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November 10, 2016

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
FINAL ENVIRONMENTAL IMPACT REPORT

PROJECT NAME : Nagog Pond Water Treatment Plant
PROJECT MUNICIPALITY : Acton
PROJECT WATERSHED : Nagog Pond
EEA NUMBER : 15446
PROJECT PROPONENT : Concord Public Works, Water and Sewer Division
DATE NOTICED IN MONITOR : October 5, 2016

Pursuant to the Massachusetts Environmental Policy Act (MEPA; M.G.L. c. 30, ss. 61-62I) and Section 11.08 of the MEPA Regulations (301 CMR 11.00), I have reviewed the Final Environmental Impact Report (FEIR) and hereby determine that it **adequately and properly complies** with MEPA and its implementing regulations.

As noted in my Certificate on the Draft EIR (DEIR), dated September 30, 2016, the DEIR included adequate analysis and responses to the Scope included in the Certificate on the Environmental Notification Form (ENF) and no substantive issues remained to be addressed in a Final EIR (FEIR). Therefore, I reviewed the DEIR as a FEIR pursuant to the provisions at 11.08(8)(b)(2)(a). A notice was published in the October 5, 2016 *Environmental Monitor* indicating that the DEIR would be reviewed as a FEIR, and the FEIR was subject to a 30-day public comment period.

Project Description

As described in the FEIR, the project consists of improvements and upgrades to the Town of Concord's public water supply system infrastructure adjacent to Nagog Pond in Acton. The project includes replacement of the 1,290-square foot (sf) Ozone Disinfection Facility with a 7,165-sf two-story water treatment plant (WTP) and replacement of the cast iron intake pipe into Nagog Pond with a 16-inch high-density polyethylene (HDPE) pipe. The proposed WTP will have a hydraulic capacity of 1.5 million gallons per day (mgd), which is equivalent to the existing facility. It will be a zero discharge facility, wherein all waste, with the exception of sanitary waste, will be recycled.

The Town of Concord is operating under a Filtration Avoidance Waiver for Nagog Pond under the Surface Water Treatment Rule (SWTR). The SWTR imposes rigorous requirements for use of a public surface water supply that does not provide filtration treatment. Construction of the proposed WTP will allow the Town to meet SWTR standards and provide the Town with more flexibility in managing its water sources. The WTP will treat water pumped from Nagog Pond with potassium permanganate for pre-oxidation, polyaluminum chloride for coagulation, flocculation, dissolved air flotation for clarification, ozone for primary disinfection, granular activated carbon filtration for particulate removal, potassium hydroxide for pH adjustment, zinc orthophosphate for corrosion control, sodium hypochlorite for secondary disinfection, and sodium fluoride for fluoridation.

Treatment infrastructure will be located in a two-story 7,165-sf building (9,338 gross sf) that will be constructed within the footprint of the disinfection facility. Access to the WTP will be provided via the existing driveway from Skyline Drive. A fence will be installed around the perimeter of the site. Rooftop runoff will be collected and infiltrated.

The project will be constructed in two phases. Construction of the WTP is anticipated to begin during the first half of 2017. The existing facility will remain operational until the late summer or early fall of 2017. Once the existing facility is taken off-line for demolition, the intake project will also commence. Construction of the new intake pipe will require temporarily dewatering a limited area of Nagog Pond. Both the new intake and WTP are scheduled to be operational between mid-2018 to early 2019. The Town's six groundwater supply wells will be used while Nagog Pond is not available during construction of the intake and WTP.

Project Site

The 60-acre project site consists of two parcels in Acton owned by the Town of Concord. Nagog Pond, located in the Towns of Acton and Littleton, is a public surface water supply for the Town of Concord. The intake pipe for the water supply and an ozone disinfection facility are located in Acton. Access to the site is provided via Skyline Drive. The site is partially developed including the dam/intake structure, disinfection facility, and associated appurtenances (gatehouse, raw water wetwell, valve and meter vault, etc.). The remainder of the site is undeveloped forested land for water supply protection purposes.

Nagog Pond is used by the Town as a supplemental source to augment its water supply from groundwater production wells. As a public water supply, Nagog Pond is classified as an Outstanding Resource Water (ORW) by the Massachusetts Department of Environmental Protection (MassDEP). The disinfection facility was built in 1995 and has a hydraulic capacity of 1.5 mgd. The facility is located approximately 200 feet from Nagog Pond. The Nagog Pond dam and water intake pipe were constructed over 100 years ago. The dam was rehabilitated in 2012. The 16-inch diameter cast iron intake pipe extends approximately 1,800 linear feet (lf) into Nagog Pond from the gatehouse at the dam and is in poor condition. Ozone gas is added to raw water at the disinfection facility for oxidation and disinfection, which then flows by gravity to the Route 2A Satellite Pumping Station via a second 16-inch main (circa 1909) for final treatment (disinfection, pH adjustment, fluoridation, and corrosion control). Finished water is pumped into the water distribution system which provides service to the Town and to several businesses located along Route 2A in Acton.

