WASHINGTON STATE DEPARTMENT OF ECOLOGY

| For Office Use Only |
|---|
| Date Received |
| Application/Permit No. |
| Waterbody No. |
| SIC |

# MARINE/FRESHWATER SALMONID NET-PEN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM WASTE DISCHARGE PERMIT APPLICATION FORM

The following information is required to be submitted on this form to the Department of Ecology, in order for the applicant to obtain a waste discharge permit in accordance with RCW 90.48.160, Chapter 173-220 and Title 33 USC, Section 1251 et seq. 33. Ecology may require that the applicant submit other information as determined necessary by Ecology. All questions must be answered completely and accurately. If a question does not apply, answer with NA.

## SECTION A. GENERAL INFORMATION

1. Name of Facility: Hope Island- Site 4

2. Operator Name and Mailing Address:

Cooke Aquaculture Pacific, LLC
Name

PO Box 79003
Street

Seattle | WA | 98119
City | State | Zip

3. Facility Location: Skagit Bay near Hope Island

Approximate coordinates Lat. 48 degrees 24' 28" N by Long. 122 degrees 33'32" W

Note: Provide a brief description of the location of the facility: name of the waterbody, nearest town or city, and Latitude/Longitude. Enclose a vicinity map showing the net-pen location in relation to local geographic land marks (Minimum Scale 1" = 1000' or USGS 7.5 minute map) and diagram of the site plan.

4. Owner Name and Mailing Address (If different from the operator):

Same as above
Name

Street

City | State | Zip

5. Primary Contact Person:

Kevin Bright | Permit Coordinator | (360) 391-2409
Name | Title | Phone Number

6. Alternate Contact Person:

Gregory Harding | Cooke Legal Counsel | (506) 694-4903
Name | Title | Phone Number

*Ecology is an Equal Opportunity and Affirmative Action Employer. For special accommodation needs, contact the Water Quality Program at (360) 407-6600, TDD (360) 407-6006.*

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Glenn Cooke
Printed Name of Person Signing

President
Title


Signature of Applicant

1/30/2024
Date Applicant Signed

**NOTE: Federal regulations require this application to be signed as follows: A.) for corporation, by a principal executive officer of at least the level of vice president; B.) For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or C.) For a municipality, State, Federal, or other public facility, by either a principal executive officer or ranking elected official.**

## *SECTION B. BACKGROUND INFORMATION*

### 1. LOCATION

1.1 Waterbody: ..... Skagit Bay

1.2 County: ..... Skagit

1.3 Latitude: .....48° 24' 28" N

1.4 Longitude: ..... 122° 33' 32" W

1.5 Section, Township, Range: ..... Sect.28, T 34N, R 2E

### 2. FACILITY

2.1 Is this facility (check one): ☒ Existing? ☐ Proposed?

NOTE: The facility is no longer in existence due to the denial by the Washington Dept. of Natural Resources of the facility's aquatic land lease renewal application that occurred in November of 2022. The last crop of fish were harvested out of this facility in January of 2023. As of June 2023, the net pen facility and all physical improvements were removed from the lease area by Cooke Aquaculture Pacific.

2.2 Species of fish raised: ..... Rainbow trout/steelhead (*Oncorhynchus mykiss*).

2.3 Date facility was (or will be) constructed: ..... Existing facility originally constructed 04/01/87.

2.4 Note the Final SEPA action taken:

| | |
|---|---|
| EIS | [ ] |
| DNS | [x] |
| Mitigated DNS | [ ] |

Date: 06/07/96 SEPA action for issuance of marine net pen NPDES permits.

Attach copy of the Final SEPA determination, checklist and EIS. This renewal application does not require SEPA review.

2.5 Has a shoreline permit been issued for this project? [x] yes [ ] no

If **yes**, what is the permit number? 128766060 Date of permit? 04/18/88

Shoreline permit issuing agency: Skagit County Planning and Development Services

2.6 Is this facility sited on state owned tidelands? yes [x] no [ ] N/A [ ]

If **yes**, provide the following: DNR lease number 20-A12356

Lease expiration date Note: The facility's aquatic lease renewal was denied by WDNR. The net pen structures have been removed and the facility is no longer in existence.

