

**STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BOARD OF ENVIRONMENTAL PROTECTION**

IN THE MATTER OF

NORDIC AQUAFARMS, INC.
Belfast and Northport
Waldo County, Maine

:
:APPLICATIONS FOR AIR EMISSION,
:SITE LOCATION OF DEVELOPMENT,
:NATURAL RESOURCES PROTECTION
:ACT, and MAIN POLLUTANT
:DISCHARGE ELIMINATION SYSTEM
:(MEPDES)/WASTE DISCHARGE
:LICENSE

A-1146-71-A-N
L-28319-26-A-N
L-28319-TG-B-N
L-28319-4E-C-N
L-28319-L6-D-N
L-28319-TW-E-N
W-009200-6F-A-N

:
:
:
:
:
:
:

EXHIBIT NVC/UPSTREAM 10
TESTIMONY OF *MICHAEL LANNAN* WITH ATTACHMENTS

BLASTING

I. Permitting Requirements Needed for Blasting

Blasting sound power causes impact pulses, audible sounds, and physical vibration. These impulsive releases can cause damages to structures. The impact pulses and sounds are included in 06-096, Chapter 375 Section 10. Control of Noise.

The burden of proof lies with the Applicant to demonstrate to the Department that the construction, operation and maintenance of the development may cause excessive noise vibration that could degrade the health and welfare of nearby neighbors. Blasting is part of the total sound experienced and is cover in 06-096 Chapter 375 Section 10(C)(4).

Blasting is covered in the Site Law Statute in 38 M.R.S. §484 (9). It reads:

“9. Blasting. Blasting will be conducted in accordance with the standards in section 490-Z, subsection 14 unless otherwise approved by the department.”

Examining the potential for damage from normal blasting vibrations is covered under 38 M.R.S. §490-Z (14):

“14. A preblast survey is required for all production blasting and must extend a minimum radius of 1/2 mile from the blast site. The preblast survey must document any preexisting damage to structures and buildings and any other physical features within the survey radius that could reasonably be affected by blasting.”

In the Maine DEP Site Location of Development (Site Law) application forms, it states the following in regards to what needs to be provided in the blasting plan:

- A. Site plan. *A site plan indicating proposed blast areas at the project site and locations of all offsite structures and wells not owned or controlled by the applicant within 2000 feet of any blast site unless a lesser distance is approved in writing by the department.*
- B. Report. *A report prepared by a qualified professional that includes the following.*
 - (1) *Assessment. Assessment of the potential for adverse effects of blasting on protected natural resources and structures and wells not owned or controlled by the applicant considering, at a minimum, ground vibration, peak particle velocities, noise and airblast effects and on-site and offsite ground and surface water quality and quantity.*
 - (2) *Blasting plan. Provide a blasting plan which addresses methods to control adverse effects from ground vibration, airblast and flyrock; provides details on the proposed blast design, monitoring of blasts (as applicable), a blast schedule; and includes provisions for pre-blast surveys, signage, warnings, and access control during blast events in conformance with Title 38 MRSA § 490-Z (14).*

The Blasting Plan provided lacks information, and contains inconsistencies, which make it difficult for Maine DEP to determine whether the project would have any adverse sound or vibration effects of blasting.

II. Inconsistent, and Lack of Information making it Impossible for Proper Review

In the Blasting Plan prepared by Maine Drilling & Blasting, Inc. a Pre-Blast Survey Drawing was provided showing the project site, with an outline outside the project area, labeled as the “**Potential Blasting Limits**”. The limits are outside of the project site, and onto protected locations, and it is unclear what the drawing is trying to depict with outlining the potential blasting limits. That figure is included as Attachment A. Please note that according to this plan, blasting could occur adjacent to the existing lower dam structure. Both the lower and upper dams are old and in disrepair, water leaks through cracks in the upper dam during higher reservoir levels. Clearly, there is no “*Assessment of the potential for adverse effects of blasting on protected natural resources and structures* (i.e. the old dams).