Environmental Impacts and Mitigation

Potential environmental impacts associated with the project include the temporary alteration of approximately 16.23 acres of Land Under Water (LUW) for the drawdown of the pond coincident with the permanent alteration of 632.5 sf of LUW for placement of concrete collars to anchor the intake pipe. The project is anticipated to require limited dredging of less than 100 cubic yards (cy). In addition, the project will alter approximately 1.6 acres of land, create up to 0.63 acres of new impervious area, and may impact archaeological resources. I note that the installation of the perimeter fence will increase the amount of land alteration; however, total land alteration will remain below the ENF threshold of 25 acres.

Measures to avoid, minimize and mitigate impacts include: reconstruction of the WTP on the existing disturbed site; replacement and expansion of existing infrastructure; adherence to guidelines in the Drawdown section of the 2004 *Eutrophication and Aquatic Plant Management in Massachusetts Final Generic Environmental Impact Report (FGEIR)* to the greatest extent practicable; coordination with the Division of Fisheries and Wildlife (DFW) at commencement of drawdown; employment of best management practices (BMPs) based on recommendations from DFW; retaining services of a third party independent Environmental Monitor; pumping water from the cove section to the main body of the pond to maintain adequate water supply; constructing a bypass system to transfer water from the main body of pond to Nagog Brook; maintaining dewatering pumps to transfer water from isolated low spots in the dewatered area; provision of a dewatering plan for review and approval by the Acton Conservation Commission prior to implementation; drawdown of the pond at a controlled rate to allow fish and mammals to adapt and relocate; and, implementation of erosion and turbidity controls, and turbidity monitoring. The Proponent has conducted an archaeological sensitivity assessment. The Proponent will incorporate energy efficiency measures into the project design and operation to minimize GHG emissions.

Permits and Jurisdiction

The project is undergoing MEPA review and is subject to a mandatory EIR pursuant to 301 CMR 11.03(3)(a)(1)(b) of the MEPA regulations because it requires State Agency Actions and will alter ten or more acres of other wetlands. The project will require a Water Withdrawal Permit (BRP WM 03), an Approval to Construct a Water Supply Source 70 Gallons per Minute or Greater (BRP WS 20) and an Approval to Construct a Water Treatment Facility (BRP WS 24), a Chapter 91 (c. 91) License and a Section 401 Water Quality Certification (401 WQC) from MassDEP. It is also subject to the MEPA Greenhouse Gas (GHG) Emissions Policy and Protocol.

The project will also require: an Order of Conditions from the Acton Conservation Commission, or in the case of an appeal, a Superseding Order of Conditions from MassDEP; authorization from the U.S. Army Corps of Engineers (ACOE) under the General Permits for Massachusetts in accordance with Section 404 of the Federal Clean Water Act; review by the Massachusetts Historical Commission (MHC) pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800); and a National Pollutant Discharge Elimination System Construction General Permit (NPDES CGP) from the U.S. Environmental Protection Agency (EPA).

MEPA jurisdiction is limited to those aspects of the project that are within the subject matter of any required or potentially required State Agency Actions and that may cause Damage to the Environment as defined in the MEPA regulations. Because the project requires a c. 91 License, MEPA jurisdiction is functionally equivalent to broad, or full scope, jurisdiction pursuant to 301 CMR 11.01 (2)(a)(3).

Review of the FEIR

The FEIR includes an updated description of the project, identifies existing conditions, contains project plans, and describes potential environmental impacts. The FEIR includes a section that identifies proposed mitigation measures and draft Section 61 Findings for each State Agency that will issue permits for the project. The FEIR describes changes to the project since the filing of the ENF. The FEIR includes a list of required State Permits, Financial Assistance, or other State approvals and provides an update on the status of each of these pending actions. It describes how the project will meet regulatory standards and requirements associated with these actions. The FEIR also provides an update of the local permitting processes for the project. The Town will not seek Financial Assistance in the form of State Revolving Funds (SRF) from MassDEP.

MassDEP comments on the DEIR identified the project's consistency with regulatory requirements and standards and described outstanding issues that can be addressed through permitting. Comment letters from residents on the DEIR expressed concern with the purpose and need of the project and its environmental impacts including land alteration, GHG emissions and historic resources. In addition, I received a comment letter on the FEIR from a resident which identified concerns with potential environmental impacts associated with the proposed fence and its installation.