If no, provide the legal owners name: _____

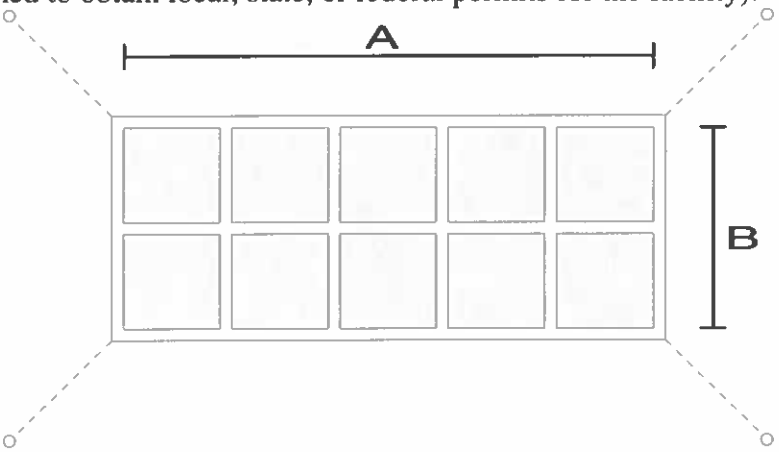
2.7 Has an Army Corps of Engineers Section 10 Permit been applied for or secured?
yes [x] no [ ] N/A [ ]

If yes, provide the following: Permit number 071-OYB-1-010501

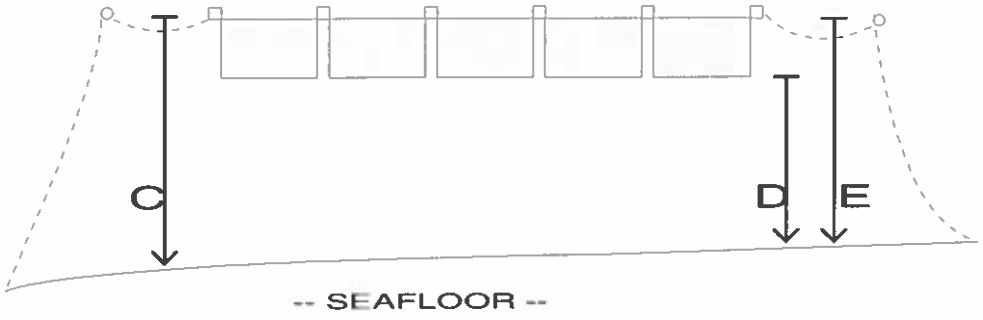
2.8 Has a Department of Fish and Wildlife Hydraulic Project Approval been applied for or secured?
yes [x] no [ ] N/A [ ]

If yes, provide the following: HPA number B1-01-0501-02
Expiration date N/A

2.9 Provide the measurements requested below (Refer to site characterization survey performed to obtain local, state, or federal permits for the facility):




PLAN VIEW




SECTION VIEW

A Length of aggregate net-pen rearing area in feet: ..... 450'
Note: The previous net pen structures were removed and there are no structures at this site.

B Width of aggregate net-pen rearing area in feet: ..... 190'
Note: The previous net pen structures were removed and there are no structures at this site.

C Minimum distance between bottom of net-pens and sea floor at MLLW in feet: ..... 60'

D Minimum distance between bottom of net-pens and sea/lake floor at MLLW in feet: 15'

E Minimum depth at site (at MLLW for marine) in feet: ..... 60'

F Distance to nearest shoreline (at MLLW for marine) in feet:..... 2,000'

G Direction of dominant current from the net-pen(s): ..... North

H Estimated mean current speed (midway between the bottom of the net-pen and the sea/lake floor in cm/sec): .....35

I Maximum current speed (midway between the bottom of the net-pen and the sea/lake floor in cm/sec):.....96

## 3. OPERATION

3.1 Number of months per year when fish are reared at facility…NOTE: Zero. Facility is no longer in existence.

3.2 Estimates of the amount of fish on hand and amount of food fed per month for the calendar year of maximum production over the next five years.

| lbs. fish | | lbs. food | lbs. fish | | lbs. food |
|---|---|---|---|---|---|
| January | TBD | TBD | July | TBD | TBD |
| February | TBD | TBD | August | TBD | TBD |
| March | TBD | TBD | September | TBD | TBD |
| April | TBD | TBD | October | TBD | TBD |
| May | TBD | TBD | November | TBD | TBD |
| June | TBD | TBD | December | TBD | TBD |

3.3 Maximum net pounds of annual fish production: ..... TBD

3.4 Month of maximum feeding: ..... TBD

3.5 Maximum monthly feed (lbs): ..... TBD

3.6 Method of feeding (check all that apply) and estimate percent of food fed using that method:

☐ Hand _____ Percent ☒ Automatic (timed) 100% Percent ☐ Automatic (demand) _____ Percent

3.7 List feed additives, disease control chemicals and medications that may be used in the net-pen operation. Include active ingredient(s), intended use rates and treatment concentrations (attach additional sheets if more room is necessary).

