ATTACHMENT F
TYPICAL DISTRIBUTED ENERGY UNIT

InVerde®

Inverter-Based Cogeneration

Ultera EMISSION CONTROL

INV-100e+

Tecogen's Efficient Ultra-Low Emissions CHP

Key Features & Benefits

- ***33% Electrical Efficiency - Best in Class!***
- Produce your own electricity 24/7 at half the cost of utility power
- Backup power with grid-independent operation
- **Rapid black-start for Type 10 Emergency Power Supply System (EPSS)**
- Fully scalable from 10kW to multi-MW
- Modular units rated for 100 kW grid-connected / 125 kVA stand-alone
- **Superior part load efficiency with turndown to 10% load**
- Ultra-low emissions levels, SCAQMD compliant and NJDEP exempt
- Inverter-based standardized utility interconnection
- Microgrid compatible with licensed CERTS[1] power balancing control software
- **4" wc gas pressure requirement, no costly gas booster needed**
- **Cloud based performance monitoring**
- 25% power boost for demand-side response
- Streamlined multi-unit controls for lowest in class installation cost
- Available with indoor or outdoor acoustic enclosure
- **Battery or renewable energy input available**[2,3]

[1] CERTS - Consortium for Electric Reliability Technology Solutions
[2] UL 1741 - Utility Interactive; inverters, converters, controllers and interconnection system equipment for use with distributed energy resources
[3] UL 220 - Stationary engine generator assemblies

INTERTEK ETL LISTED US

UL 1741 Certified **UL 2200** Certified **NYSIR** Certified

Renewable Energy Compatible,
a Clean Energy Solution for Today & Tomorrow

Tecogen products are covered under one or more of the following U.S. patents: 8,578,704 · 7,239,034 · 7,243,017 and other patents pending

Tecogen Inc. • 45 First Avenue, Waltham, MA 02451 • 781-466-6400 • www.tecogen.com

Inverter-Based Cogeneration

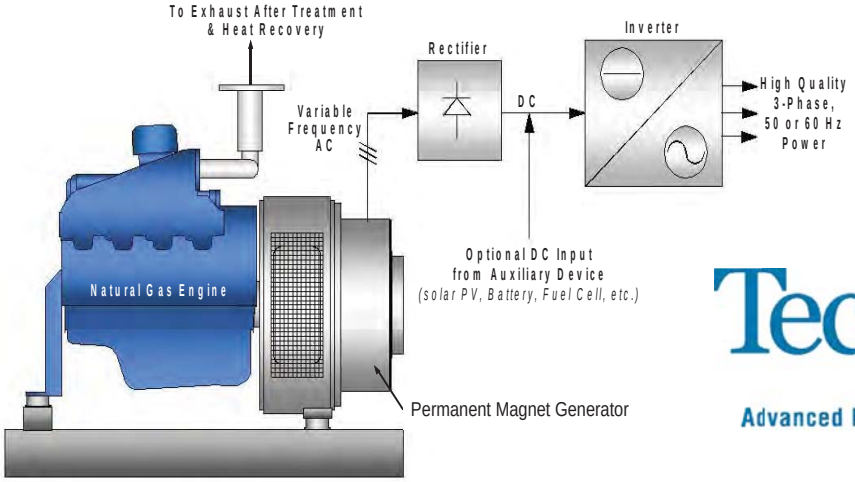
Specifications: [5]

Engine	*Proven Low-Emission Natural Gas V-8 Engine, 1000-3000 rpm*
Generator	*Water-Cooled Permanent Magnet Generator*
Inverter	*Customized Power Electronics with Patented Topology for Variable Speed and Standby Operation*
Controls	*TecoNet™ Microprocessor-Based System, Fully Automatic, Fault Monitoring, Lead/Lag Multiple Unit Control, Modbus / BACnet Networking & Remote Ethernet Communications*

Electric Output	100 kW Continuous / 125 kW *Peaking* [1] 480 VAC / 3 PH / 60 Hz	
Standalone Electric Capacity[2]	100 kW / 125 kVA	
Electrical Efficiency **Overall Efficiency**	32.7% (LHV) 91.5% (LHV)	29.0% (HHV) 81.2% (HHV)
Thermal Output **Engine** (Ultera emissions option) **Generator/Power Electronics**	 613,000 Btu/hr 27,000 Btu/hr	
Gas Input	1152 scfh	
Required Gas Pressure (when operating at full load)	4 - 28" wc	
Hot Water Flow **Maximum Leaving Water Temperature** **Maximum Entering Water Temperature**	30 gpm 230 °F 180 °F	
Air Emissions (SCAQMD & NJ DEP Compliant)[3] • **NOx** • **CO** • **VOC**	 < 0.07 lb/MWh < 0.2 lb/MWh < 0.1 lb/MWh	
Electrical Service	480 V, 3 PH, 3-wire	
Operating Temperature Range	-4° to 104° F (-20° to 40° C)	
Acoustic Level	68 dBa @ 20'	
Weight	3,850 lb	
Dimensions	7'4" L x 3' 8" W x 5' 9" H	

ETL Listed - Labeled for compliance with UL 1741 - Utility Interactive; Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources and UL 2200 - Stationary Engine Generator Assemblies
NYSIR Certified - NY Department of Public Service, New York Standardized Interconnection Requirements

1. *Peaking capacity is available for 200 hours per year only when grid connected. Peaking is not available in the 50 Hz international version.*
2. *Standalone capacity is the lesser of 100 kW or 125 kVA.*
3. *Emission limits are based on the Ultera Emissions option and includes 60% system efficiency (HHV) credit for Distributed Generation as per SCAQMD Rule 1110.2.*
4. *Above performance data is valid up to 104° F ambient temperature.*



Tecogen®
Advanced Modular CHP Systems

ATTACHMENT G
NOISE EMISSIONS ANALYSIS MEMORANDUM

TECH environmental
FOCUSED KNOWLEDGE. REAL SOLUTIONS.

MEMORANDUM

To: Paul C. Millett, P.E., Environmental Partners Group
From: Marc C. Wallace, QEP
Date: August 10, 2016
Subject: Nagog Pond Water Treatment Sound Study Ref. 4100

Tech Environmental, Inc. (Tech) performed a sound study of the proposed 1.5 million gallon per day Nagog Pond Water Treatment Plant (WTP) at 180/182 Skyline Drive in Acton, MA. The new WTP building will consist of two stories having a site footprint of 7,165 square feet and a net floor space of 9,338 square feet. The exterior façade is proposed to be cement masonry unit (CMU) architectural block with sufficient windows to provide natural lighting. The building will house all of the treatment processes and equipment and ancillary support spaces such as a control room, water quality laboratory, and operations meeting room. The purpose of this sound study is to demonstrate that the proposed WTP will comply with the Massachusetts Department of Environmental Protection (MassDEP) Noise Policy.

The site is close to a new residential development (Quail Run) on Skyline Drive to the south and existing residences on Hazelnut Street. The Noise Policy limits sound from the proposed WTP operations to no more than 10 A-weighted decibels (dBA) above the lowest nighttime ambient sound level at the nearby site and residential property lines. We have demonstrated compliance with the Noise Policy by first measuring the ambient sound level late at night at the site property boundary and at the nearest residences on Skyline Drive and Hazelnut Street then through acoustic modeling predicting the future contribution to sound levels in the neighborhood from the proposed WTP.

