

STATE OF MAINE  
BOARD OF ENVIRONMENTAL PROTECTION

IN THE MATTER OF

NORDIC AQUAFARMS, INC  
Belfast and Northport  
Waldo County, Maine

) APPLICATION FOR AIR EMISSION, SITE  
) LOCATION OF DEVELOPMENT,  
) NATURAL RESOURCES PROTECTION  
) ACT, and MAINE POLLUTANT  
) DISCHARGE ELIMINATION  
) SYSTEM/WASTE DISCHARGE LICENSES  
)  
)

PRE-FILED DIRECT TESTIMONY OF EDWARD COTTER, PROJECT DIRECTOR,  
NORDIC AQUAFARMS, INC.

1. My Name is Edward Cotter. I hold a Bachelor of Science Degree in Ocean Engineering from the University of Rhode Island. I have 20 years' experience in design, planning, permitting, and construction of coastal structures, commercial and industrial buildings, and large scale infrastructure. I have managed planning and construction of nearly one billion dollars in projects over that time. In 2018, I joined Nordic Aquafarms AS as Project Director for US operations, directing engineering and construction projects for NAF, Inc, a subsidiary company of Nordic Aquafarms AS. My professional experience and qualifications are further detailed by my curriculum vitae, which is included as Addendum A.
2. The proposed Belfast facility is the Nordic Aquafarms Inc. flagship facility internationally due to its location and long-term development potential. The purpose of the project is to provide 33,000 metric tons of high quality, sustainable seafood to consumers in the northeast United States. Considerable local engineering has been completed to achieve infrastructure connectivity, local adaptation of the project, and to minimize impacts from development.
3. The Nordic Aquafarm project is proposed to be located on the northwest side of Route 1 (Northport Avenue) in Belfast, Maine adjacent to the Belfast Reservoir Number One, as shown on the United States Geologic Survey (USGS) topographic map attached as Nordic Exhibit 1. The project site consists of parcels owned by the Belfast Water District (BWD), Mathews Brothers and Sam Cassida. The development also includes easements to the northwest of the entire parcel to connect a sewer line to the existing Belfast city sewer on Northport Avenue, by way of Perkins Road, and an easement through the Eckrote parcel for the intake and outfall piping. The primary access to the site will be off Route 1 at the current site access for the BWD. The proposed project is located within the Route 1 South Business Park district and is abutted to the

north by the Mathews Brothers facility. The Residential II zone abuts the site to the north and east, with residential properties located directly north of the site and along Route 1. The existing BWD parcel adjacent to Reservoir Number One, contains approximately 14 acres that will be retained by the City of Belfast and kept undeveloped as resource protection and buffering. There is an existing trail system through this area and along the reservoir and Little River. Approximately 2 acres of the BWD parcel is currently developed with an office building, a former filter house, two garage buildings, and associated driveways and parking. A concrete dam controls the water level to the reservoir, and piping associated with the former use of the reservoir as the water supply for the City of Belfast still exists adjacent to the dam and the office building.

4. In May, 2019, Nordic Aquafarms submitted an application package to the Maine Department of Environmental Protection for consideration of multiple permits under the jurisdiction of the following regulations: Site Location and Development Act, Natural Resource Protection Act, a Chapter 115 Minor Source Air Pollution License, and a Maine Pollution Discharge Elimination System and Waste Discharge License. These permit applications were consolidated to allow for all aspects of the proposed development to be considered as a whole.
  - i. Site Location of Development Act (SLODA): The applicant proposes a phased build out of a land based aquaculture facility on approximately 32 acres of land. The remainder of the land purchased will remain as undisturbed buffer or be transferred back to the City for recreational use (Shoreland Zone along Reservoir 1). The proposed facility includes finfish rearing facilities as well as associated support buildings and site improvements. A seawater intake and discharge system is proposed to be installed in the adjacent portion of the Penobscot Bay.
  - ii. Natural Resource Protection Act (NRPA): The aquaculture facility avoids, mitigates and compensates for impacts to protected natural resources (coastal wetlands, upland wetlands, stream etc.) for which there is no practicable alternative that would meet the project purpose.
  - iii. Minor Source Air Pollution License: The project has been developed to use waste heat from the fish husbandry process as a heat source for all buildings, therefore eliminating the requirement for a traditional boiler system. However, the need for reliable electrical power for the filtration and water quality processes in order to avoid fish mortalities makes back-up power generation a requirement for the project. In addition to back-up generation, the applications also include the proposed use of the generators for “peak shaving”, or reduction of demand from the external power grid during traditional peak load times. This will allow the project to reduce demands on the external grid at times when the grid is most stressed. This arrangement is mutually beneficial to the applicant as well as users of the local infrastructure because it increases reliability during high stress periods. The applicant has proposed to limit use of the generators by placing a cap on fuel usage at 900,000 gallons per year, ensuring classification as a minor source is maintained while maximizing this mutual benefit.
  - iv. Maine Pollution Discharge Elimination System (MEPDES) and Waste Discharge License: The proposed project is a Recirculating Aquaculture Facility which employs significant

water treatment infrastructure to vastly reduce the quantity of water that is taken into the system and discharged compared to any currently operating facilities in the area, including other RAS facilities. The water is treated within the facility and reintroduced into the process system using internal treatment measures. Only a small portion of the overall system water is then taken from the production system, piped to a separate wastewater treatment plant where solids and nutrients are removed and ultraviolet light treatments are used to neutralize any potential pathogens before it is discharged into the Penobscot Bay.

