UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND - REGION I
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MASSACHUSETTS 02109-3912

Request for General Permit Authorization to Discharge Wastewater
Notice of Intent (NOI) to be covered by the General Permit Potable Water
Treatment Facility (PWTF) by Springfield Water and Sewer Commission

A. Facility Information
1. NPDES General Permit No. MAG640000
2. Facility Data
   Facility Name: Springfield Reservoir (known as Ludlow Reservoir)
   Facility Address: Springfield Water and Sewer Commission
   1149 Center Street
   Ludlow, MA 01056

   Latitude 42° 12' 0.2376"
   Longitude 72° 26' 3.7068"

   SIC Code(s) 4941

   Type of Business Water Supply

3. Facility Mailing Address (if different from Location Address, above)
   Facility Name Springfield Water and Sewer Commission
   Street/PO Box: PO Box 995
   City Springfield
   State MA Zip Code 01101

4. Facility Owner:
   Legal Name: Springfield Water and Sewer Commission

   Email: james.laurila@waterandsewer.org
   Street/PO Box PO BOX 995
   City Springfield
   State MA Zip Code 01101

   Contact Person: James R. Laurila
   Tel # 413-310-3542

   Owner is (check one): Federal State Tribal Private

   Other (describe) Municipal
5. **Facility Operator (if different from above):**

Legal Name

Email

Street/PO Box __________________________ City __________________________

State __________________________ Zip Code __________________________

Contact Person __________________________ Tel # __________________________

6. **Currently (Administratively) Covered Under the Expired PWTF General Permit? (Please check yes or no):**

- Yes
- No

   a) Has a prior NPDES permit (either individual or general permit coverage) been granted for the discharge that is listed on the NOI?  
      - Yes
      - No
      - If Yes, Permit Number: MAG640022

   b) Is the discharge a "new discharger" as defined by 40 CFR Section 122.22?  
      - Yes
      - No

   c) Is the facility covered by an individual NPDES permit for other discharges?  
      - Yes
      - No

   d) Is there a pending NPDES application (either individual or general permit) on file with EPA for this discharge?  
      - Yes
      - No

7. **Attach a topographic map indicating the location of the facility and the outfall(s) to the receiving water.**  
   Map attached? Yes

B. **Discharge Information** (Attach additional sheets as needed):

1. **Name of receiving water into which discharge will occur:** Higher Brook

   Check Appropriate Box:  
   - ✔ Freshwater
   - Marine Water

   State Water Quality Classification  
   - Class B

   Type of Receiving Water Body (e.g., stream, river, lake, reservoir, estuary, etc.)  
   - Stream

2. **Indicate the frequency of the discharge:**

   - Emergency Only
   - Infrequent (Once/Twice a Year)  
   - Intermittent***
   - Continuous

   ***If Intermittent (i.e., occurs sometimes but not regularly as in batch discharge), provide # of days per year the discharge occurs The SWSC is in the process of determining how many days will be
necessary to discharge for maintenance purposes. The SWSC estimates between zero and twenty
67 discharges per year.
***If Other, explain ________________________________

3. 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 waters; and the length of backwash cycle for any combination of filters.)

Springfield Reservoir, known as Ludlow Reservoir is an emergency source of water for the Springfield
Water and Sewer Commission (SWSC). This emergency back-up slow sand filter facility has been off line
since 1994 but is maintained in case it is ever needed as a source of water for the SWSC. If the treatment
plant were to be put into service the water would flow from the 1.8 billion gallon reservoir into the 23
million gallon (MG) raw water settling basin by gravity. From the settling basin the water is pumped by 1
of 2 turbine pumps to distribution tank/box for the 4 open air, one acre slow sand filters. Filtered water
would then be collected in an under drain system and flow to an 11 MG open air finished water basin. As
water leaves the finished water basin for emergency drinking water it would be chlorinated before entering
the distribution system. The SWSC anticipates discharging water from the clear well for maintenance
purposes less than 20 times per year. The discharge will flow through the 24” pipe to the 6” drain to Outfall
#1. For routine maintenance and flushing no chlorine is added.