This memo summarizes the monitoring and modeling analyses performed for this study. Section 1.0 provides an introduction to the common measures of environmental sound. Section 2.0 presents the applicable noise regulations. Section 3.0 presents a summary of the ambient sound level measurement data collected from July 28 through August 5, 2016. Section 4.0 presents the acoustic modeling approach and results. Attachment A presents acoustic modeling results.

1.0 Common Measures of Environmental Sound

Noise is defined as "unwanted sound", which implies sound pressure levels that are annoying or disrupt activities that people are engaged in. The human sense of hearing is subjective and highly variable between individuals. Noise regulations and guidelines set quantitative limits to the sound pressure level (measured with sound analyzers and predicted with computer models) in order to protect people from sound exposures that most would judge to be annoying or disruptive.

The loudness of a sound is dependent on the radiated energy of the sound source and the propagation and attenuation characteristics of the air. The standard unit of sound pressure level (L_p) is the decibel

(dB), a logarithmic scale formed by taking 20 times the $\log_{10}$ of a ratio of two pressures: the measured sound pressure divided by a reference sound pressure. The decibel level scale conveniently compresses the range of audible sound pressures, which span 12 orders of magnitude, into an easy-to-use scale spanning 0 to 120 dB. Airborne sound is referenced to 20 micro-Pascals (20 µPa), which corresponds to 0 dB and the threshold of hearing. A property of the decibel scale is that the sound pressure levels of two separate sounds are not directly additive. For example, if a sound of 70 dB is added to another sound of 70 dB, the total is only a 3-decibel increase not a doubling to 140 dB. For broadband sounds, a 3 dB change is the minimum change perceptible to the human ear.

Table 1 presents the perceived change in loudness of different changes in sound pressure levels.

TABLE 1

SUBJECTIVE EFFECT OF CHANGES IN SOUND PRESSURE LEVELS

Change in Sound Pressure Level	Perceived Change in Loudness
3 dB	Just perceptible
5 dB	Noticeable
10 dB	Twice (or half) as loud

The acoustic energy level of a source is its sound power level (L_w), and Lw is also measured on a decibel scale, where the reference power is 10^{-12} Watts. The sound power level (e.g., L_w of 110 dBA re 10-12 W) is the same at any distance since it represents the energy intensity of a source. Thus, L_w values do not have reference distances. By contrast, a sound pressure level (e.g., L_p of 81 dBA re 20 µPa at 50 feet) must have a reference distance. Sound power levels are typically greater than 100 dBA in value and the large L_w numbers should not be confused with the sound pressure levels we hear.

Non-steady noise exposure in a community is commonly expressed in terms of the A-weighted sound level (dBA); A-weighting approximates the frequency response of the human ear. Levels of many sounds change from moment to moment. Some are sharp impulses lasting one second or less, while others rise and fall over much longer periods of time. There are various measures of sound pressure designed for different purposes. To establish the background ambient sound level in an area, the L_{90} metric, which is the sound level exceeded 90 percent of the time, is typically used. The L_{90} can also be thought of as the level representing the quietest 10 percent over a given time period. The L_{eq}, or equivalent sound level, is the steady-state sound level over a period of time that has the same acoustic energy as the fluctuating sounds that actually occurred during that same period. It is commonly referred to as the average sound level. The L_{max}, or maximum sound level, represents the one-second peak level experienced during a given time period.

Sound pressure level measurements typically include the analysis and breakdown of the sound spectrum into its various frequency components to determine tonal characteristics. The unit of measure of frequency is the Hertz (Hz), a measure of the cycles per second of sound waves. A total of eleven octave bands are used to define the frequency spectrum from 16 Hz to 16,000 Hz that approximates the range of audible sound.

The acoustic environment in a quiet suburban residential area, such as that surrounding the proposed site, results from motor vehicle traffic on local roadways, insects and peepers (tree frogs). Typical sound levels associated with various activities and environments are presented in Table 2[1].

TABLE 2

COMMON SOUND LEVELS

Sound Level (dBA)	Common Indoor Sounds	Common Outdoor Sounds
110	Rock Band	Jet Takeoff at 1000’
100	Inside NYC Subway Train	Chain Saw at 3’
90	Food Blender at 3’	Impact Hammer (Hoe Ram) at 50’
80	Garbage Disposal at 3’	Diesel Truck at 100’
70	Vacuum Cleaner at 10’	Lawn Mower at 100’
60	Normal Speech at 3’	Auto (40 mph) at 100’
50	Dishwasher in Next Room	Busy Suburban Area at night
40	Empty Conference Room	Quiet Suburban Area at night
25	Empty Concert Hall	Rural Area at night

2.0 Noise Regulations

The Massachusetts Department of Environmental Protection (MassDEP) regulates noise through 310 CMR 7.10, "Air Pollution Control". In these regulations "air contaminant" is defined to include sound and a condition of "air pollution" includes the presence of an air contaminant in such concentration and

[1] U.S. DOT, FHWA, Noise Fundamentals Training Document, Highway Noise Fundamentals, September, 1980.

duration as to "cause a nuisance" or "unreasonably interfere with the comfortable enjoyment of life and property".

Regulation 7.10 prohibits "unnecessary emissions" of noise. The MassDEP Noise Policy (Policy Statement 90-001, February 1, 1990) interprets a violation of this noise regulation to have occurred if the source causes either:

1. An increase in the broadband sound pressure level of more than 10 dBA above the ambient, or

2. A "pure tone" condition

The ambient background level is defined as the L_{90} level as measured during equipment operating hours. A "pure tone" condition occurs when any octave band sound pressure level exceeds both of the two adjacent octave band sound pressure levels by 3 dB or more.

The Town of Acton does not have quantitative noise regulations.

3.0 Baseline Sound Monitoring Approach and Results

Tech performed long-term baseline sound level measurements from Thursday, July 28 to Friday, August 5, 2016 near the site property line. On Thursday, July 28, Tech collected short-term (20-minute) daytime sound levels at the nearest site property line. The purpose of this daytime sound measurement was to determine the existing sound levels with the current WTP in operation for comparison with the predicted sound levels from the proposed WTP. The principal sound sources were the WTP operations, aircraft flyovers and insects.

Tech also performed short-term (20-minute) nighttime measurements at locations representing Skyline Drive and Hazelnut Street residences on Sunday, July 31, 2016. The principal sound sources were insects and peepers (tree frogs).

Figure 1 shows the property line and residential monitoring locations.

The long-term sound measurements were taken with a Larson Davis (LD 831) real-time sound level analyzer and short-term measurements were taken with a Bruel & Kjaer (B&K 2250) real-time sound level analyzer. Both sound analyzers are equipped with a ½" precision condenser microphones, windscreens, and frequency analyzers. Each sound analyzer has an operating range of 5 dB to 140 dB, and an overall frequency range of 3.5 to 20,000 Hz. These meters meet or exceed all requirements set forth in the American National Standards Institute (ANSI) Type 1 Standards for quality and accuracy. Prior to and immediately following the measurement session, the sound analyzers were calibrated (no level adjustment was required) with an ANSI Type 1 calibrator which has an accuracy traceable to the National Institute of Standards and Technology (NIST). For the measurement session, each microphone was fitted with a 7" windscreen to negate the effect of air movement across microphone diaphragm. All data were downloaded to a computer following the measurement sessions for the purposes of storage and further analysis.