I note that the Massachusetts Historical Commission (MHC) provided a letter, dated October 27, 2016, to the Town of Concord requesting that the Town conduct an intensive (locational) archaeological survey for archaeologically sensitive portions of the project impact area. The archaeological sensitivity assessment indicates that a portion of the infiltration structures, retaining wall and fence are located within archaeologically sensitive areas of the project site. The purpose of the survey is to locate and identify any significant archaeological resources that could be affected by the project prior to construction.

Potential environmental impacts associated with the fence can be addressed through local and State permitting. If impacts to archaeologically sensitive areas result in project changes that would increase environmental impacts prior to the taking of State Agency Actions, the Town of Concord should consult with the MEPA Office to determine whether a Notice of Project Change (NPC) would be required.

Land

The WTP is proposed in proximity to an important water supply. The Town intends to improve the quality and reliability of its water supply while limiting potential impacts. The FEIR indicates that the project will avoid land alteration to the maximum extent feasible while meeting project goals. The elimination of the PV array will significantly reduce the amount of land alteration and clearing from 16,990 sf as described in the ENF to 619 sf; however, the installation of the fence will increase land alteration.

The project is proposed on two adjacent parcels of land in Acton owned and controlled by the Town of Concord. The proposed WTP will be located on the same parcel of land as the existing facility, Parcel C4-14. The existing access road is located on Parcel C4-32. As directed by the Scope, the FEIR addresses whether the parcels are protected by Article 97 of the Amendments of the Constitution of the Commonwealth of Massachusetts. Based on information in the FEIR, including the elimination of the PV array, I concur with the determination that there is no disposition under Article 97.

Water Resources

The project is proposed to improve the drinking water supply and will bring the existing water treatment facility into compliance with federal and State drinking water requirements. The intake pipe will include a two-level screen and an automated cleaning system. Water will be pumped to the head of the WTP, then flow by gravity along existing infrastructure to the existing Route 2A Pump Station. The Pump Station will pump treated water into the distribution system. The Pump Station houses a UV disinfection system which will provide redundancy.

Under the SWTR Filtration Avoidance Waiver for Nagog Pond, the Town is subjected to rigorous requirements for use of a public surface water supply that does not provide filtration treatment. Nagog Pond is used only as needed to meet peak seasonal demand. It provided approximately six percent of the Town's water supply in 2015, and four percent in 2014. Construction of the proposed WTP will allow the Town to meet the filtration standard of the SWTR and eliminate the need to meet the filtration waiver criteria. MassDEP comments indicate

that the Town will have more flexibility in management of its water sources, and Nagog Pond will likely be used on a more routine basis. MassDEP expects that subsequent to the construction of the WTP the Town will use Nagog Pond to provide a higher percentage of its public water supply, which will be offset by a reduction in use of its municipal wells.

The Town's Water Withdrawal Registration and Permit in the Concord River Basin include Nagog Pond as an authorized withdrawal point. According to MassDEP comments, the U.S. Geological Survey estimated the firm yield of Nagog Pond with no releases to be 0.86 MGD.¹ MassDEP comments note that Nagog Pond may be used to provide a somewhat higher percentage of Concord's public water supply once the treatment plant is constructed, which will be offset through less withdrawal from municipal wells. MassDEP comments indicate that the project will not require a new Water Withdrawal Permit; however, if the Town intends to request a higher firm yield for Nagog Pond, or if the Town intends to install the new water intake at a lower depth than the old intake, then it would require an amendment to its Water Withdrawal Permit. The Town may include the intake design within the permit submittal for the WTP design; a separate BRP WS 20 application is not necessary.

Although the WTP is being designed as a zero discharge facility, the residual solids will be dewatered on-site and then transported off-site for reuse as compost. The Town is required to submit a Waste Disposal Plan that includes a Residuals Management Plan as part of the BRP WS 24 permit submittal. I refer the Town to MassDEP's Guidelines on waste handling and disposal at water treatment facilities (*Guidelines for Public Water Systems*).

Wetlands and Waterways

The Acton Conservation Commission will review the project to determine its consistency with the Wetlands Protection Act (WPA), the Wetlands Regulations (310 CMR 10.00), and associated performance standards, including the stormwater management standards (SMS). Concern regarding activities in the buffer zone, including potential installation of a fence, can be addressed by the Conservation Commission during its review. MassDEP will review the project to determine its consistency with the c. 91 regulations (310 CMR 9.00) and the 401 WQC regulations (314 CMR 9.00) which incorporate the SMS. The project will require a 401 WQC for temporary and permanent impacts to LUW; however, MassDEP comments indicate a 401 WQC for dredging would not be required if dredging is limited to less than 100 cy.