- **Feed Additives-**
  **Canthaxanthin and/or Astaxanthin** – Are naturally derived and/or synthetically produced compounds of two types of carotenoid pigments that may be added to the fish

feed in levels ranging from 30 ppm to 70 ppm. Both Canthaxanthin and Astaxanthin are approved by the USFDA for use in fish and chicken feeds to enhance the coloration of flesh and poultry eggs. In the animal kingdom, carotenoids are heavily utilized as a source for pigmentation, a vitamin A precursor, for improving intercellular communication, enhancing immune responses, and as antioxidants. Canthaxanthin is a potent lipid-soluble antioxidant. The biological functions of canthaxanthin are related to its ability to function as an antioxidant in animal tissues and salmonid fish species derive some physiological benefits from storing the pigment in their tissue and ova.

**Antioxidants** - Antioxidants are added to the fish feed mixture to stabilize the vitamin supplements and increase the shelf life of the feed. Antioxidants that are used in the fish feeds are Ethoxyquin (in the fish meal), BHA (in the fish oil), and Vitamin E.

- **Medications**

Medicated feed may be periodically used to treat bacterial disease at the marine net pen sites. The use of medicated feeds is infrequent and used only to treat specific disease events.

**Romet 30 (Sulfadimethozine-ormetoprim)** - Romet 30 is the trade name for an aquatic animal premix containing a sulfadimethozine-ormetroprim antibiotic used to treat specific bacterial diseases. When medicated feed is prescribed, the premix is added by the feed manufacturer during the feed milling process. Romet 30 is used to treat Furunculosis, Vibrio, Myxobacterial and other bacterial pathogens if they occur in cultivated fish stocks. Disease treatments are prescribed by a veterinarian and the Romet 30 medicated feed is manufactured at a concentration of 2.27 grams of active ingredient per one (1) pound of fish feed. The medicated feed is fed to the fish to achieve a dosage rate of approximately 50 mg of active ingredients per one (1) kilogram of fish per day, for a treatment period of five (5) consecutive days.

**Terramycin TM 200 (Oxytetracycline HCL) –** TM 200 is the trade name of for an aquatic animal antibiotic premix that is used to treat Furunculosis, Vibrio, Myxobacteria and other bacterial diseases. The TM 200 pre-mix is added to the feed by the manufacturer when prescribed by a veterinarian to treat a specific disease event. TM 200 is mixed to achieve a concentration of 5 grams of active ingredient per one (1) pound of fish feed. The medicated feed treatment is fed to achieve a dosage rate of approximately 75 mg active ingredient per one (1) kilogram of fish per day, for a period of ten (10) consecutive days.

**Aquaflor- (Florfenicol)** – Aquaflor is the trade name for the premix containing the antibiotic Florfenicol, and is approved by the USFDA for use in freshwater food fish to treat bacterial disease. In marine finfish aquaculture, Aquaflor can be used under the Investigational New Animal Drug (INAD) system administered by the USFWS and USFDA. When prescribed, Aquaflor medicated feed is used to treat bacterial disease and is mixed into the feed by the feed manufacturer at the active ingredient concentration rate of 0.302 grams per one (1) pound of fish feed. Aquaflor medicated feed is fed to the fish to achieve a dosage of 10 mg of active ingredients per one (1) kilogram of fish per day, for a period of ten (10) consecutive days.

- **Disease Control Chemicals**
  Other disease control chemicals that may be used at the farm sites are Finquel MS 222, Iodophor disinfectants and sodium hypochlorite (chlorine bleach) disinfectant solutions.

  **Finquel MS222 –** Finquel (MS222) is a USFDA approved fish anesthetic that is periodically used when the fish are sampled for weight and condition factors. A small number of fish are periodically captured by dip net from a pen and then immersed in a tote of seawater with a small amount of MS222 mixed in. The MS 222 anesthetizes the fish so that they can be safely handled, inspected, weighed and then returned unharmed back to the fish pen. The fish quickly recover when returned to ambient seawater.

