

**DEP Permit Application**

**WPA Form 1**

**Request for Determination of Applicability**

**Nagog Pond Pilot Treatability Study**  
**Acton, Massachusetts**

**Concord Public Water System**

**May 2013**



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**Environmental Partners**  
GROUP  
*A partnership for engineering solutions.*

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May 23, 2013

Mr. Terry Maitland, Conservation Commission Chairman  
Town of Acton  
472 Main Street  
Acton, MA 01720

RE: Wetlands Protection Act Request for Determination of Applicability for  
Nagog Pond Pilot Treatability Study  
Acton, Massachusetts

Dear Mr. Maitland:

On behalf of the Town of Concord Department of Public Works, Water/Sewer Division, Environmental Partners Group, Inc. is submitting this Request for Determination of Applicability for the Nagog Pond Pilot Treatability Study in accordance with the Massachusetts Wetlands Protection Act (M.G.L. Chapter 131 Section 40), the Massachusetts Wetlands Protection Regulations (310 CMR 10.00) and the Acton Wetlands Protection By-Law and Rules and Regulations. WPA Form 1 is included in Appendix A. A site locus plan, Figure 1, is enclosed in Appendix B. A permitting plan is included in Appendix C.

### ***Project Description***

The Town of Concord has retained the services of Environmental Partners Group, Inc. (EPG) to conduct a drinking water treatment pilot study of several different water treatment technologies at the existing Nagog Pond Ozone Facility located off Hazelnut Street in Acton, Massachusetts (Figure 1). We are proposing to conduct the pilot study during two (2) 3-week periods: late July/early August 2013 and late January/early February 2014.

To complete the study, two pilot water treatment trailers have to be brought to the site and set up within the fence at the existing ozone building. (Please refer to Appendix C for a proposed site plan.) Each trailer is essentially a small scale water treatment plant that will be treating water from Nagog Pond (approximately 180 gpm). Water will be pumped from the existing gate house at the dam to these trailers via temporary piping and a storage tank located within the existing fence line. Each trailer will draw water from that tank with its own pump.

Each trailer will produce treated water (i.e. water of drinking water quality) and a small quantity of filtration backwash and clarification residuals. The treated water cannot be pumped into the Town of Concord's distribution system, so we propose to return it to Nagog Brook by allowing it to gently cascade over the existing rip rap slope just outside the fence line. The rip rap will allow excellent energy dissipation to reduce velocities and prevent scouring. Photo 1 depicts a portion of the existing rip rap at the site. The treated water will be of higher quality (cleaner) than the raw water from Nagog Pond. In addition, excess raw water from Nagog Pond not used for treatment will also be directed back to Nagog Brook. In addition, a temporary lined infiltration/settling trench will be constructed to manage the small amount of filtration and clarification residuals. After the residuals settle, the clear water will be infiltrated into the ground and some may overflow to the rip rap slope to Nagog Brook.



**Photo 1:** Existing rip rap between the ozone facility and Nagog Brook

All of this work is temporary. After the pilot study is over, all pilot equipment will be removed and the site restored to pre-existing conditions. For more information on the pilot study, please refer to Appendix D where the pilot study proposal is included in its entirety.

As of the date of this filing, the BRP WS 21D Approval to Conduct Pilot Study application is under review by the DEP Northeast Regional Office. Though the Northeast Regional Office may require modifications to the proposed pilot study, any modifications are not expected to affect compliance with the Wetlands Protection Act.

### ***Notice of Intent Exemptions***

The proposed pilot treatment study is eligible for classification as a minor activity within a buffer zone under 310 CMR 10.02(2)(b)1.g.: “Activities that are temporary in nature, have negligible impacts, and are necessary for planning and design purposes (e.g., installation of monitoring wells, exploratory borings, sediment sampling and surveying).” This proposed pilot study meets all of these criteria since it is temporary, will have negligible impacts, and is required for planning and design purposes. Consequently, the proposed project qualifies for a Section 3 Negative Determination.

