CITY OF CAMBRIDGE
Cambridge Water Department
250 Fresh Pond Parkway
Cambridge, MA 02138

May 23, 2017

US EPA Region 1
Five Post Office Square, Suite 100
Boston, MA 02109-3912

Attn: Mail code (OEP-0604)

Re: Potable Water Treatment Facility General Permit
Notice of Intent
Walter J. Sullivan Water Purification Plant
City of Cambridge

Dear Sirs:

Attached is the City of Cambridge Water Department Notice of Intent (NOI) to continue discharging wastewater under NPDES General Permit No. MAG640000.

The following documents are also included as backup to the NOI:

- USGS location map.
- Process Flow Schematic.
- 2011 USGS table demonstrating dilution factor of our terminal reservoir and email from MA Department of Environmental Protection
- Fish and Wild Life Service endangered species consultation documentation.
- NOI section E. Massachusetts Historical Commission documentation from 1995 and 2009.

If you have any questions about this Potable Water Treatment Facility General Permit Notice of intent please call me at 617-349-4773 or email me at tmacdonald@cambridgema.gov. Thank you for your consideration.

Sincerely yours,

Timothy W.D. MacDonald
Director of Water Operations

APPENDIX IV
Notice of Intent Instructions and Suggested Notice of Intent Format

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)
NPDES General Permit No. MAG640000 and NHG640000

I. Notice of Intent (NOI) Instructions

In order to be covered by the Potable Water Treatment Facility General Permit (PWTF GP), applicants must submit a completed NOI to EPA and the appropriate state agency. Please note that **only** facilities in Massachusetts that were previously unpermitted and discharge to an Outstanding Resource Water (ORW) or High Quality Water must submit an NOI to MassDEP.[1] The NOI consists of either the suggested NOI format included in Part III of this Appendix or another format of official correspondence that contains all of the required information listed in the General Permit and the NOI instructions. All NOIs submitted after December 21, 2020 must be submitted electronically.

At a minimum, the NOI must include the following information for each individual facility. Additional sheets may be attached as needed.

A. General Facility Information

1) Indicate whether applying for MA or NH PWTF General Permit.

2) Provide the name and location address of the facility, including the latitude and longitude. Also provide the Standard Industrial Classification (SIC Code(s)) and type of business. One online source to determine the latitude/longitude can be located at http://itouchmap.com/latlong.html

3) Provide the mailing address, if different from the location address.

[1] These waters are included in the Tables and Figures section of the MA Surface Water Quality Standards, available at http://www.mass.gov/eea/docs/dep/water/laws/i-thru-z/tblfig.pdf. Specifically, all official ORWs are listed in 314 CMR 4.06.

4) Provide the legal name, address, telephone, fax number, and e-mail of the owner of the facility. Indicate whether the owner is a Federal, State, Tribal, private or other entity.

5) Provide the name, address, telephone, fax number, and e-mail of the facility operator (if different from the owner).

6) Provide the answer to the following questions regarding the applicant's current permit status.

   Is the applicant currently (administratively) covered under the expired PWTF GP?

   i. Has a prior NPDES permit (either individual or general permit) been granted for this discharge? If yes, provide the permit number:

   ii. Is the discharge a "new discharger" as defined by 40 CFR Section 122.22?

   iii. Is the facility covered by an individual NPDES permit for *other* discharges? If yes, provide the permit number.

   iv. Is there a pending NPDES application on file with EPA for this discharge? If yes, indicate the date of submittal and permit number (if available)

7) Provide a topographic map indicating the location(s) of the facility and receiving water, and discharge point(s). Check the box to indicate a map has been submitted with NOI.

B. Discharge information

1) Provide the name and type of the receiving water(s) into which each outfall will discharge and identify if it is freshwater or marine water and its state water quality classification.

2) Indicate the frequency of the discharge (i.e., emergency only, infrequent (i.e., once/twice a year), intermittent (occurs sometimes but not regularly, as in batch discharges), continuous, or other). If Intermittent or Other, provide number of days/year the discharge occurs.

3) Describe the activity/activities that generate the discharge(s) to be covered by the permit. Include process discharges not specifically authorized in the PWTF GP which need to be authorized for the 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, include the number and size of lagoons; Size and elevation of entry pipe; time of travel from 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.)

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

outfalls, and receiving water(s). Click box to indicate that line drawing/flow diagram has been attached to NOI.

5) Identify the source of the water (i.e., surface water, groundwater).