A summary of the nighttime baseline measurement results are provided in Table 3. The lowest L_{90} sound level of 35.1 dBA was measured at Hazelnut Street. To be conservative this sound level was used to represent the existing L_{90} sound levels at the site property lines and at the Skyline Drive residences. At this monitoring location, the average sound level (L_{eq}) was 35.9 dBA and the maximum (L_{max}) sound levels was 42.9 dBA. The L_{90} levels establish the ambient level for the MassDEP Noise Policy and serves as the basis for Project limits on regulated sources of sound. Under the MassDEP Policy, offsite sound generated by the Project must not exceed 45.1 dBA (10 dBA higher than the measured background L_{90} sound levels), as shown in Table 3. The overall baseline levels are typical of a quiet suburban residential area.

The daytime and nighttime L_{90} sound level at the property line was 43.7 and 37.9 dBA, respectively.

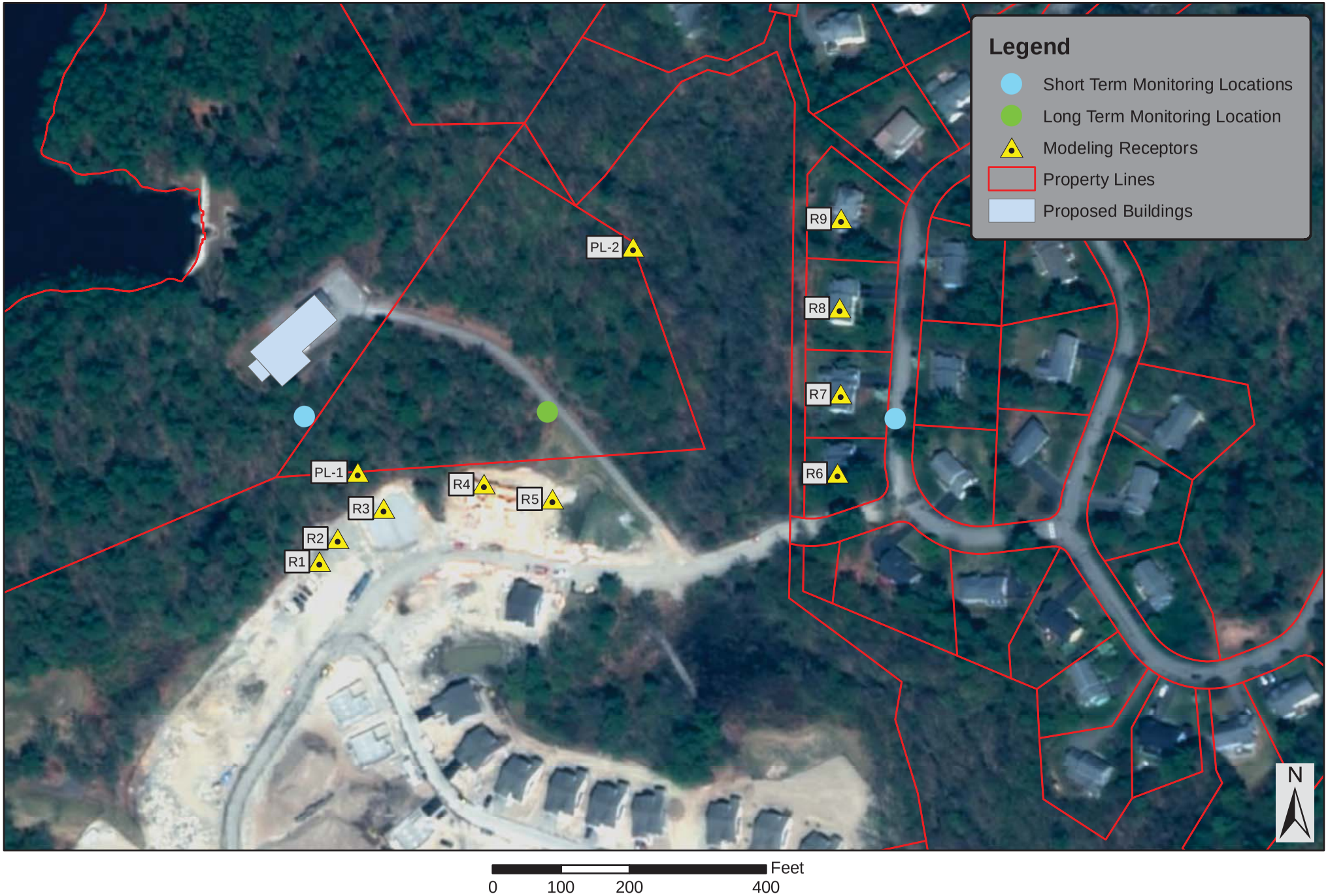


Figure 1
Sound Monitoring and Modeling Locations
Nagog Pond Water Treatment Plant
Acton, MA

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TABLE 3

EXISTING NIGHTTIME BASELINE SOUND LEVELS AT THE SITE PROPERTY BOUNDARY AND NEARBY RESIDENCES THURSDAY, JULY 28 THROUGH THURSDAY AUGUST 4, 2016

Sound Level Measurement	PB Site Property Boundary	R-1 Skyline Drive Residences	R-2 Hazelnut Street
Octave Band L_{90} (dB)			
16 Hz	37.2	37.2	37.2
31.5 Hz	40.1	40.1	40.1
63 Hz	38.4	38.4	38.4
125 Hz	33.0	33.0	33.0
250 Hz	28.4	28.4	28.4
500 Hz	29.4	29.4	29.4
1,000 Hz	25.0	25.0	25.0
2,000 Hz	21.3	21.3	21.3
4,000 Hz	26.5	26.5	26.5
8,000 Hz	30.7*	30.7*	30.7*
16,000 Hz	15.3	15.3	15.3
Broadband (dBA)			
L_{max}	42.9	42.9	42.9
L_{eq}	35.9	35.9	35.9
L_{90}	35.1	35.1	35.1
Existing Pure Tone Condition?	Yes	Yes	Yes
MassDEP Noise Policy Limit (dBA)	45.1	45.1	45.1

Note: *Insect noise produced a pure tone at 8,000 Hz.

4.0 Acoustic Modeling Approach

The primary sources of continuous operational sound from the Project will be three 100 kilowatt (kW) cogeneration units manufactured by Tecogen. According to the manufacturer, the reference sound pressure levels for these units is 74 dBA at 3 feet away or a sound power level of 82.5 dBA. Tech applied an uncertainty factor of 2 dBA to the cogeneration units manufacturer's sound data. In addition, WTP pumps, blowers and compressors were modeled with sound power levels ranging from 81.9 dBA to 105.3 dBA. These units will be housed inside the WTP building that will be primarily constructed of concrete masonry units (CMUs) with brick façade. Any sound from the interior of the building will be emitted from building air intake louvers on the south, north and east side of the buildings.

Tech conducted acoustic modeling with the CadnaA acoustic model to calculate projected sound levels at the nearest noise-sensitive locations assuming simultaneous operation of all equipment at their maximum loads. CadnaA is a comprehensive 3-D model based on International Standard ISO 9613-2 modeling techniques for sound propagation and attenuation. Atmospheric absorption is the process by which sound energy is absorbed by the air and was calculated using ANSI S1.26-1995. ISO 9613-2 was used to calculate propagation and attenuation of sound energy by hemispherical divergence with distance, surface reflection, ground, and shielding effects by barriers, and ground topography. Offsite topography was determined using official USGS digital elevation data for the study area from USGS. Noise modeling receptors were placed at 10 residential locations at heights representative of the first and second floors of highest window representing potential nighttime sensitive receptors (See Figure 1). The predicted sound levels are conservative because:

- All three cogeneration units and the water treatment plant equipment are operating simultaneously at their maximum operating capacity and sound levels.

- The model assumes a ground-based temperature inversion, such as may occur on a calm, clear night when sound propagation is at a maximum.

5.0 Acoustic Modeling Results and Sound Mitigation Recommendations

The results of the modeling for the current WTP designed revealed that the total sound levels will range from 36.6 dBA to 44.3 dBA (See Table 4). The proposed WTP will increase sound levels at the nearest residences by 1.5 dBA to 9.2 dBA over the existing nighttime sound levels. Furthermore, the acoustic modeling calculations also confirm that the proposed WTP will not create any pure tones. Although the results of these calculations demonstrate that the Project will fully comply with the MassDEP Noise policy at all noise-sensitive receptors, two mitigation measures were added to the proposed WTP design to further reduce sound levels from the WTP operations.

Acoustic louvers capable of reducing WTP interior building sounds by up to 16 dBA were assumed for the south and east side of the new building to reduce predicted sound levels at the site property lines and adjacent residences on Skyline Drive and Hazelnut Street. In addition, Tech assumed that the ozone contact segment of the building was rotated 90° to act as wall to block the sound from the three Tecogen units or a sound barrier of the same dimensions as the ozone contact segment of the building will be installed next to the Tecogen units. The results of the mitigation acoustic modeling is presented in Table

5. The results of the modeling revealed that the total sound levels will range from 35.4 dBA to 41.1 dBA. The proposed WTP with mitigation measures will increase sound levels at the nearest residences by 0.3 dBA to 6.0 dBA over the existing nighttime sound levels. Furthermore, the acoustic modeling calculations also confirm that the proposed WTP will not create any pure tones.

The total predicted mitigated sound levels at the closest site property line are quieter than the sound level measured during the daytime and nighttime with current WTP in operation.

The acoustic modeling results are presented in Attachment A.

TABLE 4

MASSDEP NOISE POLICY COMPLIANCE DEMONSTRATION FOR PROJECT SOUND LEVELS (PROPOSED PLANT DESIGN)

Receptor Locations	Lowest Measured Background Sound Level (L_{90}) (dBA)	Predicted Sound Level from the Project (dBA)	Total Predicted Sound Level (dBA)	Predicted Sound Level Increase (dBA)	Complies with MassDEP Noise Policy?
PL-1: South Site Property Line	35.1	43.8	44.3	9.2	Yes
PL-2: East Site Property Line	35.1	35.1	38.1	3.0	Yes
R1: 103 Skyline Drive, First Floor	35.1	40.0	41.2	6.1	Yes
R1:103 Skyline Drive, Second Floor	35.1	40.4	41.5	6.4	Yes
R2: 104 Skyline Drive, First Floor	35.1	41.0	42.0	6.9	Yes
R2: 104 Skyline Drive, Second Floor	35.1	41.6	42.5	7.4	Yes
R3: 105 Skyline Drive, First Floor	35.1	42.3	43.1	8.0	Yes
R3:105 Skyline Drive, Second Floor	35.1	43.2	43.8	8.7	Yes
R4: 107 Skyline Drive, First Floor	35.1	40.7	41.8	6.7	Yes
R4: 107 Skyline Drive, Second Floor	35.1	39.9	41.1	6.0	Yes
R5:109 Skyline Drive, First Floor	35.1	33.3	37.3	2.2	Yes
R5: 109 Skyline Drive, Second Floor	35.1	37.9	39.7	4.6	Yes

TABLE 4 (CONTINUED)

MASSDEP NOISE POLICY COMPLIANCE DEMONSTRATION FOR PROJECT SOUND LEVELS (PROPOSED PLANT DESIGN)

Receptor Locations	Lowest Measured Background Sound Level (L_{90}) (dBA)	Predicted Sound Level from the Project (dBA)	Total Predicted Sound Level (dBA)	Predicted Sound Level Increase (dBA)	Complies with MassDEP Noise Policy?
R6: 11 Hazelnut Street, First Floor	35.1	31.8	36.8	1.7	Yes
R6: 11 Hazelnut Street, Second Floor	35.1	32.2	36.9	1.8	Yes
R7: 9 Hazelnut Street, First Floor	35.1	31.2	36.6	1.5	Yes
R7: 9 Hazelnut Street, Second Floor	35.1	31.7	36.7	1.6	Yes
R8: 7 Hazelnut Street, First Floor	35.1	31.8	36.8	1.7	Yes
R8: 7 Hazelnut Street, Second Floor	35.1	31.8	36.8	1.7	Yes
R9: 5 Hazelnut Street, First Floor	35.1	31.7	36.7	1.6	Yes
R9: 5 Hazelnut Street, Second Floor	35.1	31.5	36.7	1.6	Yes

TABLE 5

MASSDEP NOISE POLICY COMPLIANCE DEMONSTRATION FOR PROJECT SOUND LEVELS (NOISE MITIGATION DESIGN)

Receptor Locations	Lowest Measured Background Sound Level (L_{90}) (dBA)	Predicted Sound Level from the Project (dBA)	Total Predicted Sound Level (dBA)	Predicted Sound Level Increase (dBA)	Complies with MassDEP Noise Policy?
PL-1: South Site Property Line	35.1	37.1	39.2	4.1	Yes
PL-2: East Site Property Line	35.1	28.0	35.9	0.8	Yes
R1: 103 Skyline Drive, First Floor	35.1	36.8	39.0	3.9	Yes
R1:103 Skyline Drive, Second Floor	35.1	38.4	40.1	5.0	Yes
R2: 104 Skyline Drive, First Floor	35.1	37.6	39.5	4.4	Yes
R2: 104 Skyline Drive, Second Floor	35.1	39.8	41.1	6.0	Yes
R3: 105 Skyline Drive, First Floor	35.1	35.9	38.5	3.4	Yes
R3:105 Skyline Drive, Second Floor	35.1	36.5	38.9	3.8	Yes
R4: 107 Skyline Drive, First Floor	35.1	33.6	37.4	2.3	Yes
R4: 107 Skyline Drive, Second Floor	35.1	33.6	37.4	2.3	Yes
R5:109 Skyline Drive, First Floor	35.1	27.8	35.8	0.7	Yes
R5: 109 Skyline Drive, Second Floor	35.1	31.3	36.6	1.5	Yes

TABLE 5 (CONTINUED)

MASSDEP NOISE POLICY COMPLIANCE DEMONSTRATION FOR PROJECT SOUND LEVELS (NOISE MITIGATION DESIGN)

Receptor Locations	Lowest Measured Background Sound Level (L_{90}) (dBA)	Predicted Sound Level from the Project (dBA)	Total Predicted Sound Level (dBA)	Predicted Sound Level Increase (dBA)	Complies with MassDEP Noise Policy?
R6: 11 Hazelnut Street, First Floor	35.1	24.7	35.5	0.4	Yes
R6: 11 Hazelnut Street, Second Floor	35.1	25.1	35.5	0.4	Yes
R7: 9 Hazelnut Street, First Floor	35.1	24.3	35.4	0.3	Yes
R7: 9 Hazelnut Street, Second Floor	35.1	24.7	35.5	0.4	Yes
R8: 7 Hazelnut Street, First Floor	35.1	24.4	35.5	0.4	Yes
R8: 7 Hazelnut Street, Second Floor	35.1	24.6	35.5	0.4	Yes
R9: 5 Hazelnut Street, First Floor	35.1	24.3	35.4	0.3	Yes
R9: 5 Hazelnut Street, Second Floor	35.1	24.3	35.4	0.3	Yes