The Applicant submitted Section 20: Blasting as part of their SLODA application, this section text starts with “**Based on the geotechnical investigations presented in Section 11, project development is expected to require blasting of approximately 18,000 cubic yards of bedrock during the construction of Site buildings and ocean pipeline infrastructure.**” The Applicant does not provide any supporting data on how they determined that 18,000 cubic yards of bedrock would need to be blasted. The figure provided in this section also does not indicate what areas on the site would be blasted to get to the determined volume of 18,000 cubic yards.

Section 20 introduction paragraph also states that “**A site plan showing anticipated blasting areas, based on existing information about subsurface conditions, is presented as Figure 20-1**” Attachment B. The text refers to this figure showing the blasting area, but instead it is a figure titled “**Ledge Removal Plan**”. The legend indicates only where there is supposed to be ledge removal and contours of the bedrock depth. It is unclear whether the bedrock depth is AMSL or below existing grade. The figure also shows a line accompanied by a 90° angle in the upper left hand corner where the ledge removal area is flush with the edges of Grow Module 2. This line does not make sense, because in the Geotechnical Engineering Report, the provided boring information does not indicate that there is any knowledge of bedrock like this in this area. Also, **there is no ledge shown near the wastewater plant**. The figure is clearly not representative of expected blasting zones as provided in the blast

The Geotechnical Engineering Report also raises even more inconsistencies with the information that the applicant has provided. For example borings B301, and B302 both show in the boring logs that bedrock is reached at 21.7’ and 20.4’ respectively. However, in the 6/25/2019 RFI response, Tables 1 and 2 only call out the “**Depth to Till**” as the proposed excavation depth, and the figures provided in the Blasting Plan suggest that intent is to reach bedrock. Tables 1 and 2 do refer to the excavation depth as depth to bedrock. The depth to bedrock and to till do not match up.

It is unclear whether the Applicant has truly determined the bedrock that must be removed, and therefore it is impossible for a determination of what type of annoyance or vibration impact could occur from this

III. Best Managing Practices

If Best Managing Practices were being used then the applicant would have provided a site plan of the exact areas they were proposing to have blasting occur, a schedule of the number of expected blast days, and the number of blasts per day. There are no calculations of how many cubic yards would have to be blasted, and it cannot be determined from the inconsistent submittals.

These inconsistencies and the lack of information provided in the Blasting Plan is again an example of how the application is lacking in viable information and that the information provided has continued to change throughout the application process.

NVC/UPSTREAM 10

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Michael Lannan

Date: 12/16/2019

Printed Name: Michael Lannan
Title: President

Parties Assisting:

Name:	Address:	Signature: _____
Name:	Address:	Signature: _____

NYC / UPSTREAM 10

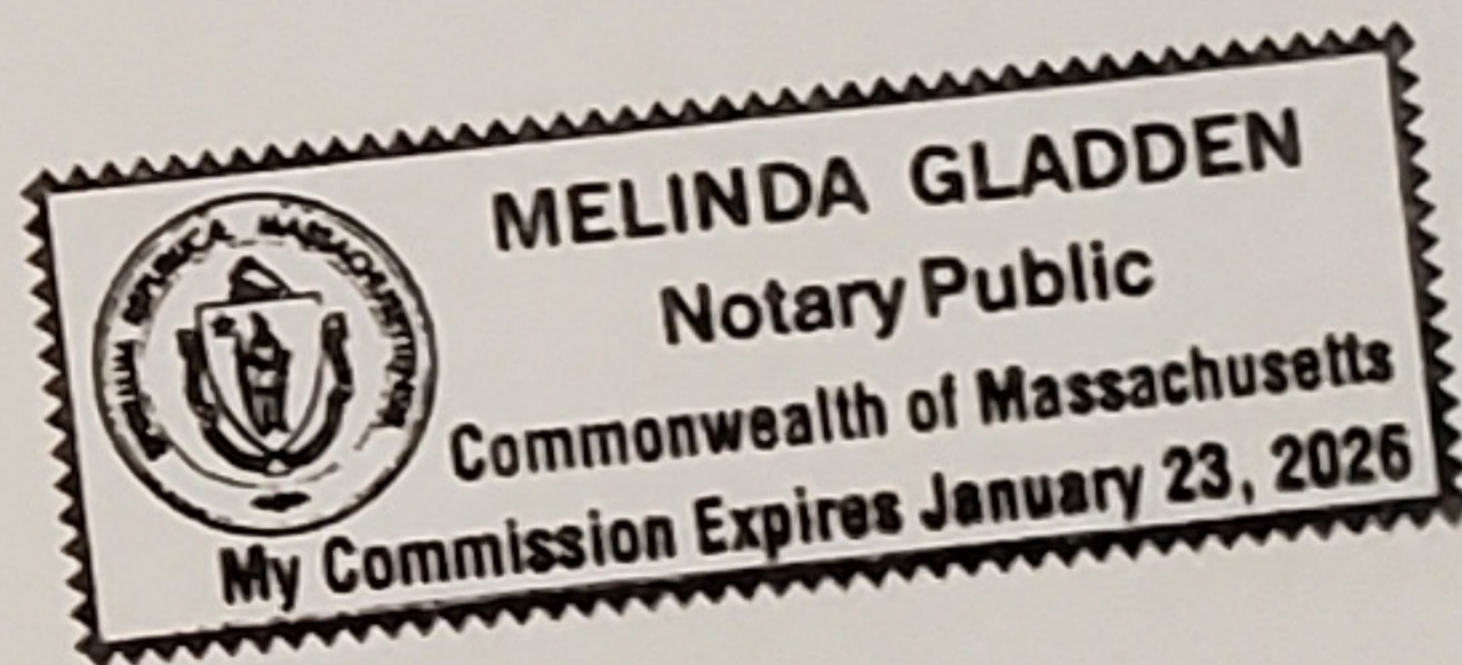
STATE OF MASSACHUSETTS

COUNTY OF Middlesex

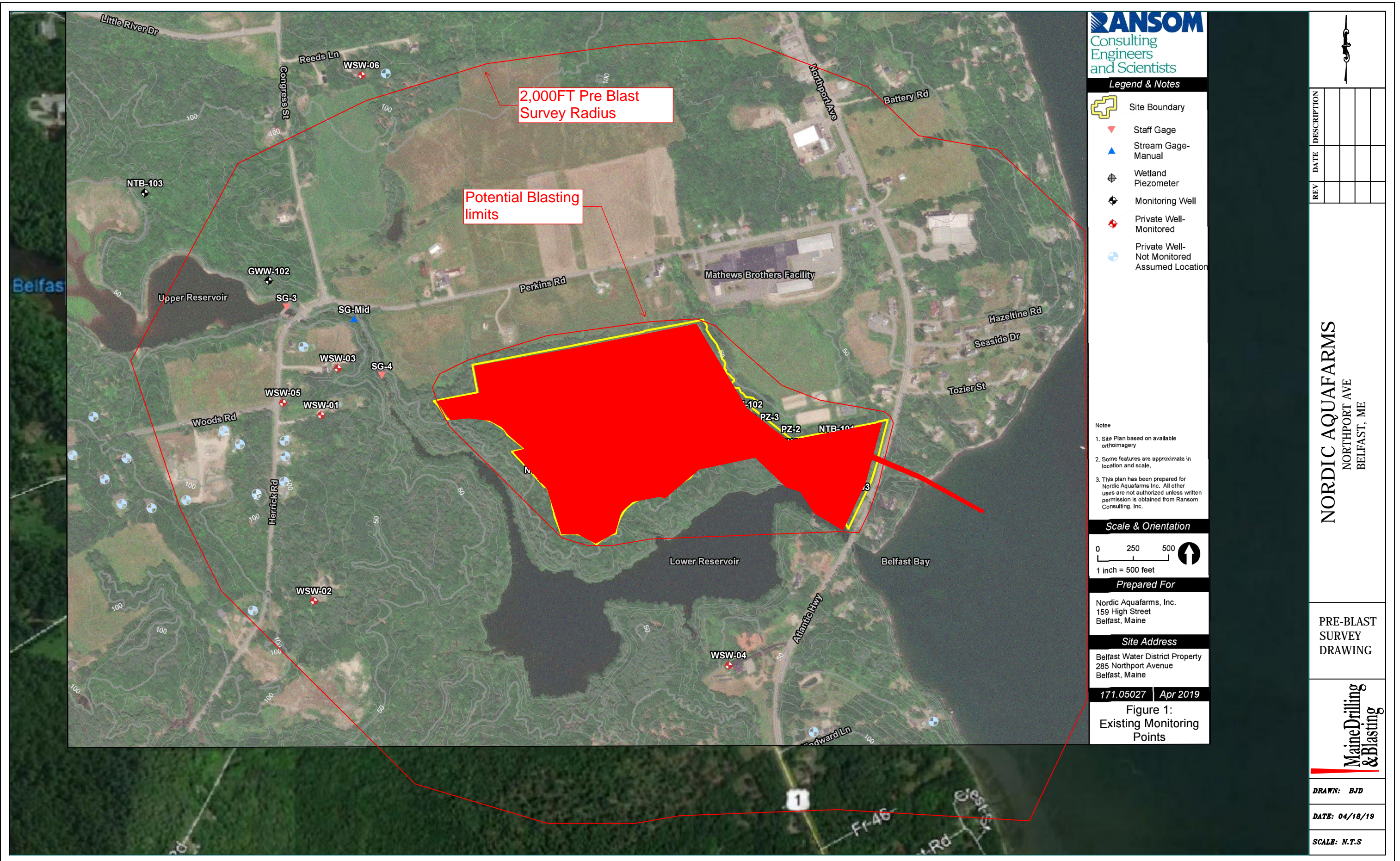
PERSONALLY APPEARED, Muralidharan, WHO, UNDERSTANDING THE MEANING OF AN OATH,
SWORE THAT THE FORGOING TESTIMONY IS TRUE TO THE BEST OF HIS/HER KNOWLEDGE AND BELIEF,
THIS 16th DAY OF DECEMBER 2019.

NOTARY PUBLIC

Melinda Gladden
MY COMMISSION EXPIRES:



Attachment A



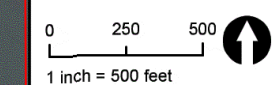
Legend & Notes

- Site Boundary
- Staff Gage
- Stream Gage-Manual
- Wetland Piezometer
- Monitoring Well
- Private Well-Monitored
- Private Well-Not Monitored Assumed Location

Notes

1. Site Plan based on available orthoimagery
2. Some features are approximate in location and scale.
3. This plan has been prepared for Nordic Aquafarms Inc. All other uses are not authorized unless written permission is obtained from Ransom Consulting, Inc.

Scale & Orientation



Prepared For

Nordic Aquafarms, Inc.
159 High Street
Belfast, Maine

Site Address

Belfast Water District Property
285 Northport Avenue
Belfast, Maine

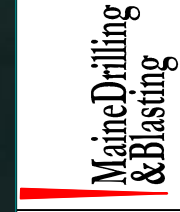
171.05027 | Apr 2019

**Figure 1:
Existing Monitoring Points**

REV	DATE	DESCRIPTION

NORDIC AQUAFARMS
NORTHPORT AVE
BELFAST, ME

PRE-BLAST SURVEY DRAWING



DRAWN: BJD

DATE: 04/18/19

SCALE: N.T.S

Attachment B



LEGEND

STREAM 10

 LEDGE REMOVAL


 BEDROCK DEPTH

FIGURE 20-1

REV	DESCRIPTION	DATE
0	ISSUED FOR PERMIT	4-25-19

ISSUED FOR PERMIT
4-25-19

CURRENT ISSUE STATUS:



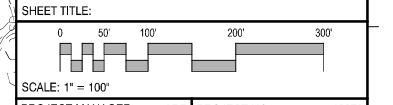
TRUE NORTH:

SMRT Architects and Engineers
144 Fore Street/P.O. BOX 618
Portland, Maine 04104
1.877.700.7678
www.smrtinc.com

RANSOM Consulting Engineers and Scientists
Ransom Consulting Engineers and Scientists
400 Commercial Street, Suite 400
Portland, Maine 04101

NORDIC AQUAFARMS
285 NORTHPORT AVENUE
BELFAST, MAINE

LEDGE REMOVAL PLAN



PROJECT MANAGER:	ADB	PROJECT NO.:	18076
A/E OF RECORD:	ADB		
JOB CAPTAIN:	SP		
DRAWN BY:	WSM		
SMRT FILE:	18076 Surfaces	SHEET No.:	LR