6) Provide the number of outfalls; and for each outfall, provide the latitude and longitude.

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.

C. ***Effluent Characteristics***

1) List any water additives/chemicals used at the facility. This includes chemicals for pH adjustment, dechlorination, control of biological growth, control of corrosion and scale in water pipes, etc. Attach additional information on separate sheets.

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

3) Indicate if any aluminum-containing coagulants are used at the facility. If a facility adds an aluminum-containing chemical to the water being treated and/or discharged AND the facility was *not* covered under the PWTF GP that expired on 10/2/14, additional monitoring data is required. Facility must also complete Item III.C.12.

4) Indicate if the facility uses any alum-based products for algae control. If a facility adds an aluminum-containing chemical to the water being treated and/or discharged AND the facility was *not* covered under the PWTF GP that expired on 10/2/14, additional monitoring data is required. Facility must also complete Item III.C.12.

5) Indicate if any iron-based coagulants are used at the facility.

6) Indicate if the facility's discharge contains residual chlorine.

7) Indicate if the facility provides treatment to remove arsenic from the raw water source.

8) a) Indicate whether any phosphorus-containing chemicals are added to the treated water at this facility?
b) If answer to 8.a. is Yes, indicate whether the facility discharges to a waterbody impaired (i.e., listed as Category 4b or Category 5 on Integrated List of Waters for the relevant state pursuant to CWA section 303(d) and 305(b)) for (total) phosphorus or nutrient/eutrophication biological indicators (in MA) or chlorophyll-a, cyanobacteria hepatotoxic microsystins, dissolved oxygen (saturation), excess algal growth, invasive aquatic algae, or (total) phosphorus (in NH). The 2014 EPA-approved MA Integrated List

of Waters is available at:
http://www.mass.gov/eea/docs/dep/water/resources/07v5/14list2.pdf . Additional information for MA may be found at:
http://www.mass.gov/eea/agencies/massdep/water/watersheds/total-maximum-daily-loads-tmdls.html.
For facilities in NH, comparable information can be found at:
http://des.nh.gov/organization/divisions/water/wmb/swqa/2012/ .
c) If answer to 8.b. is Yes, provide the name of impaired waterbody and the pollutant it is impaired for: _____

9) Indicate if the facility removes radium or other radioactive substances from raw water sources to comply with drinking water standards.

10) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water (in cfs). ***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 before submitting the NOI. For facilities that discharge in Massachusetts, it is highly recommended to contact the relevant state agency (MassDEP) to determine and/or confirm the 7Q10 and/or dilution factor.*** Also, attach any calculation sheets used to support the stream flow and dilution factors. See Appendix VII for equations and additional information.

11) For each outfall, provide the requested data. If the data is not available for a facility (e.g., a Category I facility that only discharges on an emergency basis), please mark "N/A".

a) Provide the Design Flow of the facility (in MGD, million gallons per day). This value will determine the facility's daily maximum flow limit, up to a maximum of 1.0 MGD.

b) Estimate the flow in GPD – both the maximum daily and average flow rate of the discharge in gallons per day;

c) Provide the maximum daily and average monthly flow concentration of TSS (mg/l). Facilities must use a minimum of 10 data points for this parameter. However, the most recent existing data (for facilities already submitting DMRs) may be used.

d) Provide the maximum and minimum monthly pH of discharge (in s.u.). Facilities must use a minimum of 10 data points for this parameter. However, the most recent existing data (for facilities already submitting DMRs) may be used;

e) For discharges which have been previously chlorinated or contain residual chlorine, provide the maximum daily concentration of TRC in ug/l. Facilities must use a minimum of 10 data points for this parameter. However, the most recent existing data (for facilities already submitting DMRs) may be used.

12) For a facility that uses an aluminum-containing chemical during treatment AND was *not* covered under the PWTF GP that expired on 10/2/14, additional monitoring data and information is required. The results of 12 effluent samples and 10 ambient (upstream) surface water samples must be collected, analyzed, and submitted. Additional requirements regarding such sampling can be found in Section III.C.12 of this Appendix. For relevant facilities in both Massachusetts and New Hampshire, each sample should be analyzed for total recoverable Al in micrograms per liter. For New Hampshire facilities, the assumption will be made that the entire fraction of measured total recoverable aluminum is in the acid soluble form. All laboratory results shall be submitted on a separate sheet. Also, the facility must 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.

D. Determination of Endangered Species Act Eligibility (ESA)

Provide documentation of ESA eligibility and respond to all questions as required in Appendix III.

