DAILY MX	0	01/01	DA
	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	0	01/01	GRAB-4
Aluminum, total recoverable 01104 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	0.14	1.5 DAILY MX Mgd	0	01/07	Comp
	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	0	01/07	GRAB-4
Flow, in conduit or thru treatment plant 50050 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	0.10	30 MO AVG Req. Mon. MO AVG	0	01/07	Comp
	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	0	01/07	GRAB-4
Chlorine, total residual 50060 1 0 Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	0.11	30 DAILY MX Req. Mon. DAILY MX	0	01/07	Comp
	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	0	01/07	GRAB-4

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER  
*John J. Blawie*

TYPED OR PRINTED

1 certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with the requirements of the Act, and that I am a duly licensed professional engineer or geologist under the laws of the State of Massachusetts, in the State of New Hampshire, or in the State of New York, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT  
*John J. Blawie*

TELEPHONE  
780-622-8300

AREA CODE NUMBER  
252 90

DATE  
01/02/09

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

Form Approved  
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME: ANDOVER WTP  
ADDRESS: DEPT OF PUBLIC WORKS  
ANDOVER, MA 01810

MAG640058	001A
PERMIT NUMBER	DISCHARGE NUMBER

DMR Mailing ZIP CODE: 01810

FACILITY: ANDOVER WATER TREATMENT PLANT  
LOCATION: GENEVA ROAD  
ANDOVER, MA 01810

MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
FROM 03/01/2009	TO 03/31/2009

MINOR (SUBR E)  
BACKWASH DISCHARGE  
External Outfall

No Discharge

PARAMETER	SAMPLE MEASUREMENT REQUIREMENT	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	UNITS				
pH	SAMPLE MEASUREMENT PERMIT REQUIREMENT	*****	*****	*****	6.56	6.56	MINIMUM	SU	0	1/07	Comp
00400 1 0 Effluent Gross	SAMPLE MEASUREMENT PERMIT REQUIREMENT	*****	*****	*****	2.9	3.8	30 MO AVG	mg/L	0	1/07	Comp
Solids, total suspended	SAMPLE MEASUREMENT PERMIT REQUIREMENT	*****	*****	*****	2.56	2.56	50 DAILY MX	mg/L	0	1/30	Comp
00530 1 0 Effluent Gross	SAMPLE MEASUREMENT PERMIT REQUIREMENT	*****	*****	*****	0.12	0.14	Reg. Mon. MO AVG	mg/L	0	1/07	Comp
Aluminum, total recoverable	SAMPLE MEASUREMENT PERMIT REQUIREMENT	*****	*****	*****	0.412	0.412	15 DAILY MX	Mgal/d	0	1/01	DA
01104 1 0 Effluent Gross	SAMPLE MEASUREMENT PERMIT REQUIREMENT	*****	*****	*****	0.12	0.14	Reg. Mon. DAILY MX	mg/L	0	1/07	Comp
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT PERMIT REQUIREMENT	*****	*****	*****	0.12	0.14	Reg. Mon. MO AVG	mg/L	0	1/07	Comp
50050 1 0 Effluent Gross	SAMPLE MEASUREMENT PERMIT REQUIREMENT	*****	*****	*****	0.12	0.14	Reg. Mon. MO AVG	mg/L	0	1/07	Comp
Chlorine, total residual	SAMPLE MEASUREMENT PERMIT REQUIREMENT	*****	*****	*****	0.12	0.14	Reg. Mon. MO AVG	mg/L	0	1/07	Comp
50060 1 0 Effluent Gross	SAMPLE MEASUREMENT PERMIT REQUIREMENT	*****	*****	*****	0.12	0.14	Reg. Mon. MO AVG	mg/L	0	1/07	Comp

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER <i>John J. Bilim</i>	1. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for furnishing false information, including the possibility of fines and imprisonment for knowing violations.	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT <i>J. Bilim</i>	TELEPHONE AREA CODE 978-253-8300	NUMBER 5523	DATE 04/02/09
TYPED OR PRINTED					

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

Form Approved  
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS (Include Facility Name/location if Different)

NAME: ANDOVER WTP  
ADDRESS: DEPT OF PUBLIC WORKS  
ANDOVER, MA 01810

MAG640058	001A
PERMIT NUMBER	DISCHARGE NUMBER

DMR Mailing ZIP CODE: 01810

FACILITY: ANDOVER WATER TREATMENT PLANT  
LOCATION: GENEVA ROAD  
ANDOVER, MA 01810

MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
FROM 04/01/2009	TO 04/30/2009

(SUBR E)  
BACKWASH DISCHARGE  
External Outfall

No Discharge

PARAMETER	SAMPLING MEASUREMENT REQUIREMENT	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	UNITS	REQUIREMENT	VALUE	UNITS	REQUIREMENT			
pH	SAMPLE MEASUREMENT PERMIT	*****	*****	*****	6.58	MINIMUM	*****	0	1/07	Comp
00400 1 0 Effluent Gross	SAMPLE MEASUREMENT PERMIT	*****	*****	*****	6.69	8.3 MAXIMUM	*****	0	1/07	Comp
Solids, total suspended	SAMPLE MEASUREMENT PERMIT	*****	*****	*****	27	30 MO AVG	*****	0	1/07	Comp
00530 1 0 Effluent Gross	SAMPLE MEASUREMENT PERMIT	*****	*****	*****	6.9	50 DAILY MX	*****	0	1/30	Comp
Aluminum, total recoverable	SAMPLE MEASUREMENT PERMIT	*****	*****	*****	0.08	30 MO AVG	*****	0	1/01	DA
01104 1 0 Effluent Gross	SAMPLE MEASUREMENT PERMIT	*****	*****	*****	0.10	50 DAILY MX	*****	0	1/07	Comp
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT PERMIT	*****	*****	*****	0.412	1.5 DAILY MX	*****	0	1/07	Comp
50050 1 0 Effluent Gross	SAMPLE MEASUREMENT PERMIT	*****	*****	*****	0.08	30 MO AVG	*****	0	1/07	Comp
Chlorine, total residual	SAMPLE MEASUREMENT PERMIT	*****	*****	*****	0.10	50 DAILY MX	*****	0	1/07	Comp
50060 1 0 Effluent Gross	SAMPLE MEASUREMENT PERMIT	*****	*****	*****	0.10	50 DAILY MX	*****	0	1/07	Comp

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information on which this document is based. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NUMBER	DATE
John J. Blake			[Signature]	978-663-3500	07/01/09
TYPED OR PRINTED			SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER
				978	663-3500

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

Form Approved  
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS (Include Facility Name/location if Different)

NAME: ANDOVER WTP  
ADDRESS: DEPT OF PUBLIC WORKS  
ANDOVER, MA 01810  
FACILITY: ANDOVER WATER TREATMENT PLANT  
LOCATION: GENEVA ROAD  
ANDOVER, MA 01810  
ATTN: JOHN POLLANO, PLANT SUPT.

MAG640058  
PERMIT NUMBER

001A  
DISCHARGE NUMBER

MONITORING PERIOD  
MM/DD/YYYY TO MM/DD/YYYY  
05/01/2009 TO 05/31/2009

DMR Mailing ZIP CODE: 01810  
MINOR (SUBR E)  
BACKWASH DISCHARGE  
External Outfall

No Discharge

PARAMETER	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE	
	VALUE	UNITS	PERMIT REQUIREMENT	VALUE	UNITS	PERMIT REQUIREMENT				
pH	6.58		6.5 MINIMUM				0	1/07	Comp	BW
00400 1 0 Effluent Gross	23		30 MO AVG				0	1/07	Comp	BW
Solids, total suspended Effluent Gross	5.35		50 DAILY MX				0	1/30	Comp	BW
Aluminum, total recoverable Effluent Gross	0.670		1.5 DAILY MX				0	1/01	DA	BW
Flow, in conduit or thru treatment plant	0.09		Reg. Mon. MO AVG				0	1/07	Comp	BW
50050 1 0 Effluent Gross	0.11		Reg. Mon. DAILY MX				0	1/07	Comp	BW
Chlorine, total residual Effluent Gross										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER  
*John J. Polans*  
TYPED OR PRINTED

1. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that the information reported hereon is true and correct. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT  
*[Signature]*

TELEPHONE NUMBER  
928-623-8350

DATE  
07/01/09

AREA CODE NUMBER

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

Form Approved  
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME: ANDOVER WTP  
ADDRESS: DEPT OF PUBLIC WORKS  
ANDOVER, MA 01810  
FACILITY: ANDOVER WATER TREATMENT PLANT  
LOCATION: GENEVA ROAD  
ANDOVER, MA 01810  
ATTN: JOHN POLLANO, PLANT SUPT.

MAG640058  
PERMIT NUMBER

001A  
DISCHARGE NUMBER

MONITORING PERIOD  
MM/DD/YYYY TO MM/DD/YYYY  
06/01/2009 TO 06/30/2009

DMR Mailing ZIP CODE: 01810  
MINOR (SUBR E)  
BACKWASH DISCHARGE  
External Outfall

No Discharge

PARAMETER	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
	VALUE	UNITS	PERMIT REQUIREMENT	VALUE	UNITS	PERMIT REQUIREMENT			
pH	*****	*****	*****	*****	*****	*****	0	1/07	Comp
00400 1 0 Effluent Gross	*****	*****	*****	MINIMUM 6.5	*****	*****	0	Weekly	GRAB-4
00530 1 0 Solids, total suspended Effluent Gross	*****	*****	*****	*****	*****	*****	0	1/07	Comp
Aluminum, total recoverable Effluent Gross	*****	*****	*****	*****	*****	*****	0	1/30	Comp
Flow, in conduit or thru treatment plant Effluent Gross	*****	*****	*****	*****	*****	*****	0	1/01	DA
Chlorine, total residual Effluent Gross	*****	*****	*****	*****	*****	*****	0	1/07	Comp

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER  
Dwa J. Polkam

TYPED OR PRINTED

1. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT  
[Signature]

TELEPHONE AREA CODE NUMBER  
978-623-8350

DATE  
07/01/09

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

Form Approved  
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME: ANDOVER WTP  
ADDRESS: DEPT OF PUBLIC WORKS  
ANDOVER, MA 01810  
FACILITY: ANDOVER WATER TREATMENT PLANT  
LOCATION: GENEVA ROAD  
ANDOVER, MA 01810  
ATTN: JOHN POLLANO, PLANT Supt.

MAG640058  
PERMIT NUMBER

001A  
DISCHARGE NUMBER

MONITORING PERIOD  
MM/DD/YYYY TO MM/DD/YYYY  
FROM 07/01/2009 TO 07/31/2009

DMR Mailing ZIP CODE: 01810  
MINOR (SUBR E)  
BACKWASH DISCHARGE  
External Outfall

No Discharge

PARAMETER	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE	
	VALUE	UNITS	PERMIT REQUIREMENT	VALUE	UNITS	PERMIT REQUIREMENT				
pH	6.51		6.5 MINIMUM				0	1/07	Comp	BW
00400 1 0 Effluent Gross						8.3 MAXIMUM	0	1/07	Comp	BW
Solids, total suspended				17	mg/L	30 MO AVG	0	1/30	Comp	BW
00530 1 0 Effluent Gross						6.03	0	1/30	Comp	"
Aluminum, total recoverable							0	1/01	DA	"
01104 1 0 Effluent Gross							0	1/07	Comp	BW
Flow, in conduit or thru treatment plant	0.765	Mgal/d	1.5 DAILY MX				0	1/07	Comp	BW
50050 1 0 Effluent Gross							0	1/07	Comp	BW
Chlorine, total residual				0.17	mg/L	Req. Mon. MO AVG	0	1/07	Comp	BW
50060 1 0 Effluent Gross						0.20	0	1/07	Comp	BW

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

TYPED OR PRINTED

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE

DATE

AREA CODE

NUMBER

MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

Form Approved  
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME: ANDOVER WTP  
ADDRESS: DEPT OF PUBLIC WORKS  
ANDOVER, MA 01810

MAC640058	001A
PERMIT NUMBER	DISCHARGE NUMBER

DMR Mailing ZIP CODE: 01810

MINOR (SUBR E)  
BACKWASH DISCHARGE  
External Outfall

FACILITY: ANDOVER WATER TREATMENT PLANT  
LOCATION: GENEVA ROAD  
ANDOVER, MA 01810  
ATTN: JOHN POLLANO, PLANT SUPT.

MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
FROM 08/01/2009	TO 08/31/2009

No Discharge

PARAMETER	SAMPLE MEASUREMENT REQUIREMENT	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE	
		VALUE	VALUE	UNITS	VALUE	VALUE	UNITS					
pH	PERMIT MEASUREMENT	*****	*****	*****	6.56	*****	*****	SU	0	1/07	Comp	BW
00400 1 0 Effluent Gross	PERMIT MEASUREMENT	*****	*****	*****	MINIMUM 6.5	*****	*****	*****	0	1/07	Comp	BW
Solids, total suspended	SAMPLE MEASUREMENT PERMIT REQUIREMENT	*****	*****	*****	*****	24	37	mg/L	0	1/07	Comp	BW
00530 1 0 Effluent Gross	PERMIT MEASUREMENT	*****	*****	*****	30 MO AVG	*****	50 DAILY MX	mg/L	0	1/30	Comp	BW
Aluminum, total recoverable	SAMPLE MEASUREMENT PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	mg/L	0	1/30	Comp	BW
01104 1 0 Effluent Gross	PERMIT MEASUREMENT	*****	*****	*****	*****	*****	*****	*****	0	1/01	DA	"
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT PERMIT REQUIREMENT	*****	1,089	*****	*****	*****	*****	*****	0	1/01	DA	"
50050 1 0 Effluent Gross	PERMIT MEASUREMENT	*****	1.5 DAILY MX	*****	*****	*****	*****	*****	0	1/07	Comp	BW
Chlorine, total residual	SAMPLE MEASUREMENT PERMIT REQUIREMENT	*****	*****	*****	*****	0.19	0.28	mg/L	0	1/07	Comp	BW
50060 1 0 Effluent Gross	PERMIT MEASUREMENT	*****	*****	*****	*****	*****	*****	*****	0	1/07	Comp	BW

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with the requirements of the law. I am a duly licensed professional engineer and I evaluate the information submitted. Based on my inquiry of the person(s) who provided the information, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT
TYPED OR PRINTED			
COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)			
TELEPHONE	AREA Code	NUMBER	DATE
			MM/DD/YYYY

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

Form Approved  
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS (Include Facility Name/location if Different)

NAME: ANDOVER WTP  
ADDRESS: DEPT OF PUBLIC WORKS  
ANDOVER, MA 01810

PERMIT NUMBER	001A
DISCHARGE NUMBER	

DMR Mailing ZIP CODE: 01810

MINOR (SUBR E)  
BACKWASH DISCHARGE  
External Outfall

No Discharge

FACILITY: ANDOVER WATER TREATMENT PLANT  
LOCATION: GENEVA ROAD  
ANDOVER, MA 01810  
ATTN: JOHN POLLANO, PLANT SUPT.

MONITORING PERIOD	MM/DD/YYYY	MM/DD/YYYY	
FROM	09/01/2009	TO	09/30/2009

PARAMETER	SAMPLE MEASUREMENT PERMIT REQUIREMENT	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE				
pH		*****	*****	*****	6.56	6.56	MINIMUM		0	1/07	Comp
00400 1 0 Effluent Gross		*****	*****	*****	*****	*****	8.3 MAXIMUM	SU	0	1/07	Comp
Solids, total suspended		*****	*****	*****	15	15	30 MO AVG	mg/L	0	1/07	Comp
00530 1 0 Effluent Gross		*****	*****	*****	*****	*****	50 DAILY MX	mg/L	0	1/30	Comp
Aluminum, total recoverable		*****	*****	*****	*****	*****	Reg. Mon. DAILY MX	mg/L	0	1/30	Comp
01104 1 0 Effluent Gross		*****	*****	*****	*****	*****	*****	*****	0	1/01	DA
Flow, in conduit or thru treatment plant		*****	*****	*****	0.795	0.795	1.5 DAILY MX	Mgal/d	0	1/01	DA
50050 1 0 Effluent Gross		*****	*****	*****	*****	*****	*****	*****	0	1/07	Comp
Chlorine, total residual		*****	*****	*****	0.17	0.17	Reg. Mon. MO AVG	mg/L	0	1/07	Comp
50060 1 0 Effluent Gross		*****	*****	*****	0.19	0.19	Reg. Mon. DAILY MX	mg/L	0	1/07	Comp

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that obtaining false information or submitting false information is prohibited.		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE	DATE
TYPED OR PRINTED				AREA Code NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

Attachment E  
Effluent Characteristics  
1 Yr of Consecutive Monthly Supporting Data

**FLOW**

Month	Month Backwash Total (MG)	Maximum Day for Month
October 08	12.231	0.496
November 08	8.966	0.445
December 08	8.333	0.419
January 09	8.702	0.414
February 09	7.675	0.414
March 09	8.468	0.412
April 09	8.585	0.412
May 09	13.666	0.508
June 09	15.072	0.646
July 09	15.571	0.765
August 09	20.393	1.089
September 09	16.411	0.795
<b>AVERAGE MONTHLY = 12.0 MG</b>		<b>MAXIMUM DAILY = 1.089 MG</b>

**TOTAL SUSPENDED SOLIDS**

Month	Average Monthly TSS mg/l	Maximum Daily TSS mg/l
October 08	26	30
November 08	25.5	33
December 08	27	30
January 09	29.25	43
February 09	25	30
March 09	29	38
April 09	26.75	30
May 09	23.25	25
June 09	20.25	22
July 09	16.5	20
August 09	24	37
September 09	15	20
<b>AVERAGE MONTHLY = 23.9 MG/L</b>		<b>MAXIMUM DAILY = 43 MG/L</b>

**pH**

Month	pH (min)	pH (max)
October 08	6.59	6.65
November 08	6.55	6.71
December 08	6.59	6.76
January 09	6.51	6.6
February 09	6.61	6.65
March 09	6.56	6.64
April 09	6.58	6.69
May 09	6.58	6.64
June 09	6.58	6.64
July 09	6.51	6.59
August 09	6.56	7.04
September 09	6.56	6.73
<b>AVERAGE MONTHLY MIN = 6.56</b>		<b>MAXIMUM DAILY MAX= 7.04</b>

## TOTAL RECOVERABLE ALUMINUM

Month	Average Monthly Total Recoverable Aluminum ug/l	Maximum Daily Total Recoverable Aluminum ug/l
October 08	2360	<i>Same, measured 1/month</i>
November 08	3300	<i>Same, measured 1/month</i>
December 08	4330	<i>Same, measured 1/month</i>
January 09	3810	<i>Same, measured 1/month</i>
February 09	4690	<i>Same, measured 1/month</i>
March 09	2560	<i>Same, measured 1/month</i>
April 09	6900	<i>Same, measured 1/month</i>
May 09	5350	<i>Same, measured 1/month</i>
June 09	3800	<i>Same, measured 1/month</i>
July 09	6030	<i>Same, measured 1/month</i>
August 09	3990	<i>Same, measured 1/month</i>
September 09	5070	<i>Same, measured 1/month</i>
	<b>AVERAGE MONTHLY = 4349 ug/L</b>	<b>MAXIMUM DAILY = 6900 ug/L</b>

## TOTAL RESIDUAL CHLORINE

Month	Average Monthly Total Residual Chlorine ug/l	Maximum Daily Total Residual Chlorine ug/l
October 08	87.5	110
November 08	110	150
December 08	95	110
January 09	137.5	200
February 09	102.5	110
March 09	115	140
April 09	75	100
May 09	87.5	90
June 09	130	180
July 09	167.5	200
August 09	187.5	200
September 09	137.8	190
	<b>AVERAGE MONTHLY = 119.4 ug/L</b>	<b>MAXIMUM DAILY = 200 ug/L</b>

Attachment F  
Endangered Species Act (ESA) Eligibility

The Andover Water Treatment Plant discharges in Essex County, Massachusetts. Activities regulated by the Potable Water Treatment Facility General Permit (PWTF GP) were thoroughly examined and such activities do *not* adversely affect endangered and threatened species and critical habitats of Essex County. This facility meets all obligations under the Clean Water Act and the ESA.

The four species of concern that should be noted by owners and operators of facilities seeking coverage under the general permit include the shortnose sturgeon, the dwarf wedge mussel, the bog turtle, and the northern red-bellied cooter. These species as well as others listed with the state as endangered or threatened were considered by the facility.

The facility meets Criterion A as outlined in Appendix I of the PWTF GP that states: “*No federally-listed threatened or endangered species or federally-designated critical habitat are present.*”

Criterion A was established for the facility by examining areas listed in Section I of Appendix I and the most current county species list: Appendix II Endangered Species Act Count Species List.

Assessment of ESA eligibility concludes:

1. None of the areas in Section I of Appendix I are found in the project area as only Plymouth County has federally-endangered critical habitat in Massachusetts.
2. Recorded on the federally-listed endangered and threatened species document for Essex County, Massachusetts are two threatened species: the small whorled pogonia and the piping plover. The critical habitats for the aforementioned are coastal beaches and forests with somewhat poorly drained soils and/or a seasonably high water table. Neither species nor listed habitats are located within or near the town of Andover, the facility, or the discharge.

NOTE: The following pages are supporting documentation from the US Fish and Wildlife Service (FWS) listing of federally endangered and threatened species for counties in Massachusetts and New Hampshire. The list was updated on July 31, 2008 and is consistent with the most recent data on the FWS Endangered Species Home Page found at:

[http://www.fws.gov/northeast/newenglandfieldoffice/EndangeredSpecConsultation\\_Project\\_Review.htm](http://www.fws.gov/northeast/newenglandfieldoffice/EndangeredSpecConsultation_Project_Review.htm)

**FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES  
IN MASSACHUSETTS**

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Barnstable	Piping Plover	Threatened	Coastal Beaches	All Towns
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Chatham
	Sandplain gerardia	Endangered	Open areas with sandy soils	Sandwich and Falmouth
	Northern Red-bellied cooter	Endangered	Inland Ponds and Rivers	Bourne (north of the Cape Cod Canal)
Berkshire	Bog Turtle	Threatened	Wetlands	Egremont and Sheffield
Bristol	Piping Plover	Threatened	Coastal Beaches	Fairhaven, Dartmouth, Westport
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Fairhaven, New Bedford, Dartmouth, Westport
	Northern Red-bellied cooter	Endangered	Inland Ponds and Rivers	Raynham and Taunton
Dukes	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Piping Plover	Threatened	Coastal Beaches	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Aquinnah and Chilmark
	Sandplain gerardia	Endangered	Open areas with sandy soils	West Tisbury
Essex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Gloucester, Essex and Manchester
	Piping Plover	Threatened	Coastal Beaches	Gloucester, Essex, Ipswich, Rowley, Revere, Newbury, Newburyport and Salisbury
Franklin	Northeastern bulrush	Endangered	Wetlands	Montague
	Dwarf wedgemussel	Endangered	Mill River	Whately
Hampshire	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Hadley
	Puritan tiger beetle	Threatened	Sandy beaches along the Connecticut River	Northampton and Hadley
	Dwarf wedgemussel	Endangered	Rivers and Streams	Hadley, Hatfield, Amherst and Northampton
Hampden	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Southwick
Middlesex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Groton
Nantucket	Piping Plover	Threatened	Coastal Beaches	Nantucket
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Nantucket
	American burying beetle	Endangered	Upland grassy meadows	Nantucket
Plymouth	Piping Plover	Threatened	Coastal Beaches	Scituate, Marshfield, Duxbury, Plymouth, Wareham and Mattapoisett
	Northern Red-bellied cooter	Endangered	Inland Ponds and Rivers	Kingston, Middleborough, Carver, Plymouth, Bourne, and Wareham
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Plymouth, Marion, Wareham, and Mattapoisett
Suffolk	Piping Plover	Threatened	Coastal Beaches	Winthrop
Worcester	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Leominster

- Eastern cougar and gray wolf are considered extirpated in Massachusetts.
- Endangered gray wolves are not known to be present in Massachusetts, but dispersing individuals from source populations in Canada may occur statewide.
- Critical habitat for the Northern Red-bellied cooter is present in Plymouth County.

7/31/2008

**FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES  
IN NEW HAMPSHIRE**

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Belknap	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Meredith, Alton and Laconia
Carroll	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Albany, Eaton, Madison Wolfeboro, Brookfield and Wakefield
Coos	Canada Lynx	Threatened	Regenerating softwood forest, usually with a high density of snowshoe hare.	All Towns
	Dwarf wedgemussel	Endangered	Connecticut River main channel and Johns River	Northumberland, Lancaster and Dalton
Cheshire	Dwarf wedgemussel	Endangered	S. Branch Ashuelot River and Ashuelot River	Swanzey, Keene and Stry
Grafton	Dwarf wedgemussel	Endangered	Connecticut River main channel	Haverhill, Piermont, Orford and Lyme
	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Holderness
Hillsborough	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Weare
Merrimack	Karner Blue Butterfly	Endangered	Pine Barrens with wild blue lupine	Concord and Pembroke
	Small whorled Pogonia	Threatened	Forests	Danbury, Epsom, Warner and Allenstown
Rockingham	Piping Plover	Threatened	Coastal Beaches	Harrington and Seabrook
	Roseate Tern	Endangered	Atlantic Ocean and nesting at the Isle of Shoals	
	Small whorled Pogonia	Threatened	Forests	Northwood, Nottingham, and Epping
Strafford	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Middleton, New Durham, Milton, Farmington, Strafford, Barrington, and Madbury
Sullivan	Northeastern bulrush	Endangered	Wetlands	Acworth, Charlestown, Langdon and Walpole
	Dwarf wedgemussel	Endangered	Connecticut River main channel	Plainfield, Cornish, Claremont and Charlestown
	Josup's milk-vetch	Endangered	Banks of the Connecticut River	Plainfield and Claremont

- Eastern cougar, gray wolf and Puritan tiger beetle are considered extirpated in New Hampshire.
- Endangered gray wolves are not known to be present in New Hampshire, but dispersing individuals from source populations in Canada may occur statewide.
- There is no federally-designated Critical Habitat in New Hampshire.

7/31/2008