- a. The water treatment technology includes denitrification and other best in class technologies for nutrient removal even though there are not yet water quality standards for these nutrients.
- b. The flow rate of the proposed system is .337 m<sup>3</sup>/sec (7.7 mgd)
- c. The effluent concentrations for the proposed discharge are as follows:
  - Total suspended solids (TSS)= 6.33 mg/l (185 kg/day)
  - Biochemical Oxygen Demand (BOD)= 5.55 mg/l (162 kg/day)
  - Total Nitrogen (TN)= 23.02 mg/l (673 kg/day)
  - Ammonium Nitrogen (NH<sub>4</sub>)= 0.0024 mg/l (0.07 kg/day)
  - Phosphorus (P)= 0.20 mg/l (5.8 kg/day)

5. In addition to the applications before the Board, the applicant has also pending applications in front of other local, state, and federal authorities.
  - i. The City of Belfast Planning Board is in the midst of a review of the applicants request under five separate ordinances: Site Plan, Zoning, Shoreland Zoning, Significant Water Intake/Discharge Pipes, and Significant Groundwater Wells.
  - ii. The Maine Department of Agriculture, Conservation, and Forestry Bureau of Parks and Lands (“BPL”) approved a Submerged Lands Lease for the project which is currently on appeal and awaiting remand to the BPL for reconsideration.
  - iii. The Maine Department of Agriculture, Conservation, and Forestry has approved an Aquaculture License for the proposed project.
  - iv. The Army Corps of Engineers, New England Division has under review, an application for a development permit under Sections 10 (Rivers and Harbors Act) and 401 (Clean Water Act).

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Dated: December 11, 2019

By:   
Edward Cotter  
Nordic Aquafarm, Inc

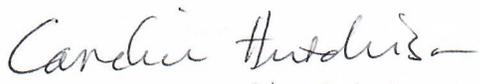
STATE OF MAINE

December 11, 2019

County of Waldo, ss.

Personally appeared the above-named Edward Cotter and made oath as to the truth of the foregoing pre-filed testimony.

Before me,

  
Candice Hutchison

Notary Public/ Attorney at Law

Commission expires: 2/1/2021



## EDWARD M. COTTER

### Project Director

#### EXPERIENCE

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##### **Nordic Aquafarms, Inc.**

Portland, ME  
2018-Present

##### *Project Director*

- Responsible for engineering and construction related activities for US capital projects. Lead US engineering staff and outside vendors through planning, permitting, and construction phases.
- Establish project goals for schedule, budget, and quality and develop action plan for achieving such.
- Work with design and construction partners to establish a comprehensive commissioning and turn-over plan that will allow a smooth transition into operations and maintenance phases.

##### **Gilbane Building Company**

Glastonbury, CT  
2006-Present

##### *Project Manager*

- University of Connecticut NextGen Capital Improvement Program. Leading team of engineers and superintendents for multiple projects from programming through closeout to meet project objectives while maintaining budget and schedule. Provide leadership for campus wide construction initiatives such as ongoing safety evaluations, campus logistical coordination, and utility framework programming support. Report to multiple Directors and Vice President of University Planning, Design, and Construction.
- Jackson Labs- Farmington, CT. Management and oversight of new campus construction for life science client establishing a new team in CT. Provided swing space renovation, move management, and management of 183,000 s.f. new building construction.
- Electric Boat- Groton, CT. Oversight and Quality Control of an \$85M upgrade to existing dry dock structures on campus. Maintain cost, schedule, and quality documentation for the US Navy certified structures to ensure certification was re-established at the completion of the project.

##### **Ocean and Coastal Consultants, Inc.**

Trumbull, CT  
2004-2006

##### *Project Structural Engineer*

- Project Engineer for design, production of construction documents, and shop drawing review of various coastal installations.
- Member of Construction Document Committee, review of specifications and construction drawings for accuracy and adherence to company policies and guidelines prior to client delivery

#### EDUCATION

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##### **University of Rhode Island**

Kingston, RI

- Completed Master's Level courses in structural engineering including Steel, Timber, and Foundation Design.

##### **University of Rhode Island**

Kingston, RI

- Bachelor's of Science, Ocean Engineering 2000

#### CERTIFICATES AND PROFESSIONAL REGISTRATIONS

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|---|--|
| <ul style="list-style-type: none"> <li>• Engineer in Training (EIT), Rhode Island</li> <li>• OSHA Confined Space Safety Entry Supervisor Program</li> <li>• Member, Association of General Contractors</li> <li>• OSHA certified 30-hour Construction Safety Certification</li> </ul> | <ul style="list-style-type: none"> <li>• OSHA HAZWOPER 40 hour training</li> <li>• Certified Welding Inspectors Welding Fundamentals Seminar</li> <li>• Member, CMAA</li> <li>• Member, Construction Institute</li> <li>• Associate Member, American Society of Civil Engineering</li> </ul> |
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Regional Locator Map



Belfast

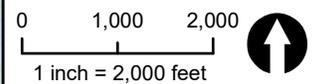
Legend

-  Site Boundary
-  Ocean Pipelines

Notes

1. Data Source: USGS National Map Seamless Server, 24K
2. USGS Quad: 7.5 Minute Searsport & Belfast 1976 (revised 1979)
3. Latitude: 44° 23' 43" N  
Longitude: 68° 59' 39" W  
UTM Northing: 4915777 mN  
UTM Easting: 500444 mE

Scale and Orientation



Prepared For

Nordic Aquafarms, Inc.  
159 High Street  
Belfast, Maine

Site Address

Proposed Aquaculture Facility  
285 Northport Avenue  
Belfast, Maine

171.05027 Apr 2019

Site Location Map