A section of Nagog Pond will be dewatered temporarily to facilitate replacement of the intake pipe under dry conditions. An existing coffer dam, which is partially submerged, will be rehabilitated and augmented with a temporary coffer dam. Once the temporary coffer dam is in place, the Nagog Pond dam outlet structure will be used to dewater the lower section of the pond. The project will temporarily impact approximately 707,000 sf (16.23 acres) of LUW associated with dewatering the pond, and permanently impact 632.5 sf of LUW through placement of the water intake pipe (253 collars). There is an additional 619 sf of work proposed within the 100-foot buffer zone to Nagog Pond associated with the WTP, pavement, and clearing. The Town

¹ Refinement and evaluation of the Massachusetts firm-yield estimator model version 2.0; 2011, U.S. Geological Survey Scientific Investigations Report 2011-5125

will hire an independent Environmental Monitor to observe field conditions during drawdown process and review findings with the Acton Natural Resources Department.

The Proponent will submit a 401 WQC for the drawdown of Nagog Pond. In addition, the Proponent will submit a separate 401 WQC if the final design requires dredging of greater than 100 cy. The FEIR discusses how turbidity will be minimized and controlled during dredging of the pond bottom. The FEIR includes a description of mitigation measures proposed for the dewatering of the Nagog Pond.

Nagog Pond is a Great Pond of the Commonwealth. A c. 91 License will be required for the in-water placement of structures (concrete collars and intake screen support column) in jurisdictional areas. The MassDEP Waterways Program will likely classify this proposal as a water-dependent use in accordance with the Waterways Regulations at 310 CMR 9.12.

Nagog Brook is a coldwater fishery which is sensitive to changes in water quality and quantity. The project should be constructed to avoid or minimize impacts to coldwater fish species. The Town will follow the guidelines outlined in the 2004 *Eutrophication and Aquatic Plant Management in Massachusetts FGEIR* regarding drawdowns. All in-water work should be conducted during low-flow periods throughout the year, to the greatest extent practicable and work should be avoided when flow is high. The FEIR describes the BMPs that will be implemented in accordance with the guidelines outlined in the FGEIR.

The Town will contact DFW during the drawdown period if it will exceed three feet or if it appears that fish may become isolated and salvage operations are necessary. The Town should prevent heated or sediment laden water from entering Nagog Brook directly during dewatering.

Stormwater

The FEIR includes a comprehensive Stormwater Report prepared in accordance with the requirements of 310 CMR 10.00 and 310 CMR 21.00, and the guidelines of the Massachusetts Stormwater Handbook. The report describes the project's consistency with the MassDEP SMS and the stormwater regulations at 310 CMR 10.05(6) 2 (k) 1-10. In the vicinity of the WTP, runoff will be directed into a series of underground recharge chambers via deep sump hooded catch basins, a drywell, and underground piping. The stormwater management system will provide recharge, attenuate peak discharge, and remove total suspended solids (TSS). Runoff from the access road will be directed towards the existing swale.

The FEIR addresses DFW comments regarding compliance with Standard 6 for Critical Areas. The proposed BMPs will treat the one-inch stormwater runoff volume. The project will include the use of subsurface structures, which are recommended BMPs for compliance with Standard 6. Deep sump catch basins with hoods are proposed to help provide additional TSS removal.

I note that the MHC letter to the Town of Concord indicates that filtration structures are proposed within an archaeologically sensitive area of the project site. Subsequent survey work or project review could result in changes to the stormwater management system.

Noise

The FEIR includes a Noise Emissions Analysis which was conducted to assess the project's compliance with the MassDEP Noise Policy that limits sound operations to no more than 10 A-weighted decibels (dBA) above the lowest nighttime ambient sound level at the residential property lines and prohibits a 'pure tone' condition. The analysis indicates that there will be an increase of 1.5 to 9.2 dBA in nighttime sound impacts associated with the operation of the WTP. The results indicate that the proposed WTP design will comply with the MassDEP Noise Policy. In addition, the acoustic analysis indicates that the proposed WTP will not create any pure tones. The project proposes additional noise attenuation mitigation measures resulting in the reduction of noise impacts to a range of 0.3 to 6.0 dBA.

As requested by MassDEP, I encourage the Proponent to reduce the predicted noise impacts to the greatest extent practicable with a goal of limiting the increase to 5dBA or less.