  **Chlorine Bleach Solution and/or Argentyne Iodophor Solution –** These surface disinfectants are used as a bio-security measure in footbaths at the farm sites and occasionally to sterilize equipment used between the different sites. Argentine Iodophor solutions are used in foot baths at the farm sites during the entire year. Estimated average consumption rates for each farming area of Iodophor solutions at the Bainbridge Island and Hope Island farm sites is approximately 30 gallons per facility per year. The use of sodium hypochlorite or chlorine bleach solutions at the net pen sites is infrequent.

3.8 Describe how the nets will be cleaned, the land disposal or treatment of net foulants, the frequency of cleaning. (Note: The use of any antifoulants to prevent net fouling is prohibited).

Cleaned or new fish containment nets (stock nets) are installed into the net pen site just prior to transfer of fish into the pens. No antifoulant are used on the netting materials. Approximately every 14 days the stock net walls are rinsed in-situ with pressurized seawater to clean bio-fouling growth. A net hygiene maintenance program is used to track the cleanliness of stock nets. The program includes a weekly underwater net hygiene assessment carried out by experienced divers. A Weekly Net Scoring Report and a Weekly Net Washing log tracks the condition of the nets, the most recent date the net walls or the net floors were cleaned and the effectiveness of the cleaning process. The Weekly Net Score Reports for the farm sites are then compiled into one report which shows individual net scores as well as an average net hygiene score for each farm site. This report is sent out each week to all Site Managers, the Permit Coordinator and the General Manager and a copy is sent to the WDNR Aquatic Lands Lease Manager. The report includes individual net scores and the running average net score for each farm site which allows net hygiene trends to be watched closely. If the average net score for a facility begins to climb, the frequency of net cleaning can be increased to reduce the level of bio-fouling. During the spring/summer peak bio-fouling growth periods, the goal is to clean all the stock net walls frequently. This keeps fouling growth to a minimum in the location where the most rapid bio-fouling growth can occur. Net floors do not experience the same level of bio-fouling growth and the time between cleaning can be 2 months or longer. Cleaning frequency on the nets walls and floors can be reduced during the winter months as seasonal drops in water temperature and the reduced light level begins to limit bio-fouling growth. Clean or new stock nets can also be rotated into position to replace a stock net during the growing cycle. This is accomplished by installing the clean net underneath the existing stock net and subsequently pulling the existing stock net out of the water with a crane.

After harvesting of the fish from the pen is completed, the empty nets are removed from the farm site and transported to a land-based net cleaning and net repair facility. The nets are sterilized in 160-degree water, washed, and repaired. The strength of the netting material is tested at the repair facility and nets are ID numbered to maintain a service history record for each net. Clean nets are bundled and shipped back to the farm site for reinstallation prior to the next stocking event. The predation barrier nets can be maintained in position between generations by in-situ washing or they may also be removed, shipped to the net repair facility and serviced. Predator barrier nets are generally replaced after 6 to 8 years depending on the site. Brand new stock nets and predation barrier nets are added to the net inventory as older nets are aged out of service. Netting materials are either disposed of at a land-based solid waste handling facility or are sent to recycling facilities.

**All-female triploid Rainbow/steelhead trout production**

Commercial net pen facilities in Washington have been permitted by WDOE and WDFW in the past to raise all-female sterile triploid native Rainbow/steelhead trout. Growth projections for the triploid steelhead stock and the smaller targeted average harvest size shortens the saltwater growth cycle by several months compared to previously reared Atlantic salmon stocks. This shortens the amount of time that a stock net is deployed at the net pen site before the pen is harvested and the net is pulled out of the water. The fallowing frequency between cohorts would also increase over a given period of time because of the anticipated shorter production cycle. This would tend to reduce the amount of time between removal, sterilization, cleaning, and repair for the stock nets. Increasing the frequency of fallowing periods would also increase the number of resting periods for marine sediments when there is no discharge occurring from the fish rearing process. Variable growing conditions can influence the actual achieved growth rate versus the projected growth rates. Seafood market conditions play a role in the harvesting cycle and therefore can increase or decrease the saltwater growing cycle.

3.9 Describe any chemicals or toxic materials used. Include all chemicals including gasoline/oil, disease control chemicals, medications, anesthetics, therapeutants, antifoulants, disinfectants, pesticides, etc.

None. The facilities and support equipment have been removed from the locations. There is no use or storage of chemicals at these sites. A list of the disease control chemicals that may be used if the facilities become operational again is described below.