ATTACHMENT A

ACOUSTIC MODELING RESULTS

Table 1
Maximum Sound Level Increases for Proposed Nagog Pond Treatment Facility

Receptor	Background Sound Level (dBA)	Predicted Facility Sound Level (dBA)	Total New Sound Level (dBA)	Increase Over Existing (dBA)
Closest Property Line	35.1	43.8	44.3	9.2
East Property Boundary	35.1	35.1	38.1	3.0
Skyline Dr # 103	35.1	40	41.2	6.1
Skyline Dr # 103	35.1	40.4	41.5	6.4
Skyline Dr # 104	35.1	41	42.0	6.9
Skyline Dr # 104	35.1	41.6	42.5	7.4
Skyline Dr # 105	35.1	42.3	43.1	8.0
Skyline Dr # 105	35.1	43.2	43.8	8.7
Skyline Dr # 107	35.1	40.7	41.8	6.7
Skyline Dr # 107	35.1	39.9	41.1	6.0
Skyline Dr #109	35.1	33.3	37.3	2.2
Skyline Dr #109	35.1	37.9	39.7	4.6
#5 Hazelnut	35.1	31.7	36.7	1.6
#5 Hazelnut	35.1	31.5	36.7	1.6
#7 Hazelnut	35.1	31.8	36.8	1.7
#7 Hazelnut	35.1	31.8	36.8	1.7
#9 Hazelnut	35.1	31.2	36.6	1.5
#9 Hazelnut	35.1	31.7	36.7	1.6
#11 Hazelnut	35.1	31.8	36.8	1.7
#11 Hazelnut	35.1	32.2	36.9	1.8

Table 2
Maximum Sound Level Increases for Proposed Nagog Pond Treatment Facility
With Reccommended Mitigation

Receptor	Background Sound Level (dBA)	Predicted Facility Sound Level (dBA)	Total New Sound Level (dBA)	Increase Over Existing (dBA)
Closest Property Line	35.1	37.1	39.2	4.1
East Property Boundary	35.1	28	35.9	0.8
Skyline Dr # 103	35.1	36.8	39.0	3.9
Skyline Dr # 103	35.1	38.4	40.1	5.0
Skyline Dr # 104	35.1	37.6	39.5	4.4
Skyline Dr # 104	35.1	39.8	41.1	6.0
Skyline Dr # 105	35.1	35.9	38.5	3.4
Skyline Dr # 105	35.1	36.5	38.9	3.8
Skyline Dr # 107	35.1	33.6	37.4	2.3
Skyline Dr # 107	35.1	33.6	37.4	2.3
Skyline Dr #109	35.1	27.8	35.8	0.7
Skyline Dr #109	35.1	31.3	36.6	1.5
#5 Hazelnut	35.1	24.3	35.4	0.3
#5 Hazelnut	35.1	24.3	35.4	0.3
#7 Hazelnut	35.1	24.4	35.5	0.4
#7 Hazelnut	35.1	24.6	35.5	0.4
#9 Hazelnut	35.1	24.3	35.4	0.3
#9 Hazelnut	35.1	24.7	35.5	0.4
#11 Hazelnut	35.1	24.7	35.5	0.4
#11 Hazelnut	35.1	25.1	35.5	0.4

Table 1
Maximum Octave Band Sound Levels from Proposed Nagog Pond Treatment Facility

Receptor	31	63	125	250	500	1000	2000	4000	8000
Closest Property Line	46.6	45.9	43.8	43.4	40.4	37.8	35.2	35.4	19.1
East Property Boundary	40.5	40.1	36.5	34.7	31.9	30.1	27.1	23	4.2
Skyline Dr # 103	42.5	41.6	41.1	41	37.5	33.9	30.6	29.6	11.3
Skyline Dr # 103	40.7	39.9	40.3	41.1	38.2	34.2	30.6	30.7	9.5
Skyline Dr # 104	44.4	43.6	41.8	41.3	38.1	35.3	32.1	31	14.4
Skyline Dr # 104	41.7	41.2	41.3	42.4	40	35	31.5	31.7	11.5
Skyline Dr # 105	45.7	44.9	42.6	42	39	36.5	33.5	33.6	17
Skyline Dr # 105	45.4	44	43.7	43.9	41.2	36.9	33.5	33.4	14.9
Skyline Dr # 107	44.4	44	41.5	40	37.4	35.6	32.7	30.2	14.8
Skyline Dr # 107	42.3	42.2	40.5	40.5	37.4	34.3	30.8	28.5	11.5
Skyline Dr #109	38.7	38.3	36.6	35.5	31.2	27.2	22.9	18.4	0.2
Skyline Dr #109	40	39.5	38.1	38.7	35.4	32.5	29.2	25.6	7.3
#5 Hazelnut	36.2	35.8	32.6	31.3	28.7	27.1	23.4	17.7	0
#5 Hazelnut	33.4	33	31.6	32.3	29.2	26.5	22.5	16.6	0
#7 Hazelnut	36.3	35.9	32.9	31.5	28.9	27.2	23.4	17.6	0
#7 Hazelnut	33.6	33.1	31.9	32.6	29.4	26.8	22.8	17	0
#9 Hazelnut	35.3	35	32.8	31.5	28.5	26.2	22.9	17.2	0
#9 Hazelnut	33.7	33.1	32.2	32.6	29.6	26.5	22.8	17.1	0
#11 Hazelnut	36.1	35.7	33.1	31.8	29.1	27	23.2	17.2	0
#11 Hazelnut	35.8	35.3	32.9	33	29.8	27.1	23.3	17.1	0

Table 2
Maximum Octave Band Sound Levels from Proposed Nagog Pond Treatment Facility
With Reccommended Mitigation

Receptor	31	63	125	250	500	1000	2000	4000	8000
Closest Property Line	45.4	44.4	43.2	40.2	34.8	29.6	25.5	22.8	10.2
East Property Boundary	39.4	39.1	34.5	29.9	25	21.8	17.9	12.2	0
Skyline Dr # 103	41.1	40.4	40.2	39.6	35	28.7	25	26.6	2.9
Skyline Dr # 103	39.7	39.1	39.4	39.5	36.5	31.5	27.7	29.6	2.6
Skyline Dr # 104	43	42.1	41.3	39.6	35.4	30	26.4	28.3	6
Skyline Dr # 104	40.7	40.2	40.4	41	38.6	32.2	28.4	30.4	4.5
Skyline Dr # 105	44.3	43.3	42	38.9	33.6	28.5	24.4	21.5	8.4
Skyline Dr # 105	43.3	42.4	41	39.6	34.6	29.5	25	21.8	6.7
Skyline Dr # 107	42.4	42.2	38.8	35.8	30.7	27.2	24.3	19.6	6.3
Skyline Dr # 107	40.8	40.7	38.2	36.4	31.4	27.2	22.8	18.1	3.3
Skyline Dr #109	37.5	37.2	34.8	31.2	25.3	20.5	15.7	9.5	0
Skyline Dr #109	38.6	38.3	35.8	34.1	28.6	25	21	15.4	0
#5 Hazelnut	34.3	34.1	29.9	26.3	21.7	18.4	14.1	6.9	0
#5 Hazelnut	32	31.8	29.1	27.1	22	18	13.5	6.2	0
#7 Hazelnut	34.3	34.2	30.1	26.5	21.8	18.6	14.2	7	0
#7 Hazelnut	32.2	32	29.3	27.3	22.1	18.4	14.2	6.8	0
#9 Hazelnut	33.7	33.5	30.2	26.8	21.5	18	14.1	7.1	0
#9 Hazelnut	32.2	32	29.5	27.3	22.2	18.4	14.6	6.7	0
#11 Hazelnut	34.1	34	30.3	26.9	21.9	18.6	14.8	6.9	0
#11 Hazelnut	34	33.8	29.9	27.6	22.3	19.3	14.8	6.6	0