Greenhouse Gas Emissions

The project is subject to review under the May 5, 2010 MEPA GHG Policy and Protocol (Policy). The FEIR includes an analysis of GHG emissions and mitigation measures for the proposed project in accordance with the standard requirements of the Policy. The Policy requires projects to quantify carbon dioxide (CO₂) emissions and identify measures to avoid, minimize and mitigate emissions. The Town consulted with MEPA and the Department of Energy Resources (DOER) to discuss the GHG analysis and potential mitigation measures. The analysis quantifies the direct and indirect CO₂ emissions for the project's energy use (stationary sources). The Scope did not require transportation emissions to be quantified. Direct emissions are associated with natural gas combustion for space heating and hot water. Indirect emissions of CO₂ are associated with electricity generated off-site and used on-site for lighting, building cooling and ventilation, and the operation of process equipment.

The Town of Acton has adopted the Stretch Code (SC) subsequent to its designation as a Green Community under the provisions of the *Green Communities Act of 2008*. Therefore, the project will be required to meet the applicable version of the SC in effect at the time of construction. The GHG analysis used the ASHRAE 90.1-2007 code as the Base Case. CO₂ emissions were quantified for: the Base Case and the Preferred Alternative, which includes all energy saving measures. The proposed building is not over 100,000 sf in size and will therefore be subject to the Prescriptive Option of the Stretch Code.

The analysis used the eQUEST energy design software (version 3.65), which incorporates the U.S. Department of Energy's DOE-2 building energy use model. Since the process area of the building (the first floor) will be heated to a lower temperature than the occupied office and lab (second floor), and since waste heat from the process equipment enters the internal heat balance for the first floor, the two floors of the building were modeled separately in eQUEST.

The project's stationary CO₂ emissions were estimated at 467.4 tons per year (tpy) in the Base Case, with the Preferred Alternative achieving a reduction of 78.1 tpy of CO₂, for a project

total of 389.3 tpy of CO₂ subsequent to the implementation of a number of energy efficient design measures. This is equivalent to a 16.7 percent reduction in total GHG emissions compared to the Base Case.

Unlike a typical residential or retail project, building energy use is relatively low; the majority of CO₂ emissions are associated with the water treatment process energy loads. The facility will consume a significant amount of electricity (973 megawatt hours per year (MWh/yr)). The principal mitigation measure for this project is high-efficiency process equipment and the analysis assumes an overall 15 percent reduction² in process electricity use for the following design best practices that are included in the proposed WTP:

- Correctly design pumps to meet anticipated loads;
- High efficiency pumps and motors;
- Variable frequency drives (VFD);
- Correctly sized motors; and
- SCADA System to ensure demand response of equipment minimizes electricity use.

The Town plans to incorporate the following energy efficiency measures into the design of the WTP:

- Minimize energy use through building orientation (largest glass area is on east side);
- Higher efficiency windows and building envelopes (roof: R-25; wall: R13ci; and window: double-pane, low-e glass, U value = 0.29, SGHC=0.29);
- High-albedo roofing material;
- High-efficiency heating and cooling systems (heating: 90 percent thermal efficiency; split system HVAC unit EER: 10 percent higher than Code; will consider heat pumps during design);
- Sealing, insulating, and testing HVAC supply ducts;
- Energy management systems;
- High-efficiency LED lighting for the interior of the building (light power density (LPD) for office/lab: 0.7 Watts per sf (W/sf); process area: 0.8 W/sf);
- Energy efficient LED lighting for parking lots;
- Energy STAR equipment in the office/lab (plug loads 10 percent below Base Case);
- Higher efficiency process equipment (up to 15 percent reduction);
- Water conserving fixtures and practices;
- Environmentally friendly building materials;

Other building design and operation mitigation measures, such as peak shaving or load shifting strategies and green roofs, were considered but were rejected because they are either technically/financially infeasible. The Town will pursue both the design support and customer energy efficiency incentives offered by NSTAR.

² The ENF references studies by the Water Research Foundation, EPRI and the American Council for an Energy Efficient Economy which estimate energy efficiency design in a water supply treatment plant can reduce electrical consumption by 10 to 30 percent for individual pieces of equipment

Two potential on-site alternative energy systems were analyzed as part of the GHG analysis: a solar PV array and a combined heat and power (CHP) system. The solar PV array would have an approximate capacity of 195 kilowatts (kW), which would reduce CO₂ emissions by 72.6 tpy from the estimated 467.4 tons/yr under the Base Case. The PV proposal was dismissed due to significant opposition from abutters. As an alternative, the FEIR proposed a CHP system to provide a cost-effective, grid-independent power supply for the WTP.

Evaluation of the CHP alternative is based on the use of three Tecogen INV-100e+ Ultra-Low Emissions units providing a total capacity of 300 kW. The Tecogen units would be powered by natural gas and result in a 328.2 tpy increase of CO₂ emissions compared to the Base Case for a total of 795.6 tpy. Typically, a CHP unit is more efficient than a traditional system because the waste heat is reused and offsets emissions associated with heating. As noted by DOER, because there is very little heating demand for the project, the actual GHG emissions from CHP would almost double from the Base Case. Based on comments received on the FEIR, the Town has indicated that it will replace the proposed CHP with power from the electrical grid.³ The facility will include a single gas-fueled emergency generator. Because the proposed emergency generator is greater than 37 kW, it must comply with the Air Pollution Control Regulations and associated requirements for emergency generators at 310 CMR 7.26(42).

The draft Section 61 Findings include a commitment to provide a certification to the MEPA Office, signed by an appropriate professional, indicating that all of the energy efficiency mitigation measures identified in the MEPA process have been incorporated into the project or similar measures to provide equivalent benefits.

Construction Period

The project must comply with MassDEP Solid Waste and Air Pollution Control regulations, pursuant to M.G.L. c.40, s.54 during construction and demolition. The FEIR identifies construction period impacts and measures to minimize those impacts. The FEIR identifies BMPs to control erosion and sedimentation during the construction period to reduce potential impacts to wetland resource areas and fisheries resources. The Town will develop a Traffic Management Program to control vehicles accessing the site. The Town will require the contractor to submit an alternatives analysis for the re-use and recycling of solid materials associated with the demolition of the existing ozone disinfection facility. Existing asphalt surfaces and other earth materials will be reclaimed for use onsite. The Town has evaluated the process mechanical equipment and determined that it has reached its useful service life so that re-use is not practical. Asphalt, brick and concrete (ABC) generated during demolition activities will be processed and disposed in accordance with MassDEP regulations.

I encourage the Town to use after-engine emissions controls that are EPA-certified, or their equivalent, on all of the off-road diesel vehicles/equipment in an effort to reduce emissions of volatile organic compounds (VOCs), carbon monoxide (CO) and particulate matter (PM) from diesel-powered equipment. Off-road vehicles are required to use ultra-low sulfur diesel fuel (ULSD).

³ Email from Paul C. Millett, Environmental Partners Group, Inc., on behalf of the Town of Concord.

Conclusion

Based on a review of the FEIR, comment letters and consultation with State Agencies, I find that the FEIR adequately and properly complies with MEPA and its implementing regulations and that no substantive issues remain to be addressed. The project may proceed to State permitting.

September 30, 2016

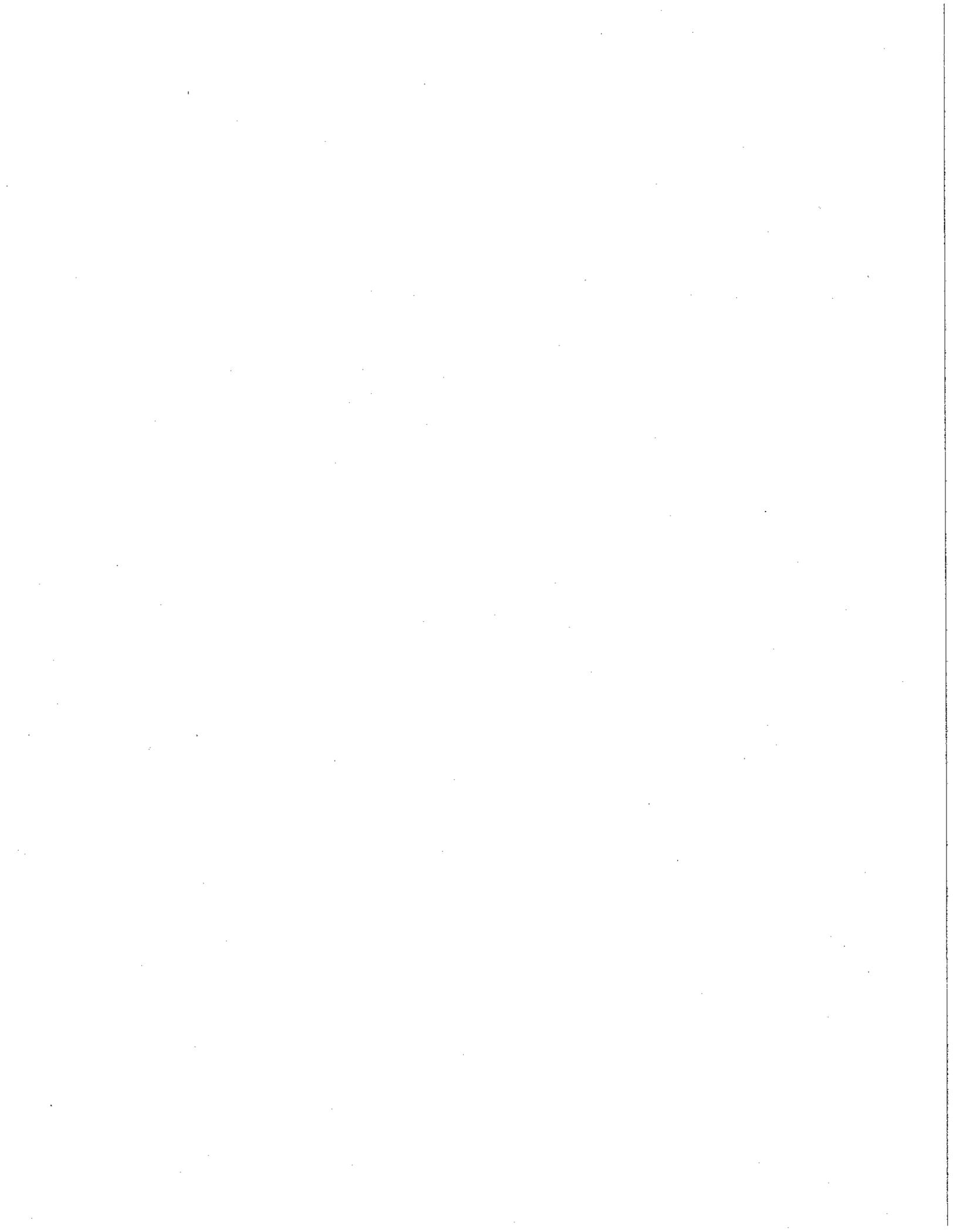
Date

Matthew A. Beaton

Comments received:

10/24/16 James Engell

MAB/CDB/cdb



Patel, Purvi (EEA)

From: Engell, James <jengell@fas.harvard.edu>
Sent: Monday, October 24, 2016 11:47 AM
To: Patel, Purvi (EEA)
Cc: Engell, James; faparra@dlpnlaw.com; Ainslie Brennan; Alissa Weiss; bos@acton-ma.gov
Subject: Re: comment EIR EEA 15446 Nagog Pond Water Treatment Plant and Fence

Dear Ms Patel:

I wish to bring to your attention and to the attention of MEPA that the EIR referenced in my public comment from September 22 below, an EIR now apparently given at least preliminary approval, made no mention of, nor any environmental report on, a chain link fence about one mile long proposed now to be built by the Town of Concord and submitted to the Town of Acton August 29, 2016, as part of the project for which the EIR was required.

As far as I know, there has been no environmental assessment of the impacts of this eight-foot fence, which is proposed to run through a large wooded area frequently populated by deer and coyotes as well as many other animals. Again, this fence was proposed *after* the submission of the EIR, yet as part of the entire project for which the EIR was required.

James Engell
14 Breezy Point Rd
Acton, MA 01720

On Sep 22, 2016, at 9:06 PM, Engell, James <jengell@fas.harvard.edu> wrote:

Ms. Purvi P. Patel, EIT
Massachusetts Environmental Policy Act (MEPA) Office
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Dear Ms. Patel,

Here in plain text and attached as a PDF document is my comment as an Acton resident who lives directly in the area of the proposed Nagog Pond Water Treatment Plant and Fence. There are two additional attachments, a schematic plan of the proposed fence (PDF) and a photograph (JPG) of a perching Bald Eagle at Nagog Pond in the area of the proposed project and fence. These attachment are explained in the comment.

Comment

The EIR (EEA #15446) dated August 15 was sent to me on disc via USPS. No version more recent was sent. It does not acknowledge, let alone address, the impact of an 8-foot high, *one-mile* long chain link fence that Concord proposed two weeks later, on August 29, as part of this project. A rough sketch of this proposed fence is attached. It is what Concord submitted to the Town of Acton on August 29.

Perhaps inclusion of this fence and its environmental impact is not required in reporting to you. Yet, it's a very long, high fence that will have clear impacts on wildlife. Officials from Concord say there will be 6 to 8 inches open at the bottom for small wildlife to pass through. But in this area to be fenced are deer (many) and several coyote dens (we hear them in early spring, the noise coming from the bulbous peninsula not far from our house, and we occasionally see them in the area). There are also foxes, mink, and fisher cats, as well, perhaps, as other animals that will not be able to pass through that opening.

