Appendix M
Applicant Provided Project Description

Samoa Peninsula Land-based Aquaculture Project

Project Description, Rev. 3

Nordic Aquafarms California, LLC

911 Third Street, Eureka, CA 95501

April 2020

Project Description, Rev. 3

Samoa Peninsula Land-based Aquaculture Project

Prepared for:

Nordic Aquafarms California, LLC
911 Third Street
Eureka, CA 95501

Prepared by:

GHD
718 Third Street
Eureka, CA 95501

April 2020

This page is intentionally left blank

Table of Contents

Table index

Figure Index

Appendix Index

1. Project Information

Project Title	Samoa Peninsula Land-based Aquaculture Project
Lead Agency Name & Address	Humboldt County Planning Department 3015 H Street, Eureka, CA 95501
Contact Person & Phone Number	Alyssa Suarez 707-445-7541
Project Location	364 Vance Avenue Samoa, CA
Project Sponsor's Name & Address	Humboldt County Planning Department 3015 H Street, Eureka, CA 95501
General Plan Land Use Designation	Industrial, Coastal Dependent (MC)
Zoning	Industrial/Coastal Dependent with archeological overlay (MC/A)

1.1 Introduction

This project description provides information and supporting figures for the Samoa Peninsula Land-based Aquaculture Project, hereafter referred to as the Project, proposed by Nordic Aquafarms California, LLC. (NAFC). The Project is proposed to be located on the Samoa Peninsula in the unincorporated community of Samoa in Humboldt County, California.

1.1.1 Project Definition

The Project proposes to redevelop the site of the decommissioned Freshwater Tissue Samoa Pulp Mill facility (pulp mill) in order to construct a land-based finfish recirculating aquaculture system (RAS) facility (aquaculture facility) and install a three to five-megawatt (3-5 MW) photovoltaic solar panel array covering approximately 690,000 square feet of the facility roofs. The Project is to be undertaken by NAFC, working in collaboration with the Humboldt County Planning Department, the Humboldt Bay Harbor, Recreation and Conservation District (HBHRCD), and applicable regulatory agencies.

1.1.2 Project Site Definition

The Samoa Peninsula is bounded on the west by the Pacific Ocean and the east by Humboldt Bay. The Project Site is located on the eastern shore of the Samoa Peninsula, east of New Navy Base Road, and due west, across Humboldt Bay, from the City of Eureka. The Project Site is accessed from Vance Avenue via New Navy Base Road and LP Drive. The Project Site and surrounding area are shown on Figure 1 (Appendix A)

The Project Site consists of portions of one parcel of which approximately 36 acres would be used for the land-based finfish aquaculture facility and associated infrastructure. The cumulative area, designated by the following Assessor Parcel Numbers (APN) 401-112-

021, where Project construction activities are planned to occur shall herein be defined as the Project Site.

The Project conceptual layout is shown on Figure 2 (Appendix A)

1.2 Project Objectives

The general objective of the proposed Project is to provide sustainably raised seafood to customers on the West Coast using environmentally and socially responsible business practices. Specific Project objectives include the following:

1. To establish a world-class land-based finfish RAS aquaculture facility on the Samoa Peninsula
2. To provide a fresh local food source, produced in the region where it is consumed, to mitigate the damaging environmental impacts associated with long-distance air shipment of seafood
3. To produce nutritious seafood for the West Coast market without the use of antibiotics or GMOs
4. To construct and operate a water-efficient aquaculture facility with a minimal environmental impact
5. To provide approximately 130-150 fulltime jobs, including engineers, biologists, administration staff, maintenance staff, fish processing, and other operations staff
6. To remediate existing environmental contamination at the Project Site associated with a former industrial site (brownfield)
7. To support local industry and innovation by selling nutrient-rich aquaculture coproducts to local businesses for use as a soil amendment, or other beneficial uses

1.2.1 Project Benefits

Direct and indirect benefits of the Project are anticipated to include the following:

1. The project will generate 130-150 fulltime jobs
2. Tax revenue for Humboldt County
3. Redevelopment and infrastructure improvements which have the potential to catalyze future coastal-dependent development on the Samoa Peninsula
4. Many indirect jobs as a result of the Project in construction and vendor partners
5. Workforce development initiatives related to a growing seafood industry
6. A diversification of the local seafood industry, integrating more resilience, more jobs, and more opportunities for local businesses
7. An opportunity to expand the seafood/food brand of Humboldt County

8. coproducts that can leverage other local business models
9. Collaboration and research opportunities with local academic institutions and other interested entities

1.3 Project Background

The following sections provides an overview of the historical industrial uses of the Project Site.

1.3.1 Project Site History

Large-scale construction on the Project Site began in 1963 when Georgia Pacific LLC (GP) developed the site as a bleached Kraft pulp mill. The pulp mill began operation in 1965 and was operated by GP until 1972. To support the pulp mill operations, an ocean outfall pipe was installed to discharge mill water effluent offshore. A 60-KV electrical switchyard was also constructed adjacent to the ocean outfall intake to provide electricity to power pulp mill operations.

The pulp mill was sold by GP to Louisiana-Pacific Corporation (LP) in 1972. LP continued operation of the pulp mill into the 1990s. In 1994, the facility was converted from a standard Kraft pulp mill process to a chlorine-free pulp-making process. From the late 1990s through 2008 the pulp mill changed ownership multiple times before being sold to Evergreen Pulp Inc. in 2005. After air quality concerns culminated in a lawsuit against Evergreen Pulp Inc. (EPI) in 2006, the pulp mill was ultimately shut down by EPI in 2008. The pulp mill was acquired from EPI by Freshwater Tissue Company (FTC) in 2009. The mill was permanently closed by FTC in 2010 and FTC subsequently undertook decommissioning activities and selective demolition of the facility infrastructure until 2013.

In association with the decommissioning of the pulp mill, various asbestos material assessments were conducted by GHD (formerly Winzler & Kelly) under contract with FTC between 2010 and 2012. The asbestos assessments identified asbestos containing materials associated with many of the pulp mill structures. Asbestos material removal (abatement) at select structures was conducted by FTC subcontractors between 2011 and 2013. Between 2011 and 2013 many pulp mill structures were demolished, including the pulp mill Recovery Boiler, Bleach Plant, re-causticizing area, and liquor storage tanks. Additional asbestos assessment of the former pulp mill site has been completed, and additional asbestos abatement will be necessary.

In August 2013 ownership of the former pulp mill site was transferred from FTC to the HBHRCD. In November 2013 the USEPA began a series of studies to assess the existing risks presented by stored chemicals onsite and the degree of contamination of the soils and groundwater from historic pulp mill operations. Based on the USEPA assessments, an emergency remediation effort was commenced in 2014 by the USEPA and the United States Coast Guard at the former pulp mill. The $15 million site remediation involved the removal of spent pulping liquors and other hazardous chemicals that had been stored onsite (Times Standard 2018). Bulk waste liquors from the pulp mill were transported to Washington for reuse by other Kraft pulp mill operations.

The majority of the former pulp mill infrastructure has been demolished however several structures remain in situ, including the 12-story Reboiler Building and approximately 300-foot smokestack. Additionally, several remnant debris stockpiles resulting from the FTC infrastructure demolition operations remain at the former pulp mill site. Demolition debris piles were assessed by the HBHRCD and found to contain hazardous material contamination, including asbestos, heavy metals and petroleum hydrocarbons. Since 2013, extensive debris removal has been undertaken by HBHRCD and much of the demolition waste has been transported offsite to appropriate disposal facilities. Existing demolition debris stockpiles currently at the Project Site are scheduled to be removed by the HBHRCD prior to the commencement of the proposed Project.

1.4 Project Setting

The proposed site for the RAS aquaculture facility (APN 401-112-021) is owned by the Humboldt Bay Development Association, Inc. (HBDA), leased by the HBHRCD, and shown in Figure 2 (Appendix A). The HBDA is a non-profit that was formed by the HBHRCD to receive New Market Tax Credit Financing. HBHRCD staff provides administrative support to the HBDA. The parcel comprising the Project Site will be leased by NAFC under lease agreements with the HBHRCD.

The NAFC lease area is irregular in shape, does not have frontage on New Navy Base Road, and is bisected by Vance Avenue. Centered along Vance Ave there is a fifty-foot wide non-exclusive easement for ingress, egress and public utility purposes and a 5-foot wide easement for utility purposes lying adjacent to and parallel with the non-exclusive easement (Figure 4 and Figure10 in Appendix A). The combined sixty-foot easement extends approximately fifteen feet beyond the edge of the paved surface on both sides of Vance. All facility buildings will be located to the east of the Vance Ave easement. The building closest to Vance Ave will be the processing / administrative building located approximately twenty three feet east of the edge of the road and 8-feet east of the edge of the easements.

1.4.1 Project Regulatory Setting

The Project Site is located in the California Coastal Zone (CZ), with primary permitting jurisdiction with the Humboldt County Local Coastal Program (LCP). The Humboldt County LCP jurisdictional limit aligns with the eastern Project Site parcel boundaries that border Humboldt Bay. See Figure 3 (Appendix A) for a depiction of the Project Site parcel boundaries and jurisdictional limits of the Coastal Commission and the County of Humboldt.

The California Coastal Commission (CCC) issued a jurisdictional boundary determination for the pulp mill parcel (APN 401-112-021) and northerly-adjacent parcel (APN 401-112-017) on July 10, 2015 confirming that these parcels are within Humboldt County LCP jurisdiction and within the CCC geographic appeal jurisdiction (CCC 2015). The Project Site is also subject to the Humboldt Bay Area Plan (HBAP), a component of the Humboldt County LCP.

The Project Site is designated for Industrial, Coastal Dependent (MC) and Industrial, General - Coastal Areas (MG) land uses as defined by the Land Use Element of the Humboldt County General Plan Part 2, Section 4 (Humboldt County, 2017). Aquaculture and other industrial activities are allowable uses under both the MC and MG land use designations applicable to the Project Site.

The Humboldt County zoning designation for the parcel comprising the Project Site is Industrial/Coastal Dependent (MC) and includes an Archaeological Resource Area Outside Shelter Cove combining zone overlay (A). The combining zone (A) designates the Project Site as an area potentially containing archaeological resources and provides for "reasonable mitigation measures where development would have an adverse impact upon archaeological and paleontological resources" (Humboldt County 2017). Aquaculture is a Principal Permitted Use under the MC designation per Humboldt County Zoning Regulations Section 313-3.4 (Humboldt County 2017).

The Project Site location and legal designations are summarized below in Table 1-1.

Table 1-1 Project Location Summary

APN	Parcel Size /Utilized Portion (Acres)	Owner	Current Use	Proposed Project Use	NAFC Use Means	Zoning	Land Use
401-112-021	76.7/36	HBDA	Former Pulp Mill (Largely Demolished) and Existing Structures in Current Use	Aquaculture Facility (Pulp Mill Site Only)	Lease	MC/A	MC, MG

Notes:
1. APN = Assessor's Parcel Number
2. HBDA = Humboldt Bay Development Association, Inc.
3. MC = Industrial, Coastal Dependent (MC) General Plan Designation
4. MC/A = Industrial/Coastal Dependent with Archaeological Overlay Zoning Designation
5. NAFC = Nordic Aquafarms California, LLC.

The waters of Humboldt Bay, beyond the Project Site eastern parcel boundaries, are under the jurisdiction of the HBHRCD and subject to the water use designations and policies outlined in the Humboldt Bay Management Plan (HBHRCD 2007). As defined by Section 2.2 of the Humboldt Bay Management Plan, the bay waters east of the Project Site (outside of the Project Site boundary) are classified under the Harbor use designation. The Harbor use designation classifies "harbor-related waters adjacent to upland areas (under the land use jurisdiction of the County of Humboldt and the City of Eureka) that are reserved or designated for coastal-dependent or water-dependent uses." (HBHRCD 2007).

Existing Conditions

The Project Site is situated in a developed industrial area of the Samoa Peninsula where timber processing and pulp mill and timber-related industrial operations have historically occurred for more than 50 years. The Project Site generally consists of remnant pulp mill infrastructure and concrete foundations associated with previously demolished pulp mill structures (APN 401-112-021). The eastern portion of the pulp mill parcel (APN 401-112-021) supports ongoing coastal-dependent industry within the Redwood Maine Terminal II (RMT II), further described below, that would not be disturbed by the Project.

The Project Site maintains a generally consistent elevation across the site, ranging from roughly 15 to 20 feet above mean sea level (MSL), then slightly increasing in elevation along the western portion of the site, ranging from approximately 20 to 25 feet above MSL. The topography of the western Project Site boundary, located west of Vance Avenue, gradually transitions into dune swales and the former Samoa Landfill (now capped) west of Vance Avenue. Vance Avenue is separated from New Navy Base Road by 300 to 700 feet of sand dunes sporadically intersected by unpaved access roads.

The pulp mill parcel (APN 401-112-021) includes existing infrastructure some of which will remain to support ongoing commercial operations at the site while the majority will be demolished for the proposed Project. Additionally, specific existing pulp mill structures are proposed to be overhauled and utilized by the Project. Figure 1-1 provides an overview of existing structures and their placement on the pulp mill.

Figure 1-1 Project Site Existing Conditions

The following pulp mill industrial components are planned for reuse in association with the Project (general location onsite noted in parentheses):

1. 60-kilovolt (KV), 20 Megawatt (MW) electrical switchyard (northwest portion of pulp mill site)
    a. The 60-KV switchyard is in a fenced area at the northwest corner of the former pulp mill site and connected to transmission lines that feed various structures within the Project Site, including the RMT II. Modernization and upgrade of the substation is planned to include NAFC taking over the existing meter and expanding the total capacity of the switchyard to 30-35 MW to be utilized by NAFC and HBHRCD RMT II operations.
2. Ocean outfall piping and intake structure (northwest portion of pulp mill site)

a. The outfall pipe intake is located within a below-grade concrete vault, west of the pump house at the northwest corner of the pulp mill facility. The outfall was formerly used to discharge approximately 15 million gallons per day (MGD) of treated industrial wastewater from the Evergreen Pulp Mill into the Pacific Ocean. The pulp mill facility is no longer in operation and the outfall is being used to dispose of less than 200,000 gallons per day of industrial process water from DG Fairhaven Power Plant. The 36-inch internal diameter outfall pipe extends underground in a westerly direction from the intake for 1.55 miles (8,200 feet). The outfall pipe ends with an 852-foot, 36 Inch, multiport diffuser. The diffuser consists of 144 individual ports, paired along its length, discharging at a 45-degree vertical orientation, aligned perpendicular to the shoreline. The diffuser orifices have a spacing of 12 feet on center with openings 2.4 inches in diameter. Seven pairs of diffusers are currently open and flowing, however there are an additional 65 diffuser pairs offshore of the seven open diffusers that are currently sealed with toggle bolt blind assemblies. The plates bolted onto the ports were cleared using water jetting and inspected by MM Diving in October 2019 (MM Diving 2019). The diffuser assembly rests on the seafloor approximately 82 feet below the surface. A study completed in 2016, commissioned by HBHRCD, concluded that hydraulic assessment indicates the outfall can discharge up to 40 MGD based on 144 2.4-inch diffuser ports.

The following pulp mill structures are within the Project redevelopment area and are planned for demolition (general location on pulp mill site noted in parentheses):

1. Reboiler (boiler) buildings (northwest)
2. Five brick silos (north-center)
3. Concrete smokestack (northwest-center)
4. Miscellaneous concrete foundations, pedestals, and concrete structures (throughout site)
5. Leach field (south-center) to be used temporarily and subsequently decommissioned
6. A clarifier system with two tank pools and multi-stage sand filter rack (southwest)
7. Machine building, attached warehouse, and office (northeast)
8. Elevated water tank (northeast)
9. Demolition debris piles (throughout site) to be removed by HBHRCD

There are currently seven tenants leasing areas within the proposed Site under an Interim Non-Coastal Dependent Industrial lease with HBHRCD. Occupants will be relocated with the assistance of HBHRCD in compliance with the California Relocation Assistance and Real Property Acquisition Guidelines. Current tenants will be permitted to remain on the property prior to demolition activities.

The RMT II includes two dock facilities, owned by HBDA, located outside of the Project Site on two separate parcels (APN 401-112-011 and APN 401-031-040) from the landward RMT II facility (APN 401-112-021). The RMT II dock is approximately 16-foot wide wooden dock is situated immediately east of the RMT II facility and extends approximately 600 feet into Humboldt Bay. The HBHRCD dock is currently utilized for commercial aquaculture and operated by an RMT II tenant (Hog Island Oyster Co.). The dock includes a sea chest water intake (sea chest), consisting of a screened marine intake and pumping infrastructure, which provides bay water to the RMT II facility via dock-mounted piping. The Red Tank Dock is a 12-foot wide wooden dock located approximately 2,900 feet to the north of the RMT II Dock and extends approximately 150 feet into Humboldt Bay. The dock includes a sea chest water intake, consisting of a screened marine intake and pumping infrastructure. The HBHRCD intends to retrofit the sea chests, upgrading water pipe runs, reinforcing dock pipe mounting, and improving the sea chest intake infrastructure as part of the multi-year plan to improve access to key water resources for current and future tenants of the HBHRCD aquaculture business park.

Remnant timber and wood product processing infrastructure, including a woodchip conveyor and silo, are located on two parcels (APNs 401-112-030 and 401-112-029) to the north. The existing wood product processing infrastructure is not planned to be impacted by the proposed Project. A two-story administrative building is located on APN 401-112-030, north of the former pulp mill. The administrative building is privately owned by and is currently leased to a commercial tenant. The administrative building is not planned to be impacted by the proposed Project.

1.4.2 Existing Project Site Contamination

As summarized in the Ramboll report dated October 9, 2019, “beginning in late 1990's, investigations of soil, soil gas and groundwater were initiated by various consultants on behalf of various entities. Periodic monitoring of groundwater has also occurred at the site. USEPA removal actions from 2013 to 2016 included removal of on-site liquid wastes (~4,000,000 gallons of caustic and acidic liquids and ~10,000 tons of contaminated caustic and acidic sludges)” (Ramboll 2019). Soil and groundwater investigations and associated remediation activities have been conducted at the Project Site by the USEPA under the general oversight of the North Coast Regional Water Quality Control Board (NCRWQCB). In 2014, the NCRWQCB issued a “No Further Action” for a portion of the Project Site (former leach field, Area of Interest No.6).

Further soil investigations were conducted by the USEPA in July 2019, focusing on dioxins/furans and metals. NAFC contracted additional testing of the samples for polychlorinated biphenyls (PCBs) and organochlorine pesticides (OCPs). No OCPs were detected and PCBs were detected only in a single sample. The soil sampling data reported that “all soil sample concentrations were below SLs (screening levels), or in the case of arsenic and chromium, below naturally occurring concentrations” (Ramboll 2019). Results for polychlorinated biphenyls (PCBs) and dioxins/furans in soil were below the applicable Department of Toxic Substances Control (DTSC) screening levels for commercial/industrial soil.

GHD has performed asbestos, lead and universal waste (UW) characterizations of the remaining pulp mill structures. Reporting for asbestos, lead and UW at the existing pulp mill structures was completed in May 2020. The report will be used in design of a demolition plan and specifications for the existing mill structures slated for removal.

1.4.3 Project Site Vicinity

A wood biomass electrical generation facility (biomass facility), owned and operated by DG Fairhaven Power Company (Fairhaven Power), is located approximately 0.21 miles southwest of the Project Site. The approximately 17.25 MW of electrical power generated by the Fairhaven Power facility is supplied to Pacific Gas and Electric Company (PG&E), the local electrical utility (RCEA 2016). Biomass inputs to the Fairhaven Power facility come in the form of wood waste from local sawmills and timber harvest companies. Wood waste inputs consist of woodchips, wood shavings, bark, and sawdust. Wood waste stockpiles are located immediately north of the biomass facility.

A one million-gallon (1-MG) water storage tank, owned and operated by the Humboldt Bay Municipal Water District (HBMWD), is located southwest of the Project Site, approximately 600 feet west of the Project Site between Vance Avenue and New Navy Base Road. The 1-MG water tank contains surface water from the Mad River, supplied to the tank by HBMWD water lines which are approximately 42 inches in diameter. The 1-MG water tank provides industrial process water to local industrial end-users, including the former pulp mill, Fairhaven Power biomass facility and the HBHRCD RMT II. The 1-MG water tank also provides water for local fire suppression use. The 1-MG water tank is accessed via a paved private road, connecting New Navy Base Road to Vance Avenue.

The former Louisiana Pacific Corporation Samoa Solid Waste Disposal Site (SWDS) is located to the west of Vance Ave on the same parcel but outside the NAFC lease area. The SWDS is comprised of four known closed and capped Waste Management Units (WMUs) and an additional area within the SWDS facility boundaries which may contain other closed WMUs. The Harbor District is the current operator of the closed SWDS. The SWDS was owned and operated by LP during all waste disposal and closure activities. The SWDS is an unlined Class III landfill, as defined in California Code of Regulations, title 27. The wastes contained in the landfill are approximately 98 percent wood ash with less than one percent each of slaker grits (unreacted lime nodules from the pulping process), pulp rejects, wood chips, and construction debris. All wastes came from LP activities. The SWDS had been operating since 1970 and ceased accepting waste in May 1997.

A woodchip distribution facility and associated dock, owned and operated by California Redwood Company (CRC), are located south of the Project Site. The CRC wood chip stockpiles, chip conveyor and associated chip transport barge-loading dock are accessed via Bay Street and located approximately 0.15 miles south of the Project Site. A PG&E electrical switchyard, accessed via Vance Avenue, is located adjacent (northwest) to the CRC woodchip facility, between the CRC stockpiles and the Fairhaven Power biomass facility.

Samoa Dunes State Recreation Area is located approximately 2.3 miles south of the Project Site at the southerly end of the North Spit. The Samoa Dunes State Recreation Area is administered by the United States Department of the Interior, Bureau of Land Management (BLM) and provides limited public facilities supporting coastal recreation, including off-highway vehicle (OHV) usage.

The current uses of adjacent parcels around the Project Site are summarized in Table 1-2.

Table 1-2 Project Vicinity Summary

Direction	APN	Current Use	Zoning	Land Use
North	401-031-061	GDRC Log Deck, Paved Staging Areas	MC/A	MC
East	401-112-011	HBHRCD Redwood Marine Terminal and Dock, Humboldt Bay (Open Water)	MC/A	MC
South	401-122-004	Unpaved Vacant Staging Area, CRC Woodchip Facility and Dock	MC/A	MC
West	N/A	New Navy Base Road (Humboldt County), Samoa Dunes State Recreation Area (BLM)	N/A	N/A

Notes:

1. APN = Assessor's Parcel Number
2. CRC = California Redwood Company
3. GDRC = Green Diamond Resource Company
4. HBHRCD = Humboldt Bay Harbor, Recreation and Conservation District
5. MC = Industrial, Coastal Dependent (MC) General Plan Designation
6. MC/A = Industrial/Coastal Dependent with Archaeological Overlay Zoning Designation
7. N/A = Not Applicable

1.5 Project Design

1.5.1 Design Principles

The finfish aquaculture facility is planned to be developed in two phases and would have an annual production capacity of approximately 25,000-27,000 metric tons of whole fish once complete. The aquaculture facility would utilize water and energy efficient processes to sustainably produce fresh Head On Gutted (HOG) fish and fillets for delivery to regional markets. The proposed species to be produced at the facility is Atlantic Salmon, subject to approval from the California Department of Fish and Wildlife. The proposed aquaculture facility is based on the same core designs that have been developed for NAF Inc.'s Belfast Maine facility utilizing technology developed from NAF Inc.'s Bedsted (Denmark), Fredrikstad (Norway), and Hanstholm (Denmark) facilities. The Belfast facility is currently in the late stages of permitting with draft permits currently being issued. Norway is currently producing and selling Atlantic Salmon and the Danish facilities produce and sell Yellowtail Kingfish.

The proposed aquaculture facility will include a complete process, from egg to harvestable fish in a single indoor location, and would contain the following design elements:

1. A hatchery operation where eggs are hatched, and fish fry grow to juvenile size
2. A grow-out operation with large tanks where fish are grown to market size
3. A fish processing facility from which fish is processed and fresh product is shipped out 5 days a week, coproducts are chilled and stored for sale
4. Backup systems that will enable critical functions to operate for many days in the event of a power outage
5. Oxygen generation plant and liquid oxygen storage
6. Water intake treatment that ensures consistently clean water for the fish
7. An advanced wastewater treatment plant to treat the discharge water, including a Moving Bed Biofilm Reactor (MBBR), a membrane bioreactor (MBR), and UV-C sterilization.
8. Administrative building and associated operations/maintenance facilities

RAS technology enables producers to establish a controlled production environment indoors. It allows for local production close to consumers, thus directly addressing the seafood trade deficit in the United States (US) and reducing pollutants including carbon dioxide otherwise generated by airfreight shipment of fresh seafood into the US. All production occurs indoors, thus eliminating noise, odor, and other potential nuisances to neighboring areas. In the proposed RAS facility, the risk of disease exposure and potential spreading of disease among fish populations is eliminated with robust biosecurity and water treatment measures. Discharge of nutrients from the proposed RAS facility is also greatly reduced by removing more than 99% of most nutrients and over 90% of nitrogen before the wastewater is discharged.

Utilizing RAS design principles, the proposed aquaculture facility would offer some distinct benefits, including:

1. The proposed land-based facility includes multiple physical barriers, rendering fish escape virtually impossible. The buildings containing fish are also more than 300 feet away from the water and they are built to withstand damage from potential earthquakes or tsunamis.

2. Extensive filtration and disinfection of all intake and discharge water prevents any pathogens or parasites from entering or exiting the facility.

3. Water in the proposed RAS facility is recycled and continuously treated in enclosed tanks, thus greatly reducing the facility's water consumption and disinfected discharge. With the use of denitrification, the aquaculture facility water use is further reduced. The proposed NAFC facility would exchange only about 1% of the RAS water per tank exchange, which would be one of the highest water efficiency rates in the industry.

4. Heat generated by biological processes is re-used to heat the proposed facility.

5. There is complete traceability within RAS facilities, as all production occurs in a single location and is subject to NAFC monitoring and California regulations.

1.5.2 Site Selection

The 2018 site selection process assessed the West Coast from the Monterey area to the Canadian border through systematic data gathering related to a set of location criteria. The high-level selection criteria are summarized below in Figure 1-2.

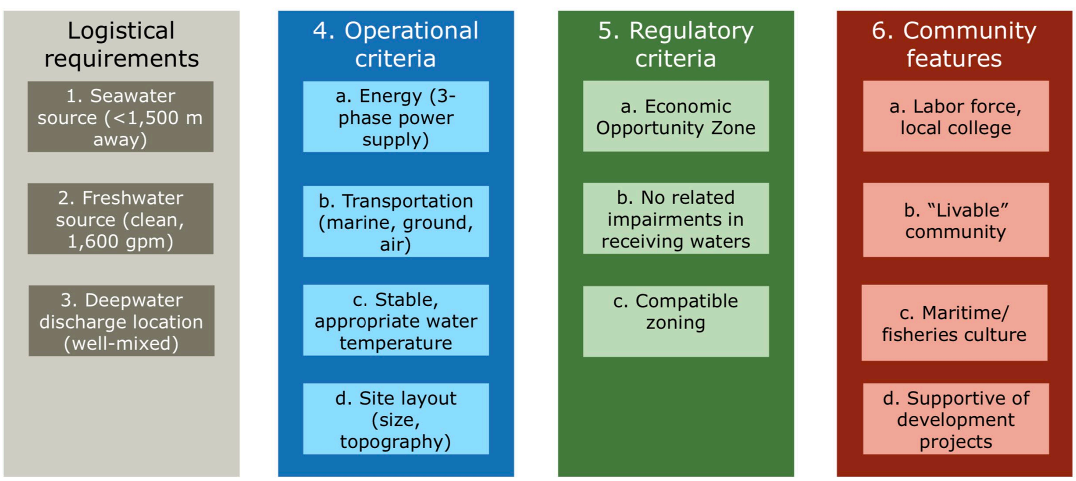


Figure 1-2 Site Selection Criteria

A number of locations along the coastline were narrowed down to three candidate locations. Further detailed assessments concluded that the Samoa Peninsula site provided the best conditions for development of the Project. Key strengths of the chosen Samoa Peninsula site include:

1. Existing outfall pipe and other necessary infrastructure already in place

2. Multiple clean water sources available, including freshwater and seawater
3. Electrical substation already on the site
4. A flat site with good constructability
5. Forward-looking political climate to support economic growth in the region
6. A vibrant community for aquaculture facility staff to live

The final decision to move forward was based on negotiations with the HBHRCD and a resulting lease-option agreement for the preferred Project Site property.

As previously noted, the Project has a wealth of economic and social benefits for the community, while the environmental profile of the Project greatly reduces potential impacts compared to other methods of aquaculture production. The Project´s goal is to displace imports of fresh fish and it is not competing with the regional fisheries. NAFC has conducted meetings with a wide range of stakeholders in Humboldt and California, including a number of the environmental groups in the region. NAFC has also conducted several meetings with local tribes and will continue this dialog as the project moves forward.

2. Project Description

The Project includes the two key components which shall be described individually in the following subsections. The principal Project components are summarized in Table 2-1.

Table 2-1 Project Components

Key Project Component	Description	Location
Pulp Mill Remediation	Building demolition and contamination remediation	APN 401-112-021 (excluding RMT II)
Aquaculture Facility Construction	Building construction and site improvements	APN 401-112-021 (excluding RMT II)

Notes:
- APN = Assessor’s Parcel Number
- RMT II = Redwood Marine Terminal (owned by the HBDA)
- See Figure 2 (Appendix A) for the Project conceptual site layout.
- See Figure 3 (Appendix A) for the Project Site parcel overview.

2.1.1 Overall Project Timeline

Special studies and initial permit submission were submitted to the agencies in September and October 2020. (See 2.1.4 for a summary of required permits and approvals.) The permitting phase is expected to generally be complete by June 2021. Project civil engineering and design are currently underway and anticipated to be completed in due course after permits are obtained. Project construction would follow once the required agency approvals and permits are secured by NAFC. It is expected that demolition and construction would commence following final permit approvals, likely between the fall of 2021 and the summer of 2022.

2.1.2 Project Phasing

The proposed Project development components summarized in Table 2-1 (above) are generally planned to be completed during three phases (Phase 0, Phase 1 and Phase 2), with each phase containing one or more construction components (sub-phases). The general phases of construction are summarized in Table 2-2 and Figure 2-1 below.

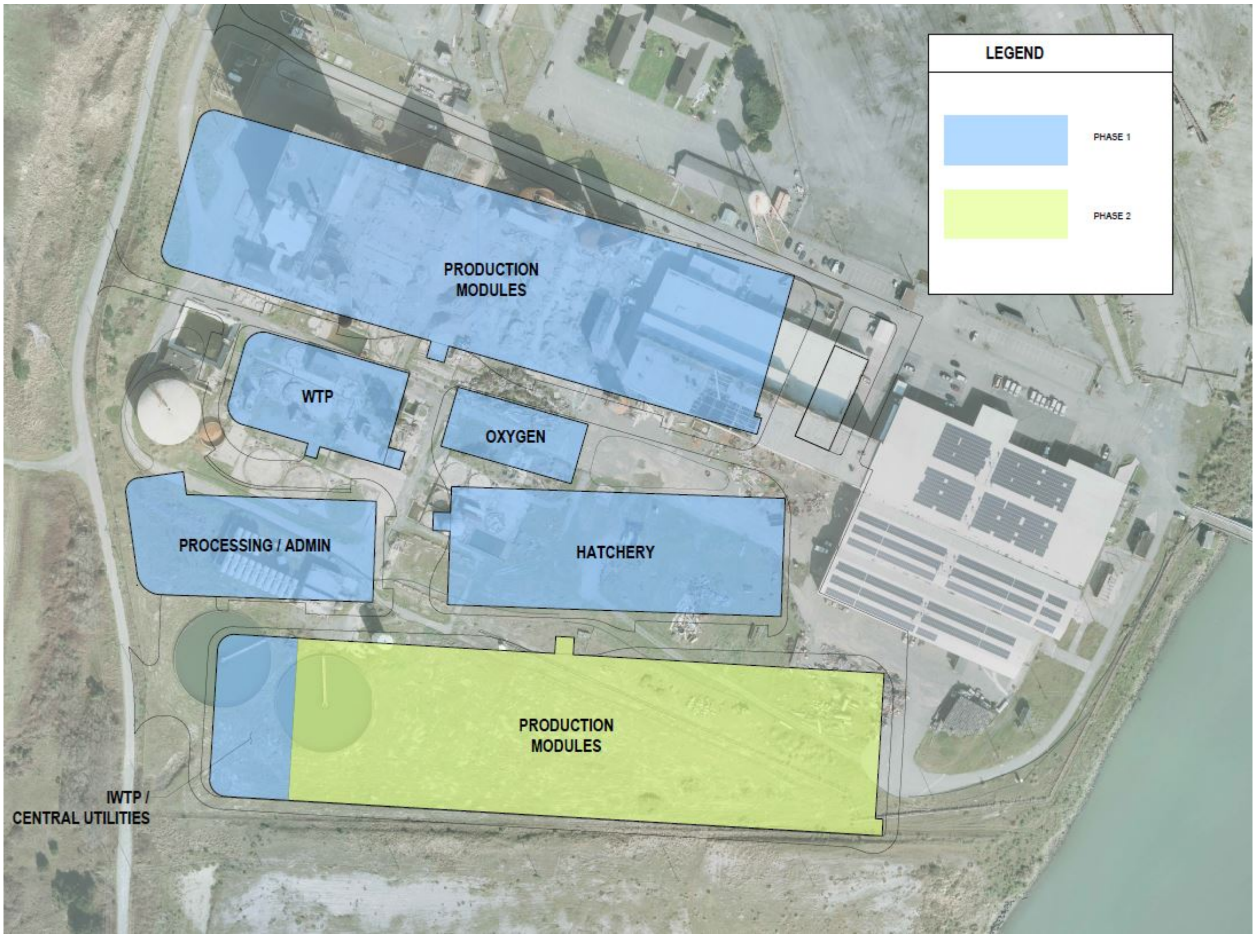
Table 2-2 Project Construction Phasing

Phase Number	Phase Summary	Phase Construction Components
Phase 0	Brownfield Redevelopment	1. Asbestos abatement 2. Structure demolition 3. Soil remediation (including excavation, as necessary to facilitate demolition) 4. Waste stream characterization, transportation and disposal
Phase 1	Brownfield Redevelopment and Aquaculture Facility First Stage	1. Intake and outfall connections 2. Ground densification 3. Hatchery building 4. Construction of the following: a. Phase 1 grow-out modules b. Fish processing plant c. Central utility plant d. Intake water treatment e. Wastewater treatment building f. Backup systems plant g. Oxygen generation plant h. Other minor supporting infrastructure 5. Soil remediation (including excavation, as necessary to facilitate construction) 6. Other site civil work including stormwater management, LID and landscaping 7. Onsite and offsite agency-required biological mitigation
Phase 2	Aquaculture Facility Second Stage	1. Additional ground densification 2. Phase 2 grow out module 3. Soil remediation (including excavation, as necessary) 4. Expansion of utilities

Notes:

- See Figure 2 (Appendix A) for the Project conceptual site layout.

Figure 2-1 Building Project Phasing



2.1.3 Project Phasing Logistics

Demolition of existing pulp mill structures and site remediation work (Phase 0) will be conducted prior to the commencement of the initial stage of aquaculture facility construction (Phase 1). Once the footprint of Phase 1 development has been determined, a demolition plan will be implemented to clear the construction footprint. A similar plan will be developed for the remaining buildings and infrastructure in preparation of Phase 2 construction.

A geotechnical investigation and environmental analysis have been conducted to determine the suitability of the existing soils both in terms of structural capacity and environmental characterization. Soils that are contaminated and/or not structurally sound will be excavated and replaced with appropriate fill material. Excavated material will be either repurposed, reused onsite, or appropriately transported and disposed of at an offsite facility.

Biological and botanical surveys of the Site have been conducted and may result in the scheduling of some site activities to accommodate life cycle and nesting considerations for species identified at the Site.

2.1.4 Required Permits and Approvals

Environmental permits, agency approvals and associated documentation will be filed with the appropriate regulatory agencies in association with the Project. Table 2-3 summarizes the anticipated permits, consultations, and approvals from federal, state, and local agencies.

Table 2-3 Anticipated Regulatory Permits and Approvals

Agency	Permit or Approval	Regulated Activity
Humboldt County	California Environmental Quality Act (CEQA) Initial Study/Mitigated Negative Declaration (IS/MND) (anticipated)	State environmental protection requirement
Humboldt County	Coastal Development Permit (CDP)	Development within the LCP jurisdiction to comply with the Coastal Act
Humboldt County	Building Permit	Construction, installation or alteration of structures
Humboldt County	Grading Permit	> 50 cubic yards per parcel, among other thresholds
Humboldt County	AB52 Consultation Documentation	Projects potentially affecting Tribal cultural resources
Humboldt County	Loading Space Exception Petition	Facilities with less than one loading space for each 20,000 ft^2 of floor area
California Coastal Commission	Coastal Development Permit (CDP)	Compliance of discharged effluent with the Coastal Act
Humboldt County	Encroachment Permit	Signage and improvements to New Navy Base Road
North Coast Regional Water Quality Control Board (NCRWQCB)	National Pollutant Discharge Elimination System (NPDES) Waste Discharge Permit Stormwater Pollution Prevention Program (SWPPP)	Construction >1 acre of ground disturbance
North Coast Regional Water Quality Control Board (NCRWQCB)	National Pollutant Discharge Elimination System (NPDES) Waste Discharge Permit	Water quality of effluent discharged to the Pacific Ocean
North Coast Regional Water Quality Control Board (NCRWQCB)	Remedial Action Work Plan and Soil/Groundwater Management Contingency Plan	Handling, testing, disposal and/or reuse of site materials. Including soil and groundwater.
North Coast Unified Air Quality Management District (NCUAQMD)	National Emissions Standard for Hazardous Air Pollutants (NESHAP) notification	Facility demolition and/or asbestos abatement; backup generator emissions

Table 2-3 Anticipated Regulatory Permits and Approvals

Agency	Permit or Approval	Regulated Activity
North Coast Unified Air Quality Management District (NCUAQMD)	Stationary Source Air Quality Permit	Operation of stationary internal combustion engine
California Department of Fish and Wildlife	Aquaculture Registration and Egg Importation	Importation of eggs into California from other states or countries

Notes:

1. AB52 = Assembly Bill 52
2. IS/MND = Initial Study/Mitigated Negative Declaration
3. > = Symbol signifying "greater than"

2.1.5 Project Site Assessment and Special Studies

NAFC is aware of the unique environmental and geologic considerations involved in development on the Samoa peninsula. These include unique geology, seismic / tsunami risk, wildlife, vegetation, cultural resources, pre-existing contamination, and hazardous materials. NAFC is committed to designing and developing the proposed aquaculture facility with minimal environmental impacts while remediating the legacy contamination at the Site as necessary for building demolitions, building foundations and stormwater treatment/detention. Currently NAFC expects the design to include deep foundations utilizing ground densification to mitigate the seismic / tsunami risk. The following special studies and technical investigations have been conducted during the Project design and permitting phase to evaluate the existing environmental conditions at the Project Site, inform design development, provide a technical basis for impact assessment under CEQA, and assess the potential for environmental impacts resultant from the Project.

Table 2-4 Project Site Special Studies Summary

Name of Study	Topic of Study	Study Author
Botanical, Wetland, and Sensitive Natural Communities Tech Memo	Botanical Resources, Wetlands, ESHA, and Vegetation Mapping	GHD
Traffic Impact Analysis	Vehicle Miles Travelled	GHD
Hazardous Materials Assessment	Asbestos, Lead, and UW Assessment	GHD
Terrestrial Biological Resources Report	Biological Resources	GHD
Marine Resources Biological Evaluation	Marine Biological Resources	GHD and H.T. Harvey and Associates

Table 2-4 Project Site Special Studies Summary

Name of Study	Topic of Study	Study Author
Numeric Modeling Report (Dilution Study)	Water Quality and Dilution Analysis	GHD
Probabilistic Site-Specific Tsunami Hazard Analysis	Tsunami Hazards	SHN
Preliminary Geotechnical Investigation Report	Geological Conditions	SHN
Topographic and Boundary Surveys	Parcel Size and Topography	SHN
Landfill Gas Migration Survey	Potential Soil Gas Migration from Adjacent Ash Landfill	SHN
Archaeological and Historical Resource Investigation	Archeological, Historical and Cultural Resources	Roscoe & Associates
Technical Assessment of Freshwater Infrastructure	Water Quality and Design Development	Harbor District and HBMWD
Preliminary Stormwater Assessment	Development Design	GHD
Plan for Structure Demolition	Site Development	SHN
Interim Measure Work Plan	Soil and Groundwater Contamination Management During Construction	SHN
Construction Noise, Vibration, and Hydroacoustic Assessment	Noise and Vibration	Illingworth & Rodkin
Supplemental Soils and Anthropogenic Disturbance Investigation of Potential ESHA Memo	Anthropogenic Disturbance	GHD
Restoration and Monitoring Plan	On and Off-Site Mitigation	GHD

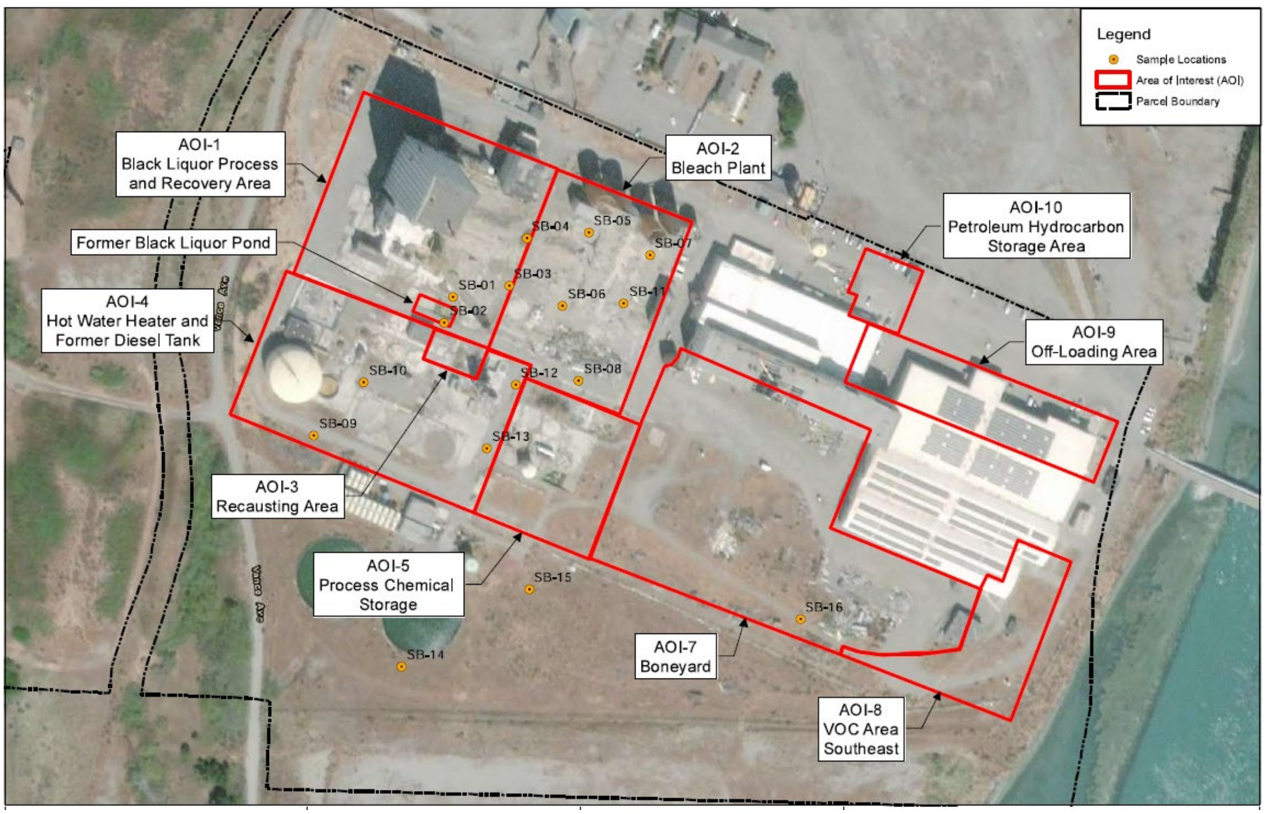
Notes:

- HBMWD = Humboldt Bay Municipal Water District

2.1.6 Brownfield Redevelopment and Remediation

As noted in Section 1.4, in 2019 the EPA conducted a phase II environmental assessment on the site, focusing on shallow soil contamination. The study tested soil samples located in several areas of interest (AOIs) on site, mostly focusing on the former bleach plant (AOI-2), black liquor process and recovery area (AOI-1), and the re-causticizing area (AOI-3). Figure 2-2 presents a map showing all of the sample locations from this study. Samples were collected at depths ranging from 0-10 feet below surface, and analyzed for metals, and dioxins/furans; NAFC also contracted additional analysis of the samples for PCB's and OCP's. The results of the sample analysis showed that all measurements came back either non-detect (ND), or below DTSC screening levels for industrial sites or regional background levels.

Figure 2-2 Sample location map from 2019 EPA study



Based on the results of the 2019 EPA study, and past clean-up efforts on the project site, NAFC found that there was low risk of significant contamination existing on the site. Despite that, NAFC remains committed to responsible remediation efforts should contaminated soils or debris be encountered during demolition, excavation, and construction. Excavated soils from the site will be handled responsibly and sampled for likely contaminants (SHN 2020). Soils found to contain any significant contamination will be segregated and disposed of at an appropriate waste facility, while "clean" soils will either be disposed of properly or repurposed on site. Proper erosion and stormwater control measures will be implemented during construction to prevent migration or leeching of any contaminated soils. Much of the site will be "capped" with either structures or impervious surfaces, or landscaped and equipped with proper stormwater control measures, which will minimize any risk of contamination migration post-construction.

During demolition and construction asbestos abatement would be conducted, as necessary, throughout the pulp mill site to remove existing asbestos materials from existing Project Site structures prior to building demolition. Appropriate notifications would be made to the North Coast Unified Air Quality Management District (NCUAQMD) in accordance with the National Emissions Standards for Hazardous Air Pollutants (NESHAP) requirements prior to the commencement of asbestos abatement and/or demolition work at the Projects Site. A licensed abatement contractor would be engaged by NAFC, or the General Contractor, to conduct abatement work in accordance with specifications.

Building and structure demolition would commence once asbestos abatement work is complete, as applicable to each structure. A licensed demolition contractor would be contracted by NAFC to conduct building demolition in accordance with specifications. Appropriate dust mitigation and BMPs would be established during demolition work, in accordance with applicable regulations and mitigation measures.

Soil remediation and demolition waste streams would be appropriately segregated and characterized. Waste generated during redevelopment would be transported by a licensed waste hauler to an appropriate transportation, storage and disposal (TSD) facility based on the waste characterization data. Concrete and asphalt generated during building demolition and site redevelopment would be characterized and either recycled or disposed of, as appropriate. Metal debris generated during demolition would be recycled (SHN 2020).

2.1.7 Aquaculture Facility Description

The proposed development will be based on a RAS modular production design, with local civil and infrastructure adaption. The facility design will be based on the engineering already performed for Nordic Aquafarms proposed Project to be constructed in Belfast, Maine and adapted to site specific conditions at the Samoa Peninsula Project. The layout of the aquaculture facility site is in the conceptual phase of planning and design. A potential aquaculture facility layout is shown in Figure 2 (Appendix A). Note the final layout may differ slightly as environmental studies and civil design moves forward.

The largest buildings at the proposed aquaculture facility contain the grow-out modules. Maximum building height within the facility is expected to be approximately 60 feet. The footprint of the Phase 1 production modules is about 265,028 square feet, and the Phase 2 production module footprint is about 286,888 square feet. Construction of the grow-out modules will occur over two construction phases. Egg raising in the hatchery will begin as early as feasible during Phase 1, followed thereafter by the completion of remaining Phase 1 construction. The hatchery facility, located in the center of the site, will raise the fish from egg to juvenile stage, after which they will be transported to the grow-out modules via underground pipes to be raised to market size. The water treatment plant (WTP) will subject all inlet and wastewater to a stringent treatment process, including fine filtration, biological treatment, and UV sterilization. The remaining buildings house the administrative functions, power generation, and utility infrastructure needed to support operation, and are detailed later in the document.

2.1.8 Solar Infrastructure Description

An approximately 3-5 MW solar array would be installed on the facility roofs. Electrical power generated by the solar array would be utilized by the aquaculture facility to help support operations. There are currently no plans to utilize batteries to store solar power.

The proposed solar array would consist of multiple rows of photovoltaic (PV) panels arranged to maximize solar insolation and covering approximately 690,000 square feet of the facility roofs. The solar panels would be wired in series and connected to step-up transformers.

2.1.9 Aesthetics

Improvements will be made to the Project Site as a consequence of this Project. Improvements to the Project Site include:

1. Removal of the remnant smokestack currently dominating the skyline of the Samoa Peninsula
2. Removal of existing 10 story reboiler building
3. Removal of deteriorated infrastructure, demolition waste, and asbestos on the site

The new structures will take into account appropriate aesthetic integration in the area:

1. Clearing up and landscaping of the grounds to support a high-quality food brand operation
2. Choice of façade colors and patterns that minimize visual impact and blend into the surrounding environment
3. The exterior of the aquaculture facility will have downward cast lighting and sensor-controlled lighting systems designed to produce minimal light pollution

No trees would be removed to accommodate new buildings, landscaping, or parking lot improvements.

2.1.10 Landscape Design

The overall landscape concept is to ground the project within the context of the Manila dunes. The landscape plan is based on locally appropriate native species that are established in different habitat areas of the Manila dunes, including species from the dune mat, coastal brambles, and forested shore pine vegetative alliances. Extant dune mat and coastal brambles on site will be enhanced through removal of invasive species and augmented with additional plantings to fill those void spaces. Stormwater management basins will include plantings that mimic seasonal wetlands and plant communities also found in dune environments. Plant species in the landscape palette include shore pine (*Pinus contorta* ssp. *contorta*), red alder (Alnus rubra), wax myrtle (*Morella californica*), seaside buckwheat (*Eriogonum latifolium*), California blackberry (*Rubus ursinus*), twinberry

(*Lonicera involucrata*), Western swordfern (*Polystichum munitum*), Pacific reedgrass (*Calamagrostis nutkaensis*), among others.

2.1.11 Fencing

Security fencing, likely chain-link, is proposed to enclose the inner campus. The inner campus consists of the areas located between the Project buildings. No new perimeter fencing is proposed.

2.1.12 Water Intake Measures

Saltwater would be supplied to the aquaculture facility from the HBHRCD sea chests located at the RMT II and Red Tank docks. The sea chest pumps would supply seawater through piping affixed to the existing docks. The piping infrastructure would extend onshore underground at least 50 feet from the RMT II dock terminus. The aquaculture facility would tie into the sea chest piping at the northeast corner of the RMT II building. The terrestrial water piping infrastructure would be located within APN 401-112-021 and APN 401-112-024, thus is entirely within the Humboldt County LCP and CCC appeal jurisdiction.

Final design of the intake water treatment infrastructure within the aquaculture facility is subject to analysis of final source water data currently being collected. There will be separate treatment trains for freshwater and saltwater. The baseline solution for intake water treatment that NAFC operates with includes:

1. First stage drum filter filtration
2. Ozone treatment
3. Fine filtration
4. Ultraviolet (UV-C) dosing

Intake water will be monitored on a continuous basis with probes for basic water quality characteristics, temperature, and salinity. Manual testing will also be conducted on a regular basis or under special circumstances for example for bacteria, toxins, or other sources of pollution.

NAFC will be prepared to maintain water quality and fish health within the facility in the event of sudden changes in Humboldt Bay water quality due to accidental spills or other unforeseen circumstance. Humboldt Bay has suffered several oil spills in the past. The MV Kure spilled 4,500 gallons of intermediate fuel oil in 1997 and the dredge Stuyvesant spilled another 2,100 gallons in 1999. NAFC has the ability to both drastically reduce water usage as an immediate measure as well as the ability to effectively stop the use of marine water and transition to exclusive freshwater use. The anadromous nature of Salmonid biology allows them to flourish in either salt or freshwater. Young salmonids are obligated to live in freshwater. Post smolt salmonids can be raised in fresh, brackish, or full-strength seawater. There are many examples of fish being grown under all of these varying saline conditions both commercially and in research institutes. Nordic Aquafarms prefers to utilize marine water to grow fish. Transitioning to freshwater for an extended period of time would not have any negative impact on the effectiveness of fish health systems or wastewater treatment technology. The former mill utilized large volumes of freshwater and the infrastructure to deliver the water is still in place. For emergency operations the industrial water supply line at the Project Site is capable of providing more water than the facility would need.

2.1.13 Water Discharge Measures

There will be an advanced wastewater treatment plan with high levels of nutrient removal and biosecurity measures to protect receiving waters. Nordic Aquafarms has never had disease outbreaks in its existing facilities due to strict water treatment regimen and high biosecurity measures, but always takes into account that this conceivably could happen. In such scenarios independent well developed Best Management Practices (BMP), Standard Operating Procedures (SOPs), and strong biosecurity on the outfall are designed to contain and prevent disease spread to receiving waters. The wastewater treatment plant is still in the design phase, but current design includes the following tried and proven technologies:

1. Phosphorous reduction system (anoxic / bioreactor system)
2. 0.04-micron Ultrafiltration systems (Membrane Bioreactor)
3. A 300 mJ end of lamp life (ELL) UV dose before water is discharged
4. Sludge collection, dewatering, and storage system

The total RAS and wastewater design delivers the following performance:

1. 99 percent reduction of total suspended solids, BOD, and phosphorous
2. 90 percent reduction of nitrogen discharge

These represent the highest treatment standards in the industry.

Dewatered sludge (dry matter percentage to be determined based on off-take partners) is pumped into sealed holding tanks until out-transport in tank trucks to receiving parties.

The aquaculture facility wastewater will be treated onsite prior to discharge offsite. The proposed wastewater treatment process generally illustrated in Figure 2-3 and an example wastewater treatment flow diagram is provided in Figure 2-4 (note: a final piping and instrumentation diagram will be available once facility design is complete).

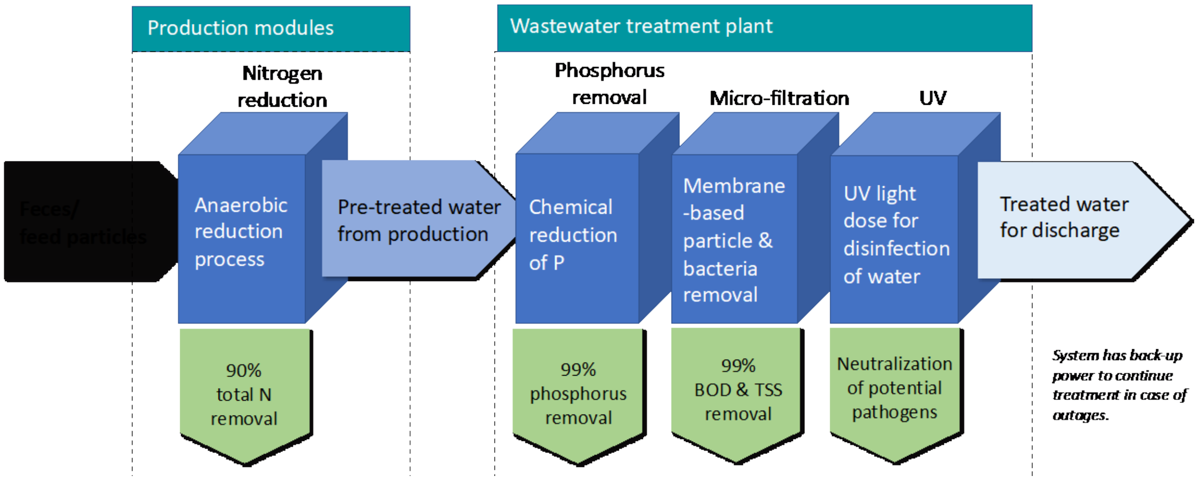


Figure 2-3 Wastewater Treatment Infrastructure

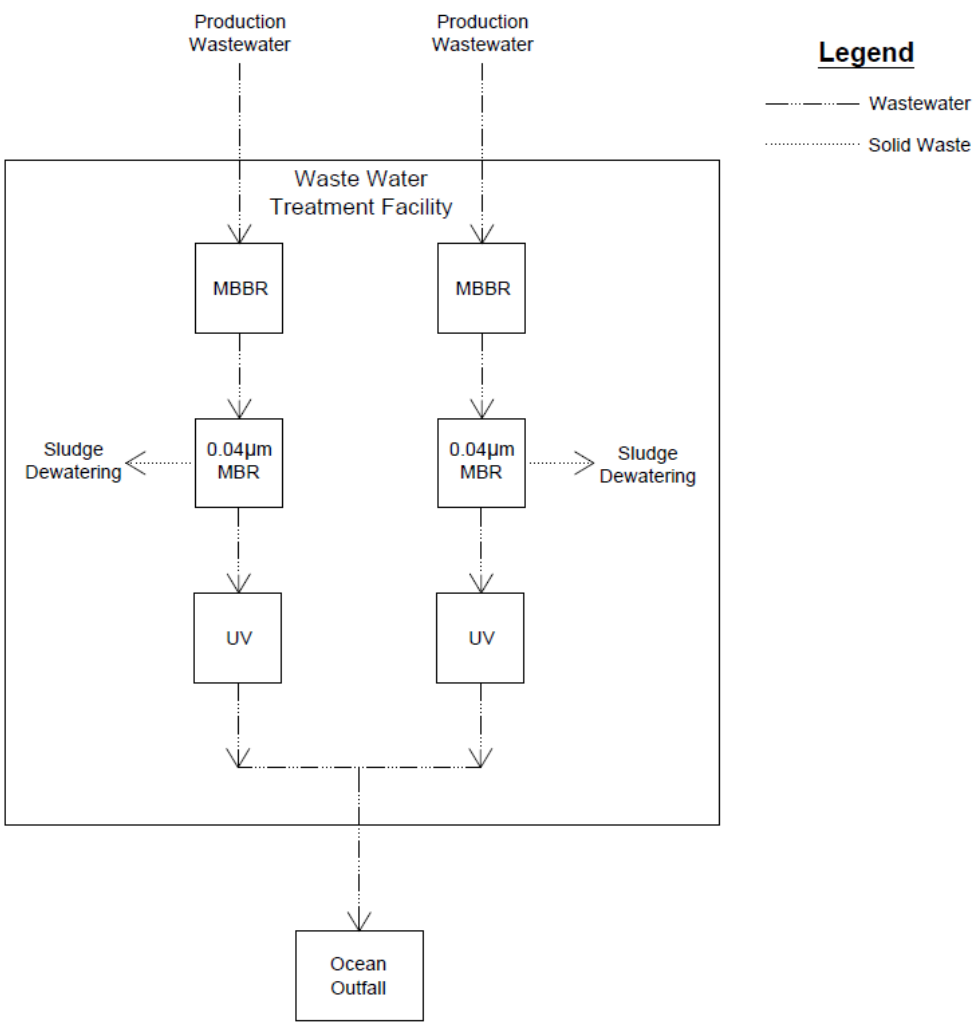


Figure 2-4 Example Wastewater Flow Diagram

Total water volume discharged at full operational capacity is estimated at a maximum of 12.5 Million gallons per day (MGD). The discharge water will be comprised of 10 MGD seawater sourced from Humboldt bay and 2.5 MGD freshwater sourced from HBMWD Mad River pumping stations and river intake. Freshwater will be ~2MGD of untreated surface water (river intake) and ~0.5 MGD treated domestic water (Rainy wells). Table 2-5 provides a summary of the constituents and maximum daily loading rates for the outfall discharge effluent.

Table 2-5 Project Daily Maximum Effluent Summary

Effluent	Discharge
Total Water volume	12.5 MGD
Total Suspended Solids (TSS)	185 KGD
Biochemical Oxygen Demand (BOD)	162 KGD
Total Nitrogen (TN)	673 KGD
Ammonium Nitrogen (NH4)	0.07 KGD
Phosphorus (P)	5.8 KGD

Notes:
1. MGD = Millions of Gallons per Day
2. KGD = Kilograms per day

2.2 Project Construction

The proposed Project will be constructed as a multi-phased development project. Project construction will involve up to three phases as summarized above and will generally be completed as described in the following subsections.

2.2.1 Construction Timeline

A formal construction timeline has not been developed, as the Project design is in the conceptual phase and regulatory approvals are in progress. Generally, the anticipated construction period is 22 to 25 months for each phase. Construction dates will depend on receipt of agency approvals and successful completion of the environmental permitting process.

Following the necessary preparatory clearing and site work defined at Phase 0, the Phase 1 construction will begin. The construction approach will be divided into multiple phases in order to limit the amount of disturbed area at any given point, and to allow for focused soil erosion and sediment control measures to be implemented to prevent any impacts from the development process. Construction efforts will be ordered according to the facilities of most immediate need.

Construction work associated with Phase 1 is anticipated to begin in 2022 and extend through 2024. Phase 1 will include construction of the Phase 1 hatchery and production modules and the central utility structures, including connection to the necessary intake and discharge infrastructure needed to bring water to the facility. Following the construction of the Phase 1 production modules, construction will commence on the fish processing and administrative building. Access roadways will be built and expanded during each phase of construction, as construction proceeds along the site. As the construction footprint expands, a corresponding expansion of the stormwater systems will be implemented to account for the increase in impervious surfaces.

Once Phase 1 construction and equipment installation is complete, commissioning and startup of the facility will begin. As the commissioning process is underway, the aquaculture facility site will undergo permanent stabilization measures including seeding/planting of disturbed areas and slopes, establishment of the permanent stormwater system and native landscaping. Only once the Phase 1 region is fully stabilized and the facility is independently operating, will Phase 2 construction commence.

Construction work associated with Phase 2 is expected to begin one year after Phase 1 is started (tentatively in 2025 and extend through 2026). Prior to the beginning of Phase 2 construction additional clearing and demolition infrastructure within the proposed footprint will occur. An overall construction perimeter will be established to prevent impacts from development on the surrounding areas, and localized erosion and sediment control measures will be implemented as construction proceeds across the Project Site. The Phase 2 grow-out building footprint will be prepared for foundation and envelope construction. Access roads and supporting infrastructure will be expanded to facilitate the construction effort. The stormwater system developed for the Phase 1 facility will also be extended to encompass the Phase 2 area, with proper sediment collection basins established downgrade of the site. Once Phase 2 building construction is completed the site will undergo permanent stabilization measures similar to those implemented in Phase 1, and the permanent stormwater system will be established.

2.2.2 Staging Areas

Construction staging would occur at the former pulp mill (APN 401-112-021). The staging areas would be used for contractor parking and supply and equipment storage. Staging areas would be located strategically to provide the most efficient access for construction operations and would be setback an appropriate distance from Humboldt Bay, wetlands and/or other sensitive areas. Storm drains located within or near Project staging areas would be protected using appropriate best management practices (BMPs).

To access the Project Site, access points to the staging areas would be demarcated for construction vehicles to move directly from New Navy Base Road to Vance Avenue and then to the staging areas.

2.2.3 Grading and Excavation

A level building pad would be created for each new building. To the extent possible, excavated soil would be reused onsite which would reduce the need for off hauling. Excavated materials will be screened for contaminants and hazardous materials throughout construction activities. Any contaminated materials encountered will be segregated and disposed of at an appropriate off-site facility. Existing pavement and hardscape would either be pulverized and reused on site as base material or exported.

Construction at the Project Site would require removal of the existing concrete foundations and brick smokestack to prepare the ground surface for construction. Demolition debris, such as concrete and brick would be recycled to the extent feasