

May 27, 2010

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

RE: Town of Cohasset – Lily Pond Water Treatment Plant
Potable Water Treatment Facility General Permit
NPDES General Permit No. MAG640070 Notice of Intent
BRP WM 13 Transmittal #X233610

To Whom It May Concern:

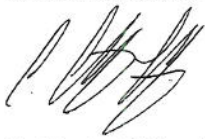
On behalf of the Town of Cohasset, please find enclosed a complete Notice of Intent (NOI) for coverage of the Lily Pond Water Treatment Plant (WTP) under the National Pollutant Discharge Elimination System (NPDES) General Permit for discharges from Potable Water Treatment Facilities (PWTF). The WTP is located at 339 King Street in Cohasset, Massachusetts.

This complete NOI package consists of the following:

- Environmental Protection Agency (EPA) PWTF NPDES General Permit NOI form and dilution factor calculations;
- Site figures including a site plan identifying WTP's discharge location, and the WTP's process flow diagram; and
- A summary of the NPDES discharge monitoring data from October 2009 until March 2010.

The NOI form provides an overview of the Lily Pond WTP physical and chemical treatment processes. Thank you for your cooperation and assistance. Please feel free to contact Jared Hill at (781) 383-0057 (JHill@amwater.com) if you have any questions or require additional information.

Very Truly Yours,
Environmental Partners Group, Inc.



C. Carter Fahy, P.E.
Senior Project Manager

EPA
May 27, 2010
Page 2 of 2

Encl: PWTF NPDES General Permit NOI
Figures
NPDES Discharge monitoring data

CC: MA DEP, Division of Watershed Management
J. Hill, Cohasset Water Department

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

1. Facility Owner:

Name Cohasset Water Department e-mail _____
Street/PO Box 339 King Street City Cohasset
State MA Zip Code 02025
Contact Person Glenn Pratt Telephone Number 781-383-0057

2. Facility Operator (if different from above):

Name American Water Enterprises e-mail (optional) JHill@amwater.com
Street/PO Box 339 King Street City Cohasset
State MA Zip Code 02025
Contact Person Jared Hill Telephone Number 781-383-0057

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

Name Lily Pond Water Treatment Plant e-mail (optional) _____
Street/PO Box 339 King Street City Cohasset
State MA Zip Code 02025
Contact Person Jared Hill Telephone Number (781) 383-0057
Facility Latitude 42° 13' 38" Facility Longitude -70° 49' 02"

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

SIC Code(s) 4941 - Water Supply
Description(s) Water Treatment Plant discharge

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

1. Has a prior NPDES permit been granted for the discharge? Yes ☒ (Permit Number: MAG640070)
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 Lily Pond
2. Type of Receiving Waterbody (e.g. stream, lake, reservoir, estuary etc) Pond
3. State Water Quality Classification: A _____ Freshwater: x 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 attached summary description

5. Please provide a diagram depicting the treatment methods, outfalls, and receiving water.

6. Number of outfalls: 1 Latitude and Longitude for each outfall (attach additional pages if necessary)
 OUTFALL # Latitude 42.225° Longitude -70.819°
 OUTFALL # Latitude Longitude

For each outfall:

7. What is the proposed sampling location(s) and proposed consistent times of the month for collecting samples:

Samples are collected from the lagoon weir outlets or at the pipe discharging directly to Lily Pond on a weekly basis (Tuesday AM).

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): Lime (Ca(OH)₂)

Potassium Permanganate (KMnO₄), Ferric Chloride, Polyaluminum Chloride, Chlorine, a Clar-floc polymer, and an Aries 30-3010 polymer (for geotubes).

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 ☒ No ☐

4. Does the discharge contain residual chlorine? Yes ☒ No ☐

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

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

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.

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

Characteristic (report if measured)	Average Monthly	Maximum Daily
Discharge Flow (gpd)	54,834	100,000
TSS (mg/l)	0.122	0.06
pH (s.u.)	(min) 7.1	(max) 8.6
Total Recoverable Aluminum (ug/l)	570	900
Total Residual Chlorine (ug/l)	39	80

(continued on next page)

8. Continued

Characteristic (report if measured)

Whole Effluent Toxicity (%) LC50 N/A and/or C-NOEC N/A

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 0.0 cfs Dilution Factor 0.0 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 ☒ 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.

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 ☒ 2 ☐ 3 ☐
2. Have any State or Tribal historic preservation officers been consulted in this determination? Yes ☐ No ☒
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 [Signature] Date 5/31/10
Printed Name and Title Jared Hill Superintendent

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

**RE: Town of Cohasset – Lily Pond Water Treatment Plant
Potable Water Treatment Facility General Permit
NPDES General Permit No. MAG640070 Notice of Intent**

Additional Information (Section B.4 of Notice of Intent Form)

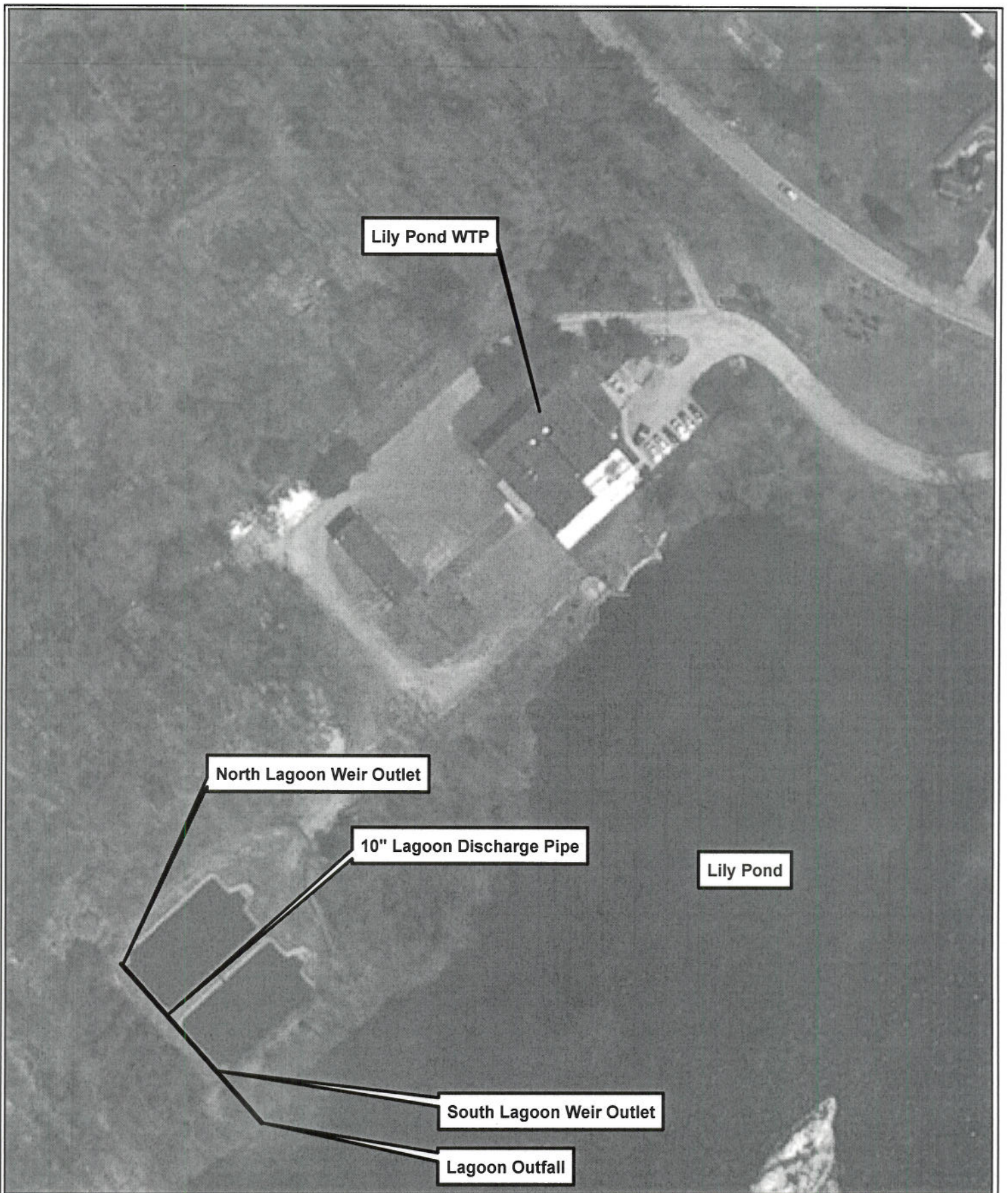
The existing facilities at the Lily Pond WTP are depicted on the attached Figure and consist of: the treatment building (houses the pumps, an operator control room, chemical feed systems, the filters, a laboratory, and an emergency generator; covered flocculation basins; covered sedimentation basins; a chlorine contact clear well, a residuals pumping station), and two sludge lagoons. The treatment plant was constructed in 1977.

As shown on the attached process flow diagram, chemical addition at the facility currently consists of polyaluminum chloride and ferric chloride for coagulation and the removal of dissolved natural organic matter (NOM); potassium permanganate for primary disinfection; chlorine for secondary disinfection; lime for pH adjustment. The physical treatment processes employed at the facility include chemical mixing using rapid mix basins, multi-stage flocculation using baffles, conventional sedimentation; and mixed media filters.

Backwash from the sedimentation basins and mixed media filters are discharged by gravity via 8-inch and 12-inch drain pipes to two cement lined lagoons (99 feet long, 53 feet wide, 6 feet deep each (236,115 gallon capacity each), which run in parallel to the discharge location at Lily Pond. The flow varies with the season and the temperature as reflected in the monthly NPDES reports.

The bottom of each lagoon is lined with subsurface drain lines covered with crushed stone. The lagoons' subsurface drain lines from each lagoon tie into one 10-inch HDPE drain line located just outside and west of the two lagoons; this 10-inch drain line discharges directly into Lily Pond (invert elevation 44.5). The 10-inch drain line also receives surface discharge from each of the lagoons after the surface flow has passed over a weir (i.e., when discharge to the lagoons are low, discharge from the lagoons to the 10-inch line is primarily through the subsurface discharge; when are they high, discharge to the 10-inch line is primarily over the weir of each lagoon).

Currently, a geomembrane tube is installed in the north lagoon, and discharge from the water treatment plant has been directly discharged only to the southern lagoon. Periodically, residuals from the southern lagoon are pumped to the geomembrane tube in the northern lagoon. A polymer (Aires 30-3010) is then added to the residuals inside the geomembrane tube to increase its solids content, while the residuals are dewatered inside the geomembrane tube. The dewatered solids are subsequently shipped off-site once the geomembrane tube reaches its capacity.



0 50 100 200
Feet



NPDES General Permit
Lily Pond WTP
Cohasset, MA

Lily Pond WTP Schematic