### ***Resource Areas***

The protected resource areas in the vicinity of project location include Bank, Bordering Vegetated Wetland, Land Under Water Bodies/Waterways, and Bordering Land Subject to Flooding. The resource areas near Nagog Pond have been delineated as part of other recent

projects that have come before the Acton Conservation Commission. These resource areas as defined by the Wetland Protection Regulations are described further herein as they relate to the proposed project.

310 CMR 10.54 defines “Bank” as the “portion of the land surface which normally abuts and confines a waterbody. It occurs between a water body and a vegetated bordering wetland and adjacent flood plain, or, in the absence of these, it occurs between a water body and the upland.” The existing Bank will not be affected by the proposed project.

310 CMR 10.55 defines “Bordering Vegetated Wetland” as “freshwater wetlands which border on creeks, rivers, streams, ponds and lakes.” Portions of the project are located within the one hundred-foot buffer zone associated with the Bank and Bordering Vegetated Wetlands areas (see the permitting plans for wetland delineation limits).

310 CMR 10.56 defines “Land Under Water Bodies/Waterways” as the “land area under any creek, river, stream, pond or lake.” The land under Nagog Pond and Nagog Brook is classified as Land Under Water Bodies/Waterways.

310 CMR 10.57 defines “Bordering Land Subject to Flooding” as having a “boundary at the estimated maximum lateral extent of flood water which will theoretically result from the statistical 100-year frequency storm.” Based on the available Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for the project area (Town of Acton, Massachusetts, Middlesex County, Map Panel #25017C0243E, dated June 4, 2010), the area within the fence line of the ozone facility is outside of any FEMA flood zones. The 100-year floodplain limit is identified on the permitting plans.

310 CMR 10.58 defines “Riverfront Area” as the “area of land between a river’s mean annual high water line and a parallel line measured horizontally.” Nagog Brook is classified as an intermittent stream based on previous Acton Conservation Commission filings. Consequently, this project does not lie within a Riverfront Area and is not subject to the Riverfront Area regulations.

### ***Impacts to Resource Areas***

There will be no permanent impacts to protected resource areas as a result of the pilot project. During the pilot project, clean water will flow gently down the existing rip rap slope and into Nagog Brook.

### ***Proposed Environmental Protection Measures***

To mitigate impacts to wetland resource areas during the proposed pilot study, the following environmental protection measures will be provided:

- All water discharged from the pilot study will spread out along the rip rap slope for maximum energy dissipation.
- A temporary lined infiltration trench will handle the small quantity of process residuals.
- Disturbed areas will be kept to a minimum, and all disturbed areas will be restored to pre-construction condition.

***Summary***

The Town of Concord is proposing a pilot study of water treatment technologies at Nagog Pond. The proposed study will occur within the existing fence line of the existing Ozone Facility.

No permanent alterations are proposed to any protected resource areas. All resource areas will be protected throughout the duration of the project.

At this time, we respectfully request the Conservation Commission issue a Section 3 Negative Determination. If you should have any questions or require additional information, please do not hesitate to contact me at (617) 657-0255. I can also be reached via e-mail at sco@envpartners.com.

Very Truly Yours,  
Environmental Partners Group, Inc.



Stephen C. Olson, P.E.  
*Senior Project Manager*

Appendix A: WPA Form 1 – Request for Determination of Applicability

Appendix B: Locus Plan – Figure 1

Appendix C: Permitting Plan

Appendix D: Nagog Pond Pilot Treatability Study

CC: Department of Environmental Protection – CERO and NERO  
Alan Cathcart, Water & Sewer Superintendent  
File

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***APPENDIX A***  
***WPA FORM 1 – REQUEST FOR DETERMINATION OF***  
***APPLICABILITY***



Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

Acton  
City/Town

WPA Form 1- Request for Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

A. General Information

Important:  
When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



1. Applicant:

Alan Cathcart  
Name  
135 Keyes Road  
Mailing Address  
Concord  
City/Town  
978-318-3250  
Phone Number  
acathcart@concordnet.org  
E-Mail Address  
MA  
State  
01742  
Zip Code  
(978) 318-3204  
Fax Number (if applicable)