The proposed fence also appears to be through a flood plain and across a cold water brook, Nagog Brook. That is hard for me to confirm but I believe it so.

The proposed fence line passes *directly* by a tree on which a bald eagle was perching in early August. The picture attached was taken August 12 from my back yard, a fact that can be visually confirmed by anyone who comes to the yard. The Natural Heritage Endangered Species Program (NHESP) in the Mass. Division of Fisheries & Wildlife states: "Protection and enhancement of potentially suitable wetland and forest habitats, and maintenance of known breeding, roosting, and wintering areas will be critical to long-term conservation of Bald Eagles in Massachusetts. To achieve these objectives, landowners should first work to limit development near shorelines of large water bodies, as loss of nesting habitat is a primary threat to Bald Eagles in this state."

The tree on which the eagle is perching was struck by lightning in June 2010. Thunderstorms come over Nagog Pond from the west and northwest. When they reach the shore on the eastern side there are often lightning strikes. The proposed fence cuts off all fire fighting access to a heavily wooded area which has never been cleared of underbrush, dead leaves, pine needles, etc. and that has had brush fires in the past. Just a few weeks ago the Acton Fire Department sent personnel through the area to fight a brush fire (apparently started by lightning) on the small island near the area proposed to be dewatered. With the proposed fence in place, there would be no access for fire fighting equipment unless someone from Concord rushed to provide it. Even then, it could take very significant time to reach a fire. In some places there are wooden buildings adjacent to the proposed fence line.

The EIR (EEA #15446) says little about rare and endangered species (5.5 and 6.3): "There will be no impacts to rare and endangered species as a result of the project. 2008 Massachusetts Priority and Estimated Habitat online maps created by NHESP was used to confirm that there are no rare or endangered species located within the project area."

I believe no field study whatsoever was done. The perched bald eagle is an example of a threatened species that has been seen within this project area, has been sighted fairly frequently, fishes in the Pond, and has perched on surrounding trees. Moreover, I have seen and heard the common loon on the Pond. Acton as a town is listed as having 7 species that are of Special Concern or Threatened, one of which is the Eastern Pondmussel.

To my knowledge, the only survey done of wildlife was an armchair computer one based on NHESP 2008 maps, whose supporting data may be older than that—all concerning an area where there has been *considerable* development in the last decade and therefore a reduction in wildlife habitat, flora and fauna. I hope that the EIR is not considered sufficient for a project of this nature, where it seems 16 acres are to be drained and tens of acres enclosed completely by a high fence and the shoreline itself (the proposed fence runs out into the water at its two ends).

The EIR states: “A review of existing available private well information in Acton indicates that two of these properties on Breezy Point Road (#10 and #14) have private domestic wells. These two wells are reported to be bedrock wells drilled to depths greater than 300 feet below the surface.” Our well at #14 is actually 292 feet, i.e., close to but not greater than 300 feet. I have no information that it is a bedrock well or not. I don’t know what difference this makes, but the EIR should have been more accurate.

No hydrological study has been done. The drafters of the EIR could have consulted the owners but did not, and the EIR conducted no actual hydrological study about potential effects on residential wells. Instead, the EIR states, “it is anticipated that the proposed drawdown will not have any impacts on these private water supply wells.” That’s not reassuring and may not be accurate.

The noise level tests were conducted at a time when two *temporary* ozone generators outside the current building were running. Their noise was included in the ambient level! Carolyn Kiely, who will submit her own comment to you, personally witnessed the way this measurement was taken.

Draining of the inlet area raises serious questions about fish kills and the alteration for many months of a delicate, shallow water and shoreline ecosystem.

Finally, I want to state that although I live in near proximity to Nagog Pond, I’ve never set a toe in it, never fished in it, never swum in it, and never skated or boated on it. My wife and I own three horses (there have been horses here for four decades at least). We clean up and truck manure away—we clean up on any trail anywhere. My wife carries a large plastic bag on the trail. She herself contacted the Concord Water Department to alert them about one other farm that might not be doing the same. A number of times over the last twenty-three years I’ve called Acton authorities when any illegal activities seemed occurring. Despite claims by the Town of Concord (presented without evidence of any kind) that the frequency of such activities is increasing, this does not seem the case, in fact, perhaps the contrary given increased public awareness and vigilance. I know the old Pond warden, Charlie Dutton, whose family has generations of experience here, and I believe he would confirm this.

James Engell, 14 Breezy Point Rd., Acton, MA 01720

<Bald E Nagog _4121.jpg>

<EIR comment 9-21-16 rev.pdf><Rev Sheet C 16 Fencing Aug 29 2016.pdf>