**Iodophor solution and chlorine bleach.** Disinfectant used in footbaths and to disinfect farm equipment. Small quantities are used through-out the year.
**Finquel MS222.** A fish anesthetic used infrequently during the production cycle while performing size and condition sampling of the juvenile fish (See response 3.7 above).
**Medications-**
**Romet 30-** (See response 3.7 above)
**Terramycin-TM 200-** (See response 3.7 above)
**Aquaflor-** (See response 3.7 above)

3.10 Describe the solid waste disposal practices for the facility. Include specific descriptions on collection, storage and disposal of fish mortalities, how sanitary wastes are collected and disposed, and how feed bags and other solid wastes are collected, stored and disposed. Include the average amount generated on a monthly basis for each of the above items (use appropriate units).

None. The facilities are currently removed and there is no activity occurring at the site which would generate solid waste. Below is a description of the types of solid waste that could be generated by a fish farming operation.

**Fish Mortalities-** Fish mortalities are collected from each pen a minimum of three (3) times per week. The frequency of fish mortality collection can be increased depending on mortality levels at the farm sites. Fish mortalities (morts) are routinely collected by divers and brought to the surface in dive bags. Fish mortalities are removed from the water and put into large plastic fish totes which also have a single use, plastic tote liner placed inside of them. The tote liners are an additional barrier against leakage and make cleaning the totes easier after the contents are disposed of. The totes containing fish mortalities are removed frequently from the sites and transported to a land-based support facility where they are picked up and transported by truck to either a soil composting facility or a rendering facility. The fish totes are emptied at the receiving facility, the plastic liner is removed and disposed of at a solid waste handling facility, and the plastic totes are steam rinsed and cleaned. Clean totes are returned to their designated facilities for reuse.

The average monthly weight of fish mortalities removed from a site varies at different times of the year depending on what part of the growth cycle the fish population is in (new smolts (small biomass) or harvest sized fish (large biomass). Other factors can cause variances in mortality rates such a harmful plankton bloom or a disease event. A typical large sized net pen facility would generate an average of 8,000 pounds per month per production cycle.

**Sanitary Waste and Operational Debris-** The farm sites use chemical toilets (Port-a-Potties) for the handling of sanitary wastes. The rented chemical toilets are routinely serviced on land by the company which provides them and rotated out to the farm site by a work vessel. Operational and household waste products generated by the net pen facilities are collected, stored in appropriate containment and then routinely transported to the shore support facilities by a work vessel for appropriate disposal and/or recycling. Fish feed is transported to the site in large one (1) ton nylon bulk container bags. After the feed is removed from the nylon bags the bags are compiled and taken back to the land-based support facility to be picked up for recycling. Wooden pallets are brought back to the land-based support facility, stored and shipped back to a pallet repurposing facility for reuse. Used oil and other hazardous materials are collected and transported to the associated land-based support facility for eventual pickup and proper disposal by hazardous waste handling service.

The volume of solid refuse collected from each of these three locations is estimated at approximately 10 to 15 cubic yards per month.

## 4. ENVIRONMENTAL MONITORING

Ecology must receive enough information about the environmental conditions at the location of your facility to adequately characterize the impact of the discharge on the receiving water. If available, attach copies of the following:
Past discharge, performance and monitoring reports are available through the PARIS system.

4.1 Site characterization survey performed to obtain local, state, or federal permits for the facility. Note: Proposed facilities need to contact Ecology for survey requirements.

Site characterization and baseline studies were completed at the sites at the time of the original permitting process for the substantial development/shoreline conditional use permits/ Army Corps of Engineers Permits/ WDFW Hydraulic Permits/ and other related and necessary construction and operational permits. This application is for modification to the current NPDES permits for the eventual change of species from Atlantic salmon to the all-female triploid Rainbow/steelhead trout. The original NPDES/Waste Discharge Permits for the facilities was issued in 1996. Cooke Aquaculture Pacific and the previous owners utilize the services of a third-party consultant to conduct the required benthic monitoring and analysis. The required reports have all been previously submitted to Ecology and WDNR as required by the conditions of the NPDES permits.

4.2 Baseline surveys performed to obtain local, state, or federal permits for the facility.
Existing and previously permitted facility. These studies were provided to the agencies during the original permitting process.

4.3 Summaries of annual benthic monitoring results performed to meet DNR lease or other local, state, or federal permit requirements for the facility.
Previous monitoring reports were submitted to WDOE and WDNR as per NPDES permit requirements.

4.4 Summaries of any water quality or sediment monitoring results. Give dates of sediment monitoring. Sediment sampling performed in 2007, 2010, 2013, 2015, 2017, 2018, 2019, 2020, 2021, 2022, 2023.