2. Representative (if any):

Environmental Partners Group, Inc.  
Firm  
Stephen C. Olson  
Contact Name  
1900 Crown Colony Drive, Suite 402  
Mailing Address  
Quincy  
City/Town  
617-657-0200  
Phone Number  
sco@envpartners.com  
E-Mail Address  
MA  
State  
02169  
Zip Code  
617-657-0201  
Fax Number (if applicable)

B. Determinations

1. I request the Acton Conservation Commission make the following determination(s). Check any that apply:

- a. whether the **area** depicted on plan(s) and/or map(s) referenced below is an area subject to jurisdiction of the Wetlands Protection Act.
- b. whether the **boundaries** of resource area(s) depicted on plan(s) and/or map(s) referenced below are accurately delineated.
- c. whether the **work** depicted on plan(s) referenced below is subject to the Wetlands Protection Act.
- d. whether the area and/or work depicted on plan(s) referenced below is subject to the jurisdiction of any **municipal wetlands ordinance** or **bylaw** of:

\_\_\_\_\_  
Name of Municipality

- e. whether the following **scope of alternatives** is adequate for work in the Riverfront Area as depicted on referenced plan(s).

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_





**Massachusetts Department of Environmental Protection**

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**C. Project Description (cont.)**

b. Identify provisions of the Wetlands Protection Act or regulations which may exempt the applicant from having to file a Notice of Intent for all or part of the described work (use additional paper, if necessary).

Minor Activity - 310 CMR 10.02(2)(b)1.g. - "Activities that are temporary in nature, have negligible impacts, and are necessary for planning and design purposes (e.g., installation of monitoring wells, exploratory borings, sediment sampling and surveying)."

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3. a. If this application is a Request for Determination of Scope of Alternatives for work in the Riverfront Area, indicate the one classification below that best describes the project.

- Single family house on a lot recorded on or before 8/1/96
- Single family house on a lot recorded after 8/1/96
- Expansion of an existing structure on a lot recorded after 8/1/96
- Project, other than a single family house or public project, where the applicant owned the lot before 8/7/96
- New agriculture or aquaculture project
- Public project where funds were appropriated prior to 8/7/96
- Project on a lot shown on an approved, definitive subdivision plan where there is a recorded deed restriction limiting total alteration of the Riverfront Area for the entire subdivision
- Residential subdivision; institutional, industrial, or commercial project
- Municipal project
- District, county, state, or federal government project
- Project required to evaluate off-site alternatives in more than one municipality in an Environmental Impact Report under MEPA or in an alternatives analysis pursuant to an application for a 404 permit from the U.S. Army Corps of Engineers or 401 Water Quality Certification from the Department of Environmental Protection.

b. Provide evidence (e.g., record of date subdivision lot was recorded) supporting the classification above (use additional paper and/or attach appropriate documents, if necessary.)

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# WPA Form 1- Request for Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

## D. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Request for Determination of Applicability and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge.

I further certify that the property owner, if different from the applicant, and the appropriate DEP Regional Office were sent a complete copy of this Request (including all appropriate documentation) simultaneously with the submittal of this Request to the Conservation Commission.

Failure by the applicant to send copies in a timely manner may result in dismissal of the Request for Determination of Applicability.

Name and address of the property owner:

Town of Concord c/o Concord Water & Sewer Division  
 Name  
 135 Keyes Road  
 Mailing Address  
 Concord  
 City/Town  
 MA  
 State  
 01742  
 Zip Code

Signatures:

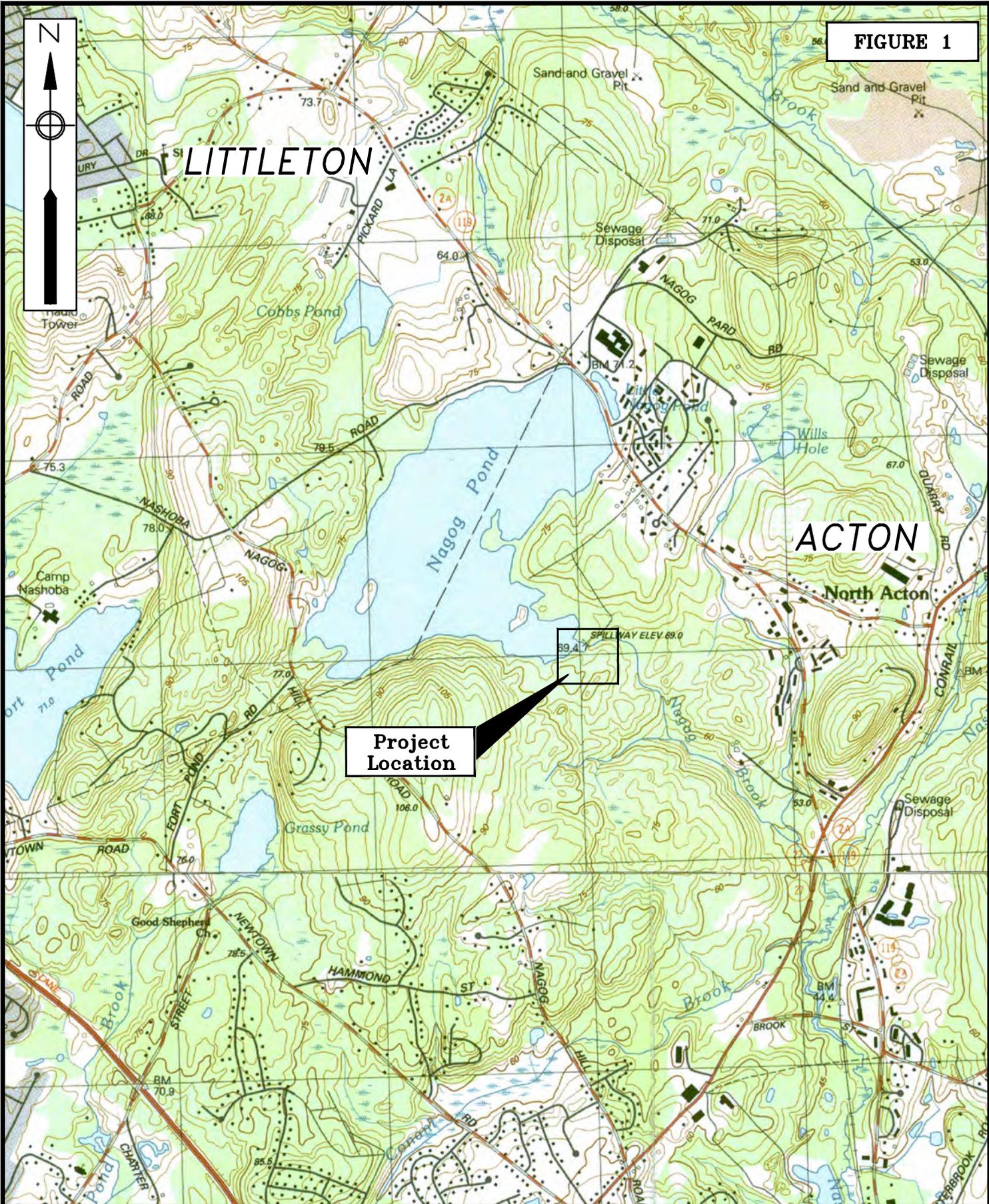
I also understand that notification of this Request will be placed in a local newspaper at my expense in accordance with Section 10.05(3)(b)(1) of the Wetlands Protection Act regulations.

Signature of Applicant \_\_\_\_\_ Date 5-23-13  
 Signature of Representative (if any) \_\_\_\_\_ Date 5/23/13

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***APPENDIX B***  
***FIGURE 1 – LOCUS PLAN***

FIGURE 1



**Project Location**

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***APPENDIX C***  
***PERMITTING PLAN***