E. Documentation of National Historic Preservation Act (NHPA) Requirements

Provide documentation and respond to all questions as required in Appendix II.

F. Supplemental Information

Applicants should provide any supplemental information needed to meet the requirements of the permit, including any analytical data used to support the application and any certification(s) required by the 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.

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.

H. ***"Opt-Out" Request***

As stated in Section 5.1 of the General Permit, all permittees shall submit DMRs and reports required under the PWTF GP electronically to EPA using NetDMR by December 21, 2016 *unless* the facility has applied for an "opt-out request" and received written approval by EPA. A facility may apply for an "opt-out request" only if they are able to demonstrate a reasonable basis, which would include limiting factors like technical or administrative infeasibility (e.g., do not have a computer or internet access).

If a facility is applying for an "opt-out request," the box in Section H must be checked and a written description of the factors supporting the request must be provided. If a facility is *not* applying for an "opt-out request" (which will be the case for most facilities), simply leave this section blank.

II. Submission of NOI

A. Filing with EPA – All operators located in Massachusetts and New Hampshire that apply for coverage under this General Permit must submit an NOI to EPA-Region I. The completed, signed NOI formats and attachments must be submitted to EPA-Region I.

Electronically at: pwtf.generalpermit@epa.gov, or

Mailed to:

US EPA, Region 1
Office of Ecosystem Protection
PWTF GP Applications Coordinator (OEP06-4)
5 Post Office Square, Suite 100
Boston, MA 02109-3912

All NOIs must be submitted electronically after December 21, 2020.

B. Filing with MassDEP – As previously noted, **only** facilities in Massachusetts that were previously unpermitted and discharge to an Outstanding Resource Water (ORW) and High Quality Waters must submit an NOI to MassDEP. In such cases, a completed copy of the NOI must also be sent to:

Massachusetts Department of Environmental Protection
Division of Watershed Management
8 New Bond Street
Worcester, MA 01606

C. Filing with NH DES – All applicants in New Hampshire must also provide a completed copy of their NOI to NH DES at the following address:

New Hampshire Department of Environmental Services
Water Division, Wastewater Engineering Bureau
29 Hazen Drive, P.O. Box 95
Concord, New Hampshire 03302-0095

III. Suggested Notice of Intent (NOI) Format

A. Facility Information

1. *Indicate applicable General Permit for discharge* MAG640000

   NHG640000

2. *Facility Data*

   Facility Name Walter J. Sullivan WTP

   Street/PO Box 250Fresh Pond Parkway City Cambridge

   State MA Zip Code 02138

   Latitude 42 22'43" Longitude 71 8'40"

   SIC Code(s) _____

   Type of Business Dissolved Air Flotation Drinking Water Treatment Plant

3. *Facility Mailing Address (if different from Location Address, above)*

   Facility Name _____

   Street/PO Box _____ City _____

   State _____ Zip Code _____

4. *Facility Owner:*
Legal Name Cambridge Water Department

Email scorda@cambridgema.gov

Street/PO Box 250Fresh Pond Parkway City Cambridge

State MA Zip Code 02138

Contact Person Sam Corda Tel # 617-349-4770

Owner is (check one): Federal _____ State _____ Tribal _____ Private _____

Other (describe)
City of Cambridge Water Department

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):*

X 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? X Yes No If Yes, Permit Number MAG640040

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

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

If yes, Permit Number: _____

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

If yes, date of submittal: _____ and Permit Number, if available _____

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

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

1. *Name of receiving water into which discharge will occur*: Fresh Pond Reservoir

Check Appropriate Box: X Freshwater Marine Water

State Water Quality Classification Class A

Type of Receiving Water Body (e.g., stream, river, lake, reservoir, estuary, etc.) Terminal reservoir
No natural outlet

2. *Indicate the frequency of the discharge:*

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

Other***

***If Intermittent (i.e., occurs sometimes but not regularly as in batch discharge), provide # of days per year the discharge occurs See description below. (3)
***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.)
Discharge of clarified backwash water, two backwashes a day discharge to a holding tank, backwash water pumped in two 6-7 hour cycles to Parcson plate settlers treated with a polymer. Solids discharge to local sewer system (regulated by MWRA sewer use permit), clarified effluent (the regulated NPDES flow) discharged by gravity to Fresh Pond. Each backwash typically uses 200,000 gallons of water (maximum total NPDES discharge per day: 1,000,000 gallons

Overall plant process diagram, facility layout.

