

**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

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.

Outfall #1 Latitude 42.19461 Longitude -72.44419

Outfall #2 Latitude 42.19136 Longitude -72.44022

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

No

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

No

b. If answer to 8.a. is Yes, does the facility discharge to Phosphorus-Impaired waters? Yes No

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

No

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

NOTE: For facilities that discharge in New Hampshire, the state permitting authority **must** be contacted at the address listed in Appendix VI of the PWTF GP to determine and/or confirm the 7Q10 and/or dilution factor. For facilities that discharge in Massachusetts, it is highly recommended to contact the relevant state authority (MassDEP) to determine and/or confirm the 7Q10 and/or dilution factor. Attach any calculation sheets used to support the stream flow and dilution factors.

11. For *each* outfall, provide the following discharge information:

Outfall # 1

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.
- 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.
 - 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:

<i>Merrimack River</i> (from Essex Dam in Lawrence, Downstream (including Haverhill) to mouth of River)	Yes	No
<i>Connecticut River</i> (from Turner's Falls, downstream through Holyoke (including Holyoke Dam region)	Yes	No
<i>Taunton River</i>	Yes	No
<i>Piscataqua River</i> (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

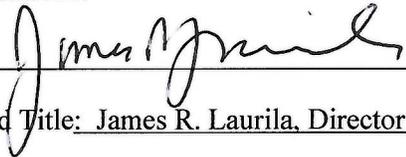
Please provide any supplemental information, including antidegradation review information applicable to new or increased discharges. Attach any analytical data used to support the application. Attach any certification(s) required by the General Permit.

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  Date 6/1/17
Printed Name and Title: James R. Laurila, Director of Water Operations

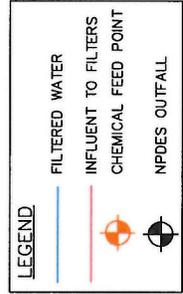
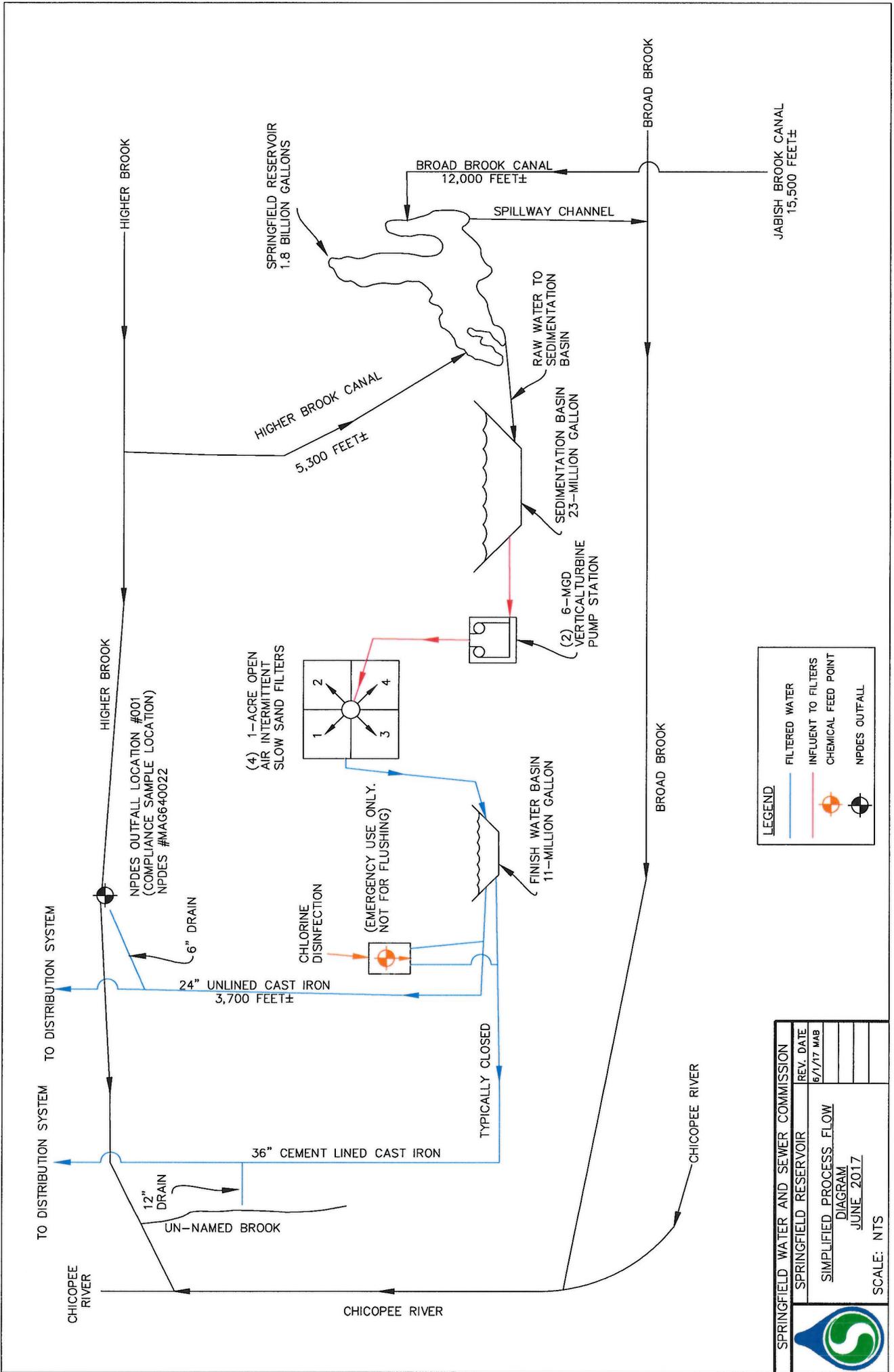
Federal regulations require this application to be signed as follows:

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.)



	
SPRINGFIELD WATER AND SEWER COMMISSION SPRINGFIELD RESERVOIR	REV. DATE 6/1/17 MAB
SIMPLIFIED PROCESS FLOW DIAGRAM JUNE 2017	
SCALE: NTS	

NPDES GENERAL PERMIT MAG640022





United States Department of the Interior



FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
<http://www.fws.gov/newengland>

In Reply Refer To:

May 18, 2017

Consultation Code: 05E1NE00-2017-SLI-1581

Event Code: 05E1NE00-2017-E-03179

Project Name: NPDES outfall

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

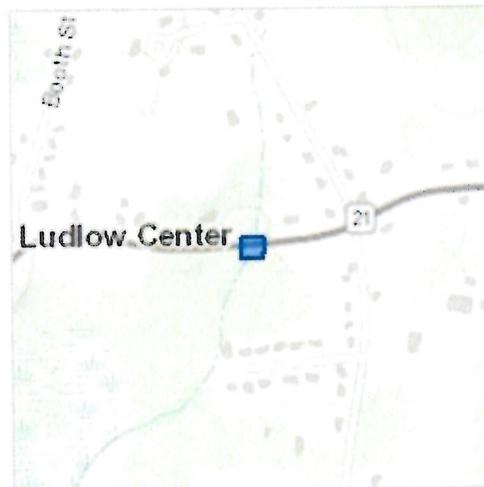
Project Type: WATER SUPPLY / DELIVERY

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 (<i>Myotis septentrionalis</i>)	Threatened
No critical habitat has been designated for this species.	
Species profile: https://ecos.fws.gov/ecp/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

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.25	square miles
DRFTPERSTR	Area of stratified drift per unit of stream length	0.24	square mile per mile
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	1	dimensionless
BSLDEM250	Mean basin slope computed from 1:250K DEM	2.091	percent

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

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.25	square miles	1.61	149
DRFTPERSTR	Stratified Drift per Stream Length	0.24	square mile per mile	0	1.29
BSLDEM250	Mean Basin Slope from 250K DEM	2.091	percent	0.32	24.6
MAREGION	Massachusetts Region	1	dimensionless	0	1

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]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0277	ft ³ /s
7 Day 10 Year Low Flow	0.0118	ft ³ /s

Low-Flow Statistics Citations

Ries, K.G., III, 2000, Methods for estimating low-flow statistics for Massachusetts streams: U.S. Geological Survey Water Resources Investigations Report 00-4135, 81 p. (<http://pubs.usgs.gov/wri/wri004135/>)

7Q10 Dilution Factor Calculation for Massachusetts Stream

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

$$\text{Dilution Factor} = \frac{Q_R + (Q_P \times 1.55)}{Q_P \times 1.55}$$

Where Q_R = Estimated 7Q10 low flow for the receiving water at the outfall, in cubic feet per second (cfs)

Q_P = Discharge rate, in million gallons per day (mgd)

1.55 = Factor to convert mgd to cfs

$$\text{Dilution factor} = \frac{0.0118 + (0.8300 \times 1.55)}{0.8300 \times 1.55}$$

$$\text{Dilution factor} = \frac{0.118 + 1.2865}{1.2865}$$

$$\text{Dilution factor} = \frac{1.2983}{1.2865}$$

$$\text{Dilution factor} = \mathbf{1.009}$$