ATTACHMENT H
ORDER OF CONDITIONS

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

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

Provided by MassDEP:
85-1188
MassDEP File #

eDEP Transaction #

Acton
City/Town

A. General Information

Please note: this form has been modified with added space to accommodate the Registry of Deeds Requirements

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

1. From: Acton
Conservation Commission

2. This issuance is for (check one): a. ☒ Order of Conditions b. ☐ Amended Order of Conditions

3. To: Applicant:

Alan
a. First Name

Cathcart
b. Last Name

Concord Water and Sewer Division
c. Organization

135 Keyes Road
d. Mailing Address

Concord
e. City/Town

MA
f. State

01720
g. Zip Code

4. Property Owner (if different from applicant):

a. First Name

b. Last Name

c. Organization

d. Mailing Address

e. City/Town

f. State

g. Zip Code

5. Project Location:

180 Skyline Dr/182 Skyline Dr
a. Street Address

Acton
b. City/Town

C4
c. Assessors Map/Plat Number

14 & 32
d. Parcel/Lot Number

Latitude and Longitude, if known: d m s
d. Latitude

d m s
e. Longitude

A. General Information (cont.)

6. Property recorded at the Registry of Deeds for (attach additional information if more than one parcel):

Middlesex	
a. County	b. Certificate Number (if registered land)
64577	571
c. Book	d. Page

7. Dates:

Nov. 18, 2015	Jan. 6, 2016	Jan. 6, 2016
a. Date Notice of Intent Filed	b. Date Public Hearing Closed	c. Date of Issuance

8. Final Approved Plans and Other Documents (attach additional plan or document references as needed):

Nagog Pond Water Treatment Plant	
a. Plan Title	
Environmental Partners Group, Inc.	Stephen C. Olson. P.E.
b. Prepared By	c. Signed and Stamped by
November 2015	As shown
d. Final Revision Date	e. Scale
Permitting Design Plans	
f. Additional Plan or Document Title	g. Date

B. Findings

1. Findings pursuant to the Massachusetts Wetlands Protection Act:

Following the review of the above-referenced Notice of Intent and based on the information provided in this application and presented at the public hearing, this Commission finds that the areas in which work is proposed is significant to the following interests of the Wetlands Protection Act (the Act). Check all that apply:

a. ☒ Public Water Supply
b. ☐ Land Containing Shellfish
c. ☐ Prevention of Pollution
d. ☐ Private Water Supply
e. ☐ Fisheries
f. ☒ Protection of Wildlife Habitat
g. ☒ Groundwater Supply
h. ☒ Storm Damage Prevention
i. ☒ Flood Control

2. This Commission hereby finds the project, as proposed, is: (check one of the following boxes)

Approved subject to:

a. ☒ the following conditions which are necessary in accordance with the performance standards set forth in the wetlands regulations. This Commission orders that all work shall be performed in accordance with the Notice of Intent referenced above, the following General Conditions, and any other special conditions attached to this Order. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, these conditions shall control.

B. Findings (cont.)

Denied because:

b. ☐ the proposed work cannot be conditioned to meet the performance standards set forth in the wetland regulations. Therefore, work on this project may not go forward unless and until a new Notice of Intent is submitted which provides measures which are adequate to protect the interests of the Act, and a final Order of Conditions is issued. **A description of the performance standards which the proposed work cannot meet is attached to this Order.**

c. ☐ the information submitted by the applicant is not sufficient to describe the site, the work, or the effect of the work on the interests identified in the Wetlands Protection Act. Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides sufficient information and includes measures which are adequate to protect the Act's interests, and a final Order of Conditions is issued. **A description of the specific information which is lacking and why it is necessary is attached to this Order as per 310 CMR 10.05(6)(c).**

3. ☐ Buffer Zone Impacts: Shortest distance between limit of project disturbance and the wetland resource area specified in 310 CMR 10.02(1)(a) _____ a. linear feet

Inland Resource Area Impacts: Check all that apply below. (For Approvals Only)

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
4. ☐ Bank	a. linear feet	b. linear feet	c. linear feet	d. linear feet
5. ☐ Bordering Vegetated Wetland	a. square feet	b. square feet	c. square feet	d. square feet
6. ☒ Land Under Waterbodies and Waterways	4,952 a. square feet	b. square feet	c. square feet	d. square feet
	425 e. c/y dredged	f. c/y dredged		
7. ☐ Bordering Land Subject to Flooding	a. square feet	b. square feet	c. square feet	d. square feet
Cubic Feet Flood Storage	e. cubic feet	f. cubic feet	g. cubic feet	h. cubic feet
8. ☐ Isolated Land Subject to Flooding	a. square feet	b. square feet		
Cubic Feet Flood Storage	c. cubic feet	d. cubic feet	e. cubic feet	f. cubic feet
9. ☐ Riverfront Area	a. total sq. feet	b. total sq. feet		
Sq ft within 100 ft	c. square feet	d. square feet	e. square feet	f. square feet
Sq ft between 100-200 ft	g. square feet	h. square feet	i. square feet	j. square feet

B. Findings (cont.)

Coastal Resource Area Impacts: Check all that apply below. (For Approvals Only)

	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
10. ☐ Designated Port Areas	Indicate size under Land Under the Ocean, below			
11. ☐ Land Under the Ocean	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
12. ☐ Barrier Beaches	Indicate size under Coastal Beaches and/or Coastal Dunes below			
13. ☐ Coastal Beaches	a. square feet	b. square feet	c. nourishment cu yd	d. nourishment cu yd
14. ☐ Coastal Dunes	a. square feet	b. square feet	c. nourishment cu yd	d. nourishment cu yd
15. ☐ Coastal Banks	a. linear feet	b. linear feet		
16. ☐ Rocky Intertidal Shores	a. square feet	b. square feet		
17. ☐ Salt Marshes	a. square feet	b. square feet	c. square feet	d. square feet
18. ☐ Land Under Salt Ponds	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
19. ☐ Land Containing Shellfish	a. square feet	b. square feet	c. square feet	d. square feet
20. ☐ Fish Runs	Indicate size under Coastal Banks, Inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above			
	a. c/y dredged	b. c/y dredged		
21. ☐ Land Subject to Coastal Storm Flowage	a. square feet	b. square feet		

B. Findings (cont.)

* **#22.** If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.5.c (BVW) or B.17.c (Salt Marsh) above, please enter the additional amount here.

22. ☐ Restoration/Enhancement *:

a. square feet of BVW _____ b. square feet of salt marsh _____

23. ☐ Stream Crossing(s):

a. number of new stream crossings _____ b. number of replacement stream crossings _____

C. General Conditions Under Massachusetts Wetlands Protection Act

The following conditions are only applicable to Approved projects.

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Order.
2. The Order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.
3. This Order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.
4. The work authorized hereunder shall be completed within three years from the date of this Order unless either of the following apply:
   a. The work is a maintenance dredging project as provided for in the Act; or
   b. The time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance. If this Order is intended to be valid for more than three years, the extension date and the special circumstances warranting the extended time period are set forth as a special condition in this Order.
   c. If the work is for a Test Project, this Order of Conditions shall be valid for no more than one year.
5. This Order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Order. An Order of Conditions for a Test Project may be extended for one additional year only upon written application by the applicant, subject to the provisions of 310 CMR 10.05(11)(f).
6. If this Order constitutes an Amended Order of Conditions, this Amended Order of Conditions does not extend the issuance date of the original Final Order of Conditions and the Order will expire on _____ unless extended in writing by the Department.
7. Any fill used in connection with this project shall be clean fill. Any fill shall contain no trash, refuse, rubbish, or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles, or parts of any of the foregoing.

C. General Conditions Under Massachusetts Wetlands Protection Act

8. This Order is not final until all administrative appeal periods from this Order have elapsed, or if such an appeal has been taken, until all proceedings before the Department have been completed.

9. No work shall be undertaken until the Order has become final and then has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of the registered land, the Final Order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is done. The recording information shall be submitted to the Conservation Commission on the form at the end of this Order, which form must be stamped by the Registry of Deeds, prior to the commencement of work.

10. A sign shall be displayed at the site not less then two square feet or more than three square feet in size bearing the words,

    "Massachusetts Department of Environmental Protection" [or, "MassDEP"]

    "File Number 85-1188 "

11. Where the Department of Environmental Protection is requested to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before MassDEP.

12. Upon completion of the work described herein, the applicant shall submit a Request for Certificate of Compliance (WPA Form 8A) to the Conservation Commission.

13. The work shall conform to the plans and special conditions referenced in this order.

14. Any change to the plans identified in Condition #13 above shall require the applicant to inquire of the Conservation Commission in writing whether the change is significant enough to require the filing of a new Notice of Intent.

15. The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.

16. This Order of Conditions shall apply to any successor in interest or successor in control of the property subject to this Order and to any contractor or other person performing work conditioned by this Order.

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

17. Prior to the start of work, and if the project involves work adjacent to a Bordering Vegetated Wetland, the boundary of the wetland in the vicinity of the proposed work area shall be marked by wooden stakes or flagging. Once in place, the wetland boundary markers shall be maintained until a Certificate of Compliance has been issued by the Conservation Commission.

18. All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland or water body. During construction, the applicant or his/her designee shall inspect the erosion controls on a daily basis and shall remove accumulated sediments as needed. The applicant shall immediately control any erosion problems that occur at the site and shall also immediately notify the Conservation Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary. Sedimentation barriers shall serve as the limit of work unless another limit of work line has been approved by this Order.

19. The work associated with this Order (the "Project")
    (1) ☒ is subject to the Massachusetts Stormwater Standards
    (2) ☐ is NOT subject to the Massachusetts Stormwater Standards

    If the work is subject to the Stormwater Standards, then the project is subject to the following conditions:

    a) All work, including site preparation, land disturbance, construction and redevelopment, shall be implemented in accordance with the construction period pollution prevention and erosion and sedimentation control plan and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Construction General Permit as required by Stormwater Condition 8. Construction period erosion, sedimentation and pollution control measures and best management practices (BMPs) shall remain in place until the site is fully stabilized.

    b) No stormwater runoff may be discharged to the post-construction stormwater BMPs unless and until a Registered Professional Engineer provides a Certification that:
    i. all construction period BMPs have been removed or will be removed by a date certain specified in the Certification. For any construction period BMPs intended to be converted to post construction operation for stormwater attenuation, recharge, and/or treatment, the conversion is allowed by the MassDEP Stormwater Handbook BMP specifications and that the BMP has been properly cleaned or prepared for post construction operation, including removal of all construction period sediment trapped in inlet and outlet control structures;
    ii. as-built final construction BMP plans are included, signed and stamped by a Registered Professional Engineer, certifying the site is fully stabilized;
    iii. any illicit discharges to the stormwater management system have been removed, as per the requirements of Stormwater Standard 10;

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

iv. all post-construction stormwater BMPs are installed in accordance with the plans (including all planting plans) approved by the issuing authority, and have been inspected to ensure that they are not damaged and that they are in proper working condition;

v. any vegetation associated with post-construction BMPs is suitably established to withstand erosion.

c) The landowner is responsible for BMP maintenance until the issuing authority is notified that another party has legally assumed responsibility for BMP maintenance. Prior to requesting a Certificate of Compliance, or Partial Certificate of Compliance, the responsible party (defined in General Condition 18(e)) shall execute and submit to the issuing authority an Operation and Maintenance Compliance Statement ("O&M Statement) for the Stormwater BMPs identifying the party responsible for implementing the stormwater BMP Operation and Maintenance Plan ("O&M Plan") and certifying the following:

i.) the O&M Plan is complete and will be implemented upon receipt of the Certificate of Compliance, and

ii.) the future responsible parties shall be notified in writing of their ongoing legal responsibility to operate and maintain the stormwater management BMPs and implement the Stormwater Pollution Prevention Plan.

d) Post-construction pollution prevention and source control shall be implemented in accordance with the long-term pollution prevention plan section of the approved Stormwater Report and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Multi-Sector General Permit.

e) Unless and until another party accepts responsibility, the landowner, or owner of any drainage easement, assumes responsibility for maintaining each BMP. To overcome this presumption, the landowner of the property must submit to the issuing authority a legally binding agreement of record, acceptable to the issuing authority, evidencing that another entity has accepted responsibility for maintaining the BMP, and that the proposed responsible party shall be treated as a permittee for purposes of implementing the requirements of Conditions 18(f) through 18(k) with respect to that BMP. Any failure of the proposed responsible party to implement the requirements of Conditions 18(f) through 18(k) with respect to that BMP shall be a violation of the Order of Conditions or Certificate of Compliance. In the case of stormwater BMPs that are serving more than one lot, the legally binding agreement shall also identify the lots that will be serviced by the stormwater BMPs. A plan and easement deed that grants the responsible party access to perform the required operation and maintenance must be submitted along with the legally binding agreement.

f) The responsible party shall operate and maintain all stormwater BMPs in accordance with the design plans, the O&M Plan, and the requirements of the Massachusetts Stormwater Handbook.

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

g) The responsible party shall:
1. Maintain an operation and maintenance log for the last three (3) consecutive calendar years of inspections, repairs, maintenance and/or replacement of the stormwater management system or any part thereof, and disposal (for disposal the log shall indicate the type of material and the disposal location);
2. Make the maintenance log available to MassDEP and the Conservation Commission ("Commission") upon request; and
3. Allow members and agents of the MassDEP and the Commission to enter and inspect the site to evaluate and ensure that the responsible party is in compliance with the requirements for each BMP established in the O&M Plan approved by the issuing authority.

h) All sediment or other contaminants removed from stormwater BMPs shall be disposed of in accordance with all applicable federal, state, and local laws and regulations.

i) Illicit discharges to the stormwater management system as defined in 310 CMR 10.04 are prohibited.

j) The stormwater management system approved in the Order of Conditions shall not be changed without the prior written approval of the issuing authority.

k) Areas designated as qualifying pervious areas for the purpose of the Low Impact Site Design Credit (as defined in the MassDEP Stormwater Handbook, Volume 3, Chapter 1, Low Impact Development Site Design Credits) shall not be altered without the prior written approval of the issuing authority.

l) Access for maintenance, repair, and/or replacement of BMPs shall not be withheld. Any fencing constructed around stormwater BMPs shall include access gates and shall be at least six inches above grade to allow for wildlife passage.

Special Conditions (if you need more space for additional conditions, please attach a text document):

See page 14...

20. For Test Projects subject to 310 CMR 10.05(11), the applicant shall also implement the monitoring plan and the restoration plan submitted with the Notice of Intent. If the conservation commission or Department determines that the Test Project threatens the public health, safety or the environment, the applicant shall implement the removal plan submitted with the Notice of Intent or modify the project as directed by the conservation commission or the Department.

D. Findings Under Municipal Wetlands Bylaw or Ordinance

1. Is a municipal wetlands bylaw or ordinance applicable? ☒ Yes ☐ No

2. The Acton (Conservation Commission) hereby finds (check one that applies):

   a. ☐ that the proposed work cannot be conditioned to meet the standards set forth in a municipal ordinance or bylaw, specifically:

   1. Municipal Ordinance or Bylaw _____ 2. Citation _____

   Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides measures which are adequate to meet these standards, and a final Order of Conditions is issued.

   b. ☐ that the following additional conditions are necessary to comply with a municipal ordinance or bylaw:

   1. Municipal Ordinance or Bylaw _____ 2. Citation _____

3. The Commission orders that all work shall be performed in accordance with the following conditions and with the Notice of Intent referenced above. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, the conditions shall control.
   The special conditions relating to municipal ordinance or bylaw are as follows (if you need more space for additional conditions, attach a text document):

E. Signatures

This Order is valid for three years, unless otherwise specified as a special condition pursuant to General Conditions #4, from the date of issuance.

Jan 6, 2016
1. Date of Issuance

Please indicate the number of members who will sign this form.
This Order must be signed by a majority of the Conservation Commission.

5
2. Number of Signers

The Order must be mailed by certified mail (return receipt requested) or hand delivered to the applicant. A copy also must be mailed or hand delivered at the same time to the appropriate Department of Environmental Protection Regional Office, if not filing electronically, and the property owner, if different from applicant.

Signatures:

James C. Colman

Terrence Maitland

Paula Goodwin

William Forberg

☐ by hand delivery on

Date

☒ by certified mail, return receipt requested, on

Jan. 8, 2016

Date

F. Appeals

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land subject to this Order, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate MassDEP Regional Office to issue a Superseding Order of Conditions. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and a completed Request for Departmental Action Fee Transmittal Form, as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Order. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

Any appellants seeking to appeal the Department's Superseding Order associated with this appeal will be required to demonstrate prior participation in the review of this project. Previous participation in the permit proceeding means the submission of written information to the Conservation Commission prior to the close of the public hearing, requesting a Superseding Order, or providing written information to the Department prior to issuance of a Superseding Order.

The request shall state clearly and concisely the objections to the Order which is being appealed and how the Order does not contribute to the protection of the interests identified in the Massachusetts Wetlands Protection Act (M.G.L. c. 131, § 40), and is inconsistent with the wetlands regulations (310 CMR 10.00). To the extent that the Order is based on a municipal ordinance or bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.

G. Recording Information

Prior to commencement of work, this Order of Conditions must be recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land subject to the Order. In the case of registered land, this Order shall also be noted on the Land Court Certificate of Title of the owner of the land subject to the Order of Conditions. The recording information on this page shall be submitted to the Conservation Commission listed below.

Acton
Conservation Commission

Detach on dotted line, have stamped by the Registry of Deeds and submit to the Conservation Commission.

To:

Acton
Conservation Commission

Please be advised that the Order of Conditions for the Project at:

180 & 182 Skyline Drive, Acton — Project Location
85-1188 — MassDEP File Number

Has been recorded at the Registry of Deeds of:

County _____ Book _____ Page _____

for: _____
Property Owner

and has been noted in the chain of title of the affected property in:

Book _____ Page _____

In accordance with the Order of Conditions issued on:

_____
Date

If recorded land, the instrument number identifying this transaction is:

_____
Instrument Number

If registered land, the document number identifying this transaction is:

_____
Document Number

_____
Signature of Applicant

STANDARD CONDITIONS
REQUIRED UNDER THE TOWN OF ACTON WETLAND PROTECTION BYLAW
CHAPTER F

1. No work shall be undertaken until the Order of Conditions has been reviewed and is clearly understood by the Contractor or his agent. It is the Applicant's responsibility to see that the Contractor clearly understands all items herein.
2. This Order of Conditions shall apply to any successor in interest or successor in control.
3. Members and agents of the Conservation Commission shall have the right to enter and inspect the premises to evaluate compliance with the Order and to require the submittal of any data deemed necessary by the Commission for that evaluations.
4. All drainage facilities and related structures and equipment shall be continually operated and maintained so as to comply with this Order of Conditions. The operation and maintenance of the facilities and structures shall be on-going and will not expire at the end of one year or with the issuance of the Certificate of Compliance.
5. Any change made, or intended to be made, in the plans shall require the applicant to file a new Notice of Intent, or to inquire of the Commission, in writing, whether the change is substantial enough to require a new filing.
6. The Conservation Commission shall have the right to file this Order of Conditions in the Registry of Deeds should the applicant fail to do so within 60 days.
7. Accepted engineering and construction standards and procedures shall be followed in the completion of this project.
8. The Commission shall be notified in writing 10 days prior to the commencement of any site work. Failure to so notify the Commission shall result in the issuance of an Enforcement Order.
9. The Petitioner is advised that this Order in no way absolves him of responsibility to other property owners upon whose land he discharges water directly or indirectly.
10. Erosion control measures consisting of staked haybales unless otherwise approved by the Commission shall be installed during the first phase of construction and the Commission shall be notified of their placement and no work shall begin before inspection by the Commission.
11. Any materials collected by the erosion control measures shall be removed and properly disposed of.
12. All work shall be completed as quickly as possible to minimize the duration of exposure of disturbed areas. If work is suspended for a significant period of time (i.e. as during winter months), then temporary stabilization methods must be employed and maintained during the period of inactivity.
13. No salt or other deicing chemicals shall be used on roadways and parking areas on the site.
14. This order applies only to the work described in the Notice of Intent and shown on the plans referenced in Condition 12. A Determination of Applicability Form must be filed for any additional work on site in areas governed by the Town of Acton Wetlands Protection Bylaw.
15. All disturbed areas shall be top-soiled six inches and seeded.
16. Violation of any condition of this Order may result in the issuance of an Enforcement Order. Such Enforcement Order, if issued, will require the immediate cessation of all work until a hearing is held; such hearing will be held not more than 10 days from the issuance of the Enforcement Order.
17. The work authorized hereunder by the Acton Wetlands Protection Bylaw shall be completed within three years from the date of this Order unless the Order is renewed prior to expiration.
18. A fifty (50) foot setback of natural vegetation shall be maintained up-gradient from the wetland.
19. No construction, either temporary or permanent, shall occur within seventy-five (75) feet of the edge of wetlands. This shall include driveways, roadways, residential, commercial or industrial structures.
20. There shall be no use of fertilizers, pesticides, herbicides or chemicals of any kind within the fifty (50) foot no disturbance zone.

21. There shall be no underground storage of gasoline, oil or other fuels or hazardous materials within the one-hundred (100) foot buffer zone.
22. The Commission reserves the right to impose additional conditions to mitigate any actual or potential impacts resulting from the permitted work.
23. All hay bales placed for siltation prevention must be removed from the site within 30 days of the stabilization of the area of activity.
24. The work shall conform to the following plans and special conditions:

SPECIAL CONDITIONS REQUIRED BY THE ACTON CONSERVATION COMMISSION:

1. A detailed de-watering sequence and environmental impact report shall be submitted to the Conservation Commission review prior to the commencement of de-watering. The report will include an analysis of wildlife habitat impacts, both aquatic and buffer zone.
2. At the applicant's expense, a third party monitor, approved by the Acton Conservation Commission, will be retained to be on-site periodically throughout the de-watering process. The monitor will be responsible for scheduling weekly meetings with the Acton Natural Resources Department to review environmental compliance.