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).

Flow diagram attached.

5. Identify the source of the water being discharged:

X Surface water Groundwater Other (describe)

6. Number of Outfalls 1 Latitude and Longitude to the nearest second for each Outfall. Attach additional pages if necessary.

Outfall # 1 Latitude 42 23'00" Longitude 71 08'40"

Outfall # Latitude _____ Longitude _____

Outfall # Latitude _____ Longitude _____

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
Sample location: either grab or composite as required by permit, is from the plate settler effluent/overflow channel

Outfall #

Outfall #

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.

Alum, ozone, sodium hypochlorite, Ammonium sulfate, Hydrofluosilisic acid, Sodium hydroxide are used routinely. Sodium bisulfite is used occasionally for dehlorination.

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

NA

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

X 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.** N.A.

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

Yes_ X 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_ X No

6. Does the facility's discharge contain residual chlorine? X 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 XNo

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

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 X No

10. Provide the reported or calculated seven day- ten year low flow (7Q10) of the receiving water
7Q10: N.A. cfs Aluminum dilution factor 87:1 All other parameters use 10:1 per MA DEP Documents attached.

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. See Appendix VII for equations and additional information.

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

Outfall # 1

a) *Design Flow of Facility (in million gallons per day, MGD):* 24 - 30 Million Gallons per Day (MGD)
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 1,000,000 GPD Average Monthly Flow 700,000 GPD

c) *TSS (mg/l)*: Number of samples: _____(Minimum of 10 samples)

Maximum Daily _____mg/l Average Monthly _____mg/l

d) pH (s.u.) : Number of samples: _____ (Minimum of 10 samples)
Minimum _____s.u. Maximum _____s.u.

e) Total Residual Chlorine (ug/l): Number of samples: _____ (Minimum of 10 samples)
Maximum Daily _____ug/l
NOTE: TRC is only required for discharges which have been previously chlorinated or contain residual chlorine

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)

A bench Jar Tester is used to optimize the amount of Alum that is added to the treatment process.

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: XA 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?

   X 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	N.A.
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).

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? XYes No

2. Have any State or Tribal Historic Preservation Officers been consulted in this determination?

X Yes No

If yes, attach the results of the consultation(s). Two documents attached. _____

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

X1 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 5/23/17

Printed Name and Title Louis A. DePasquale

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.)