4. Attach a line drawing or flow schematic showing water flow through the facility including sources
of intake water, operations contributing to flow, treatment units, outfalls, and receiving water(s).

Line drawing or flow diagram attached? Yes

5. Identify the source of the water being discharged:

Surface water  Groundwater Other (describe)

6. Number of Outfalls ___2___ Latitude and Longitude to the nearest second for each Outfall. Attach
additional pages if necessary.

<table>
<thead>
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<th>Outfall</th>
<th>Latitude</th>
<th>Longitude</th>
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<tr>
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<tr>
<td>#2</td>
<td>42.19136</td>
<td>-72.44022</td>
</tr>
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</table>

7. For each outfall, indicate the proposed sampling location(s) for both effluent and ambient water
(when applicable) and proposed consistent times of the month for collecting samples:

Outfall #1 The effluent is sampled at the outfall pipe as it discharges into Higher brook. The ambient
water (Higher Brook) will be sampled upstream of discharge. The effluent and the ambient water will be
taken while the discharge is flowing. The proposed schedule is to sample two Tuesdays per month May –
August and once per month in April, September and October.

Outfall #2 N/A not in use

______________________________
C. **Effluent Characteristics**

1. List here and attach additional information (on separate sheet) on any water additives used at the facility. This includes chemicals (including aluminum, iron, or phosphorus-containing chemicals) for pH adjustment, dechlorination, control of biological growth, and control of corrosion and scale in water pipes.

   **N/A: Currently the treatment plant is offline and no chemicals or water additives are used.**

2. Report any known remediation activities or water quality issues in the vicinity of the discharge

   **N/A: none known**

3. Are aluminum compounds or polymers used as coagulants at this facility?*

   - Yes
   - No

   *If answer is “Yes” and the facility was *not* covered under the PWTF GP that expired on 10/2/14, additional monitoring data and information is required. **Please complete Item III.C.12.**

4. Does the facility use any alum-based products for algae control?*

   - Yes
   - No

   *If answer is “Yes” and the facility was *not* covered under the PWTF GP that expired on 10/2/14, additional monitoring data and information is required. **Please complete Item III.C.12.**

5. Are iron-containing coagulants used at this facility?

   - Yes
   - No

6. Does the facility’s discharge contain residual chlorine?

   - Yes
   - No

   **[If Yes, EPA will calculate a Total Residual Chlorine effluent limit for your facility]**

7. Does the facility provide treatment to remove arsenic from the raw water source? Yes

8. a. Are phosphorus-containing chemicals added to the treated water at this facility? Yes

   b. If answer to 8.a. is Yes, does the facility discharge to Phosphorus-Impaired waters? Yes

   c. If answer to 8.b. is Yes, provide name of P-Impaired waterbody: ____________________

9. Does the facility remove radium or other radioactive substances from raw water sources to comply with drinking water standards? Yes

10. Provide the reported or calculated seven day- ten year low flow (7Q10) of the receiving water 7Q10***: The 7 day 10 year low flow is 0.0118 cfs per Stream Stat 4.0 software. The calculated dilution factor is 1.009
11. For each outfall, provide the following discharge information:

Outfall #______

a) **Design Flow of Facility (in million gallons per day, MGD):** **6 MGD water production**
   This value will determine the facility’s daily maximum flow limit, up to a maximum of 1.0 MGD.

b) **Discharge Flow (in gallons per day, GPD):**
   - Maximum Daily Flow ______830,000___ GPD
   - Average Monthly Flow ______800,000___ GPD

c) **TSS (mg/l):**
   - Number of samples: _______3*________ (Minimum of 10 samples)
   - Maximum Daily _______3________ mg/l
   - Average Monthly _______2________ mg/l

d) **pH (s.u.):**
   - Number of samples: _______3*________ (Minimum of 10 samples)
   - Minimum _______7.6________ s.u.
   - Maximum _______8.0________ s.u.

e) **Total Residual Chlorine (ug/l):**
   - Number of samples: _______NA________ (Minimum of 10 samples)
   - Maximum Daily _______NA________ ug/l

   **NOTE: TRC is only required for discharges which have been previously chlorinated or contain residual chlorine**

   *The SWSC has only had 3 discharges since the General Permit became effective. Composite samples for TSS consisted of four grabs over approximately a 7 hour period.*

12. The following section must be completed for any facility that answered “Yes” to Question III.C.3 or III.C.4 (e.g. adds an aluminum-containing chemical to the water being treated and/or discharged) **AND** was not covered under the previous PWTF GP (which expired on 10/2/14).

   a) Collect, analyze and submit **12 effluent samples and 10 ambient surface water samples** from a location upstream of and not affected by the discharge. For facilities in New Hampshire and Massachusetts, each sample should be analyzed for total recoverable Al in micrograms per liter. All laboratory results shall be submitted on a separate sheet.
      a. The samples shall be composite samples consisting of four grab samples taken at approximately equal intervals on a flow weighted basis during the time at which the discharge is entering the receiving water after the start of the backwash cycle.
      b. For each sampling event, the effluent and surface water samples shall be collected on the same day and during a representative discharge event. The samples shall be no more frequent than weekly and, if time allows in completing the NOI, at monthly intervals and at different flow conditions. If taking the ambient water quality sample from lakes/reservoirs, the 10 samples should be composited vertically.
c. Discharge flow at the time of effluent sampling should be recorded. Flow conditions at the
time of ambient water sampling should be recorded (or estimated from nearest gaging
station).

d. Do not include dilution when recording the results.

e. See Section 2.1.2.3 and Footnote 12 of Section 2.1.1 for MA facilities (or Section 3.1.2.3
and Footnote 10 of 3.1.1 for NH facilities) for key information on minimum level for
analysis and sufficiently sensitive test procedures.

f. Sampling data that was collected within one year of the effective date of this general permit
AND that adheres to all of the requirements above may be submitted in lieu of new
samples. This must be denoted with the submitted data.

b) Provide a description of control measures, chemical substitutions, waste handling methods, and
operational changes evaluated and/or used by the facility to minimize the discharge of aluminum to
surface waters. (Include additional sheet(s), if necessary)

NA

D. Endangered Species Act Eligibility Information

Using the instructions in Appendix III of the PWTF GP, which of the following criteria apply to your
facility?

U.S. Fish and Wildlife Service (USFWS) Criteria:  A  B  C

1. If you selected USFWS criteria B, has consultation with the U.S. Fish and Wildlife Service been
completed?

   Yes       No

2. If consultation with US Fish & Wildlife 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

3. Attach documentation of ESA eligibility for USFWS as required at Part 1.4 and Appendix III of the
General Permit. Documentation attached? ___

4. For facilities seeking coverage under the Potable Water Treatment Facility General Permit for the
_first_ time, respond to the following questions to assist in ESA eligibility for NMFS:

a) Indicate if the facility discharges into any of the stretches of the following rivers which can
support or provide habitat to either Shortnose or Atlantic Sturgeon:
Merrimack River (from Essex Dam in Lawrence, Downstream (including Haverhill) to mouth of River) Yes No

Connecticut River (from Turner’s Falls, downstream through Holyoke (including Holyoke Dam region) Yes No

Taunton River Yes No

Piscataqua River (in NH) Yes No

b) Has the facility had any previous formal or informal consultation with NMFS?

Yes No

If yes, attach the results of the consultation(s). Documentation attached? _____

E. National Historic Properties Act Eligibility

1. Are any historic properties listed or eligible for listing on the National Register of Historic Places located on the facility site or in proximity to the discharge? Yes No

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). Documentation attached? _____

3. Which of the three National Historic Preservation Act scenarios listed in Appendix II, Section III have you met? 1 2 3

F. Supplemental Information

Please provide any supplemental information, including antidegradation review information applicable to new or increased discharges. Attach any analytical data used to support the application. Attach any certification(s) required by the General Permit.

G. Signature Requirements

The NOI must be signed by the operator in accordance with the signatory requirements of 40 CFR § 122.22 (see below) including the following certification:
I certify under penalty of law that (1) 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; (2) any chemicals used to treat the discharge have been identified in this NOI; and (3) where applicable, the facility has complied with the requirements of this permit specific to the Endangered Species Act and National Historic Preservation Act.

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 gathered and evaluated 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 have no personal knowledge that the information submitted is other than 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 6/1/17

Printed Name and Title: James R. Laurila, Director of Water Operations

Federal regulations require this application to be signed as follows:

1. For a corporation, by a responsible corporate party;
2. For a 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 http://www3.epa.gov/region1/npdes/pwtfgp.html

H. “Opt-Out Request” from NetDMR Requirement

1. Check the box if you are applying for an “opt-out request.”

2. Provide a detailed explanation of the technical or administrative factors that support your request to “opt-out” from the requirement to submit DMRs and reports electronically. (Add additional lines, if necessary.)
Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the
human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
(603) 223-2541
Project Summary
Consultation Code: 05E1NE00-2017-SLI-1581
Event Code: 05E1NE00-2017-E-03179
Project Name: NPDES outfall
Project Type: WATER SUPPLY / DELIVERY
Project Description: Seeking coverage under NPDES Potable Water Treatment Facility General Permit MAG640000 through Notice of Intent (NOI) for previously permitted NPDES discharge for Emergency Water Supply Facility. There is no change to the treatment plant, construction or tree removal associated with this permit.

Project Location:
Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.19220704687164N72.45419426919518W

Counties: Hampden, MA

Endangered Species Act Species
There is a total of 1 threatened, endangered, or candidate species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area. Please contact the designated FWS office if you have questions.
Mammals

NAME                                      STATUS
Northern Long-eared Bat (*Myotis septentrionalis*)  Threatened
   No critical habitat has been designated for this species.
   Species profile: https://ecos.fws.gov/ccp/species/9045

Critical habitats

There are no critical habitats within your project area.
StreamStats Report

Region ID:
MA

Workspace ID:
MA20170530102546069000

Clicked Point (Latitude, Longitude):
42.19489, -72.44428

Time:
2017-05-30 12:26:13 -0400

Basin Characteristics

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<th>Parameter Description</th>
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<td>DRFTPERSTR</td>
<td>Area of stratified drift per unit of stream length</td>
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<td>BSLDEM250</td>
<td>Mean basin slope computed from 1:250K DEM</td>
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<td>percent</td>
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https://streamstatsags.cr.usgs.gov/streamstats/
### Low-Flow Statistics Parameters [100 Percent (0.25 square miles) Statewide Low Flow WRIR00 4135]

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<th>Parameter Code</th>
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### Low-Flow Statistics Disclaimers [100 Percent (0.25 square miles) Statewide Low Flow WRIR00 4135]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

### Low-Flow Statistics Flow Report [100 Percent (0.25 square miles) Statewide Low Flow WRIR00 4135]

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<th>Value</th>
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<tr>
<td>7 Day 10 Year Low Flow</td>
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### Low-Flow Statistics Citations

7Q10 Dilution Factor Calculation for Massachusetts Stream

Equation used to calculate the dilution factor at Outfall #1 to Higher Brook:

\[
\text{Dilution Factor} = Q_h + \left( \frac{Q_D \times 1.55}{Q_D \times 1.55} \right)
\]

Where:
- \(Q_h\) = Estimated 7Q10 low flow for the receiving water at the outfall, in cubic feet per second (cfs)
- \(Q_D\) = Discharge rate, in million gallons per day (mgd)
- 1.55 = Factor to convert mgd to cfs

\[
\text{Dilution factor} = 0.0118 + \left( \frac{0.8300 \times 1.55}{0.8300 \times 1.55} \right)
\]

\[
\text{Dilution factor} = 0.118 + \frac{1.2865}{1.2865}
\]

\[
\text{Dilution factor} = 1.2983
\]

\[
\text{Dilution factor} = 1.009
\]