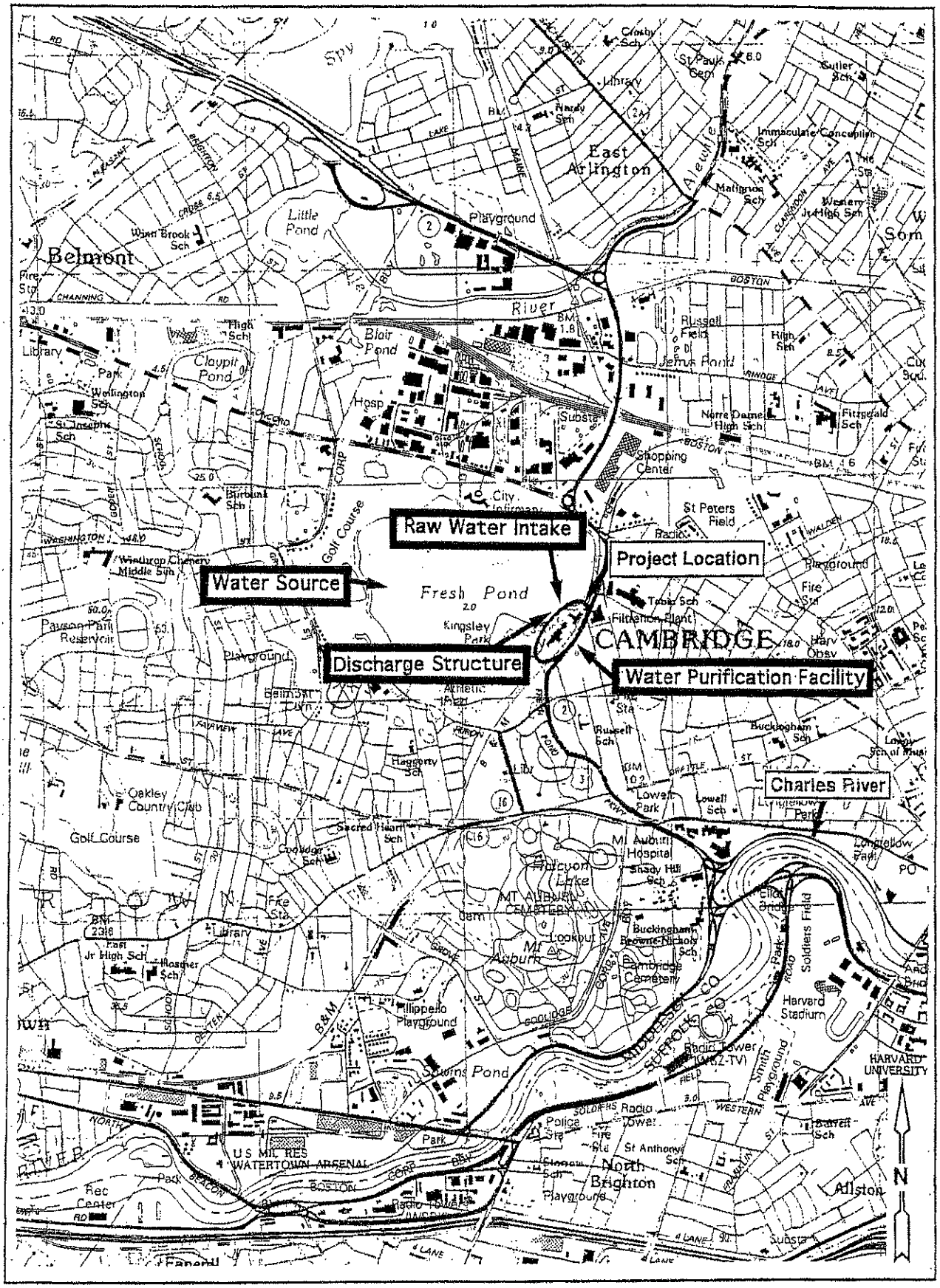
_____

_____

_____

_____

_____

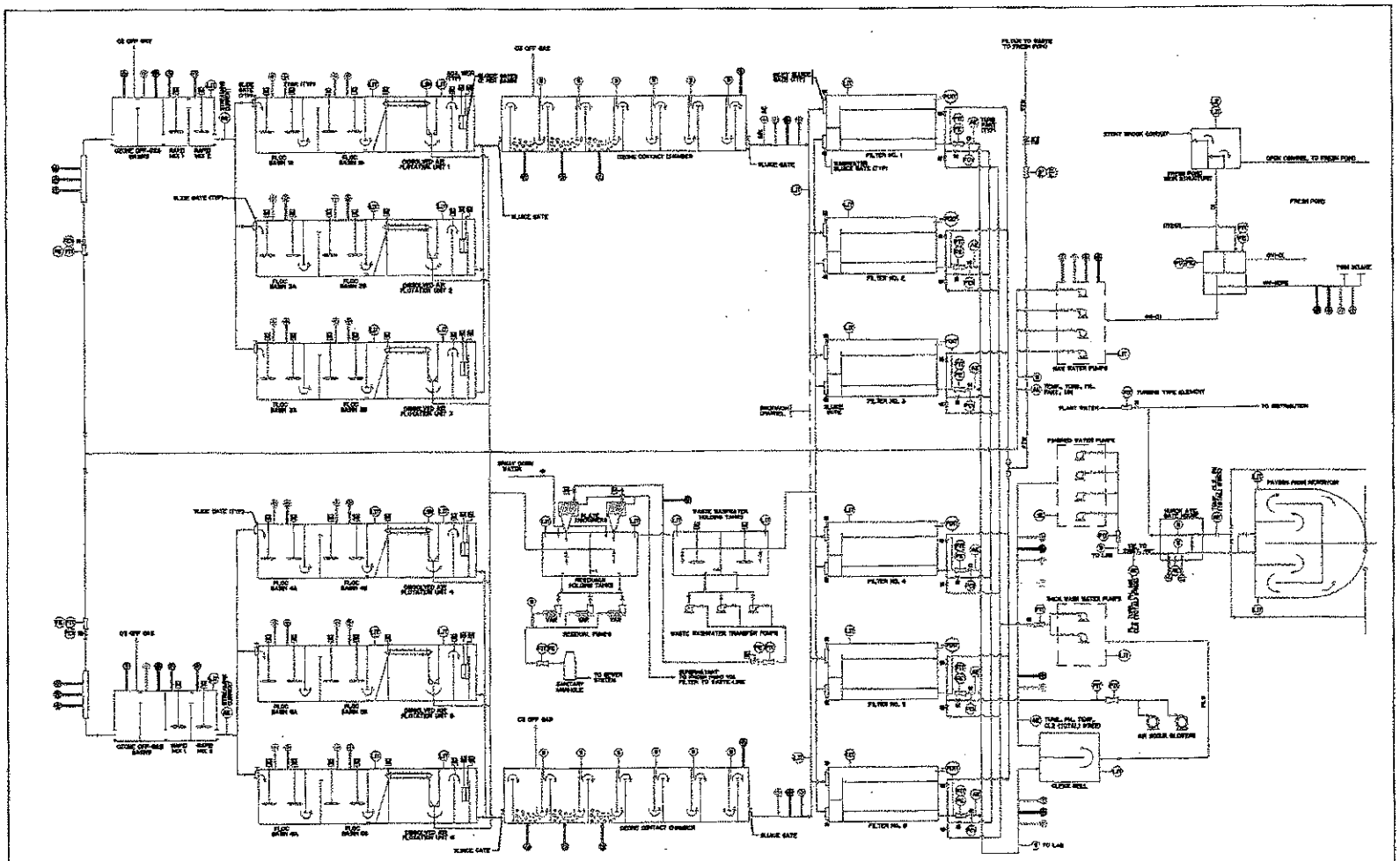


Source: U.S.G.S. Maps Boston North and Boston South (MA) Quadrangles
SCALE 1:25000

Cambridge Water Department
Water Treatment Plant Project

Figure 1
Project Location Map

CDM Camp Dresser & McKee



City of Cambridge, Massachusetts

Fresh Pond Water Purification Plant

PROCESS FLOW SCHEMATIC

MacDonald, Tim

From: Ruan, Xiaodan (DEP) <xiaodan.ruan@state.ma.us>
Sent: Wednesday, May 17, 2017 10:07 AM
To: MacDonald, Tim
Cc: Voorhees, Mark
Subject: RE: PWTF General Permit

Hi Tim,

For Cambridge WTP, the dilution factor for Al discharge is 87:1 and please use 10:1 for all other parameters.

Thanks,
Xiaodan

From: MacDonald, Tim [mailto:tmacdonald@cambridgema.gov]
Sent: Wednesday, May 17, 2017 9:02 AM
To: Ruan, Xiaodan (DEP)
Subject: RE: PWTF General Permit

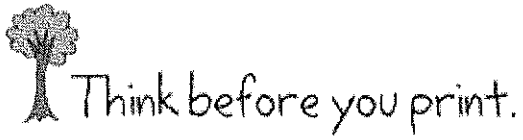
At the time that the NOI was submitted the USGS study had not completed (had not had the final per review). All reservoir system were instructed to use a 10 to 1 dilution factor on the NOI. It is my understanding that after the completion of the USGS study that it was accepted by US EPA. Cambridge continued to be covered under the General Permit.

Based on the report our dilution factor is 87. I plan to attached the USGS study to the NOI.

I am in today if you have any questions.

Timothy WD MacDonald
Director of Water Operations
Cambridge Water Department
250 Fresh Pond Parkway
Cambridge, MA 021138

617-349-4773



From: Ruan, Xiaodan (DEP) [mailto:xiaodan.ruan@state.ma.us]
Sent: Tuesday, May 16, 2017 1:26 PM

Table 4. Highest 7DF10 values, filter-backwash effluent concentrations, and fluxes that meet standards for aluminum discharge in 13 reservoirs of Massachusetts town water supplies.

[m^2, square meters; Mgal, million gallons; Mgal/d, million gallons per day; Al, aluminum; µg/L, micrograms per liter; DOC, dissolved organic carbon; mg/L, milligrams per liter; cm/d, centimeters per day; 7DF10, lowest annual 7-day average dilution factor with a recurrence interval of 10 years; C_e, total aluminum concentration in the filter-backwash effluent; kg, kilograms; WTP, water-treatment plant; WTF, water-treatment facility; --, no data; ≤, less than or equal to]

Facility and receiving water	Area (A, in m^2) and volume (V, in Mgal)	Average stream discharge (Q_s, in Mgal/d) and Al concentration (C_s, in µg/L)	Reservoir averages–DOC (mg/L) and Al (µg/L)	Settling velocity (cm/d)	Current effluent discharge (Mgal/d)	7DF10 and associated C_e value at the current discharge	Highest 7DF10 and C_e that meet standard	C_e ratio–new:old[1]	Permissible aluminum flux (kg per day)
Andover WTP	A = 916,000	Q_s = 6.12	DOC = 4.5	14.5	0.63	81	135	3.1	28
Haggetts Pond	V = 856	C_s = 72	Al = 23			3,810	11,700		
Ashburnham/Winchendon WTP	A = 1,270,000	Q_s = 2.45	DOC = 2.3	23	0.12	62	624	16	24.6
Upper Naukeag Lake	V = 1,572	C_s = 72	Al = 25.5			3,390	54,300		
Cambridge WTP	A = 645,000	Q_s = 15.9	DOC = 3.6	18	0.44	66	87	5.2	13
Fresh Pond Reservoir	V = 1,500	C_s = 17	Al = 17			1,450	7,500		
Clinton WTP	A = 16,400	Q_s = 0.608	DOC = 1.8	25	0.33	3.7	3.2	0.076	0.34
Unnamed pond	V = 4.58	C_s = 13	Al = 221			3,610	276		
Clinton WTP run #2						15.4	14.4	0.35	1.57
with increased groundwater flow						3,610	1,250		
Cohasset WTP	A = 206,000	Q_s = 3.07	DOC = 15	0	0.11	2.2	--	Above standard even	--
Lily Pond	V = 73.5	C_s = 206	Al = 351			804		when C_e = 0	
Gardner WTF	A = 616,000	Q_s = 1.79	DOC = 2.7	21.5	0.59	49	90	4	17
Crystal Lake	V = 746	C_s = 74	Al = 13.8			1,900	7,500		
Manchester-by-the-Sea and Hamilton WTP	A = 203,000	Q_s = 0.24	DOC = 3	20.3	0.02	51	139	113	0.94
Gravelly Pond	V = 327	C_s = 10	Al ≤ 6			107	12,200		

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 08, 2017
Consultation Code: 05E1NE00-2017-SLI-1486
Event Code: 05E1NE00-2017-E-02960
Project Name: NPDES Potable Water Treatment Facility General Permit Application

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-1486

Event Code: 05E1NE00-2017-E-02960

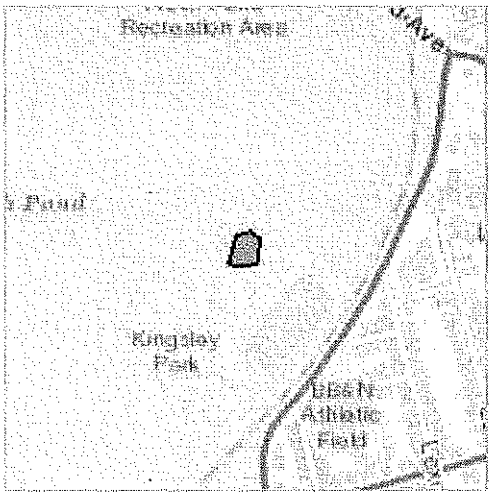
Project Name: NPDES Potable Water Treatment Facility General Permit Application

Project Type: WATER SUPPLY / DELIVERY

Project Description: Cambridge Water Department is preparing a Notice of Intent to renew our NPDES discharge of clarified backwash water to Fresh Pond under the US EPA General Permit for Water Treatment Facilities.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.38390046664674N71.14495809112361W



Counties: Middlesex, MA

Endangered Species Act Species

There is a total of 0 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.

Critical habitats

There are no critical habitats within your project area.

The Commonwealth of Massachusetts

William Francis Galvin, Secretary of the Commonwealth
Massachusetts Historical Commission

August 2, 1995

Jane Wheeler
Camp Dresser & McKee
Ten Cambridge Center
Cambridge, MA 02142

RE: Cambridge Water Treatment Plant, Fresh Pond MHC #15449

Dear Ms. Wheeler:

Thank you for submitting additional information concerning the proposed new Cambridge Water Treatment plant project.

As discussed at the meeting held on May 17, 1995 at the Cambridge Water Department office, three alternatives for the construction of new water treatment facility are under study: (1) Existing Water Treatment Plant; (2) Kingsley Park; and (3) Lusitania Field.

The existing water treatment plant is not presently included in the MHC's Inventory of Historic and Archaeological Assets of the Commonwealth. The MHC concurs with the opinion of the Cambridge Historical Commission, that the most significant historic buildings in the complex are the two gatehouses, constructed in 1888, which will not be impacted by the proposal. The MHC recommends that historic documentation and photographs concerning the construction and engineering of the present water treatment facility be carefully archived in the city's archive, through the Cambridge Historical Commission. Review of the materials you submitted and observations made during my site visit indicate that the area proposed for new construction has been disturbed by prior construction and subsurface utilities, and is thus unlikely to contain significant archaeological sites.

Kingsley Park is recorded in the Inventory of Historic and Archaeological Assets of the Commonwealth as an ancient Native American site (MHC #19-MD-363). This archaeological site is described as a large Native American settlement area. However, the exact location(s) and age of the archaeological site is not recorded in our files. The site appears to have been used for habitation, but might also, possibly contain unmarked burials. Native American burial sites have been discovered elsewhere on the shores of Fresh Pond. In addition, archaeological remains associated with the historic Fresh Pond Hotel (19th century) and its early historic use as farmland/pasture (18th century) may also be present. An intensive (locational) archaeological survey would be necessary to determine the exact locations of significant archaeological site areas, that should be considered for avoidance from construction impacts.

Although no sites are recorded in MHC's inventory at Lusitania Field, significant archaeological sites may be present there. The area was historically used as an ice house, and its proximity to Fresh Pond and the former course of Alewife Brook indicate a strong likelihood for the presence of Native American sites. An intensive (locational) archaeological survey would be necessary in order to determine whether this alternative would have an effect on significant archaeological resources.

These comments are offered to assist in compliance with Massachusetts General Laws, Chapter 9, Sections 26-27C, as amended by Chapter 254 of the Acts of 1988 (950 CMR 71). If you have any questions, please contact me.

Sincerely,

Brona Simon

Brona Simon
State Archaeologist
Deputy State Historic Preservation Officer
Massachusetts Historical Commission
xc: Michael Nicoloro, Cambridge Water Dept.
Charles Sullivan, Cambridge HC

220 Morrissey Boulevard, Boston, Massachusetts 02125 · (617) 727-8470
Fax: (617) 727-5128 TDD: 1-800-392-6090

CITY OF CAMBRIDGE
Cambridge Water Department
250 Fresh Pond Parkway
Cambridge, MA 02138

November 10, 2009

Secretary of the Commonwealth
Massachusetts Historical Commission
220 Morrissey Boulevard
Boston, MA 02125-3314

Re: Project Notification Form
Cambridge Water Department
US EPA NPDES Permit renewal
Notice of Intent (NOI)
Historical Review

Dear Secretary:

The Cambridge Water Department is currently preparing to submit a Notice of Intent (NOI) to renew our permit to discharge clarified backwash water from our treatment plant into Fresh Pond. We believe that this existing discharge has no impacts on historic properties.

We are submitting the attached Project Notification Form for your review and concordance with our determination of "no impact". Our NOI due date is December31, 2009. We would appreciate your timely review.

If you have any questions please call me at 617-349-4773 or email me at tmacdonald@cambridgema.gov. Thank you for your consideration.

Sincerely yours,

Timothy MacDonald
Manager of Water Operations

Attachments

cc S. Corda

APPENDIX A

MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD
BOSTON, MASS. 02125
617-727-8470, FAX: 617-727-5128

PROJECT NOTIFICATION FORM

Project Name: Cambridge Water Department: Water Treatment Plant NPDES NOI

Location / Address: 250 Fresh Pond Parkway

City / Town: Cambridge, MA 02138

Project Proponent

Name: Timothy MacDonald, Manager of Water Operations

Address: Cambridge Water Department, 250 Fresh Pond Parkway

City/Town/Zip/Telephone: Cambridge, MA 02138

Agency license or funding for the project (list all licenses, permits, approvals, grants or other entitlements being sought from state and federal agencies).

Agency Name	Type of License or funding (specify)
US Environmental Protection Agency (EPA)	Request for General Permit Authorization to Discharge Watsewater Notice of Intent to be covered by the General Permit (NOI)

Project Description (narrative):
This is a periodic renewal of a permit to discharge clarified backwash water from the treatment plant back into Fresh Pond. There is no construction or other alterations to exist facilities anticipated.

Does the project include demolition? If so, specify nature of demolition and describe the building(s) which are proposed for demolition.

NA

Does the project include rehabilitation of any existing buildings? If so, specify nature of rehabilitation and describe the building(s) which are proposed for rehabilitation.

NA

Does the project include new construction? If so, describe (attach plans and elevations if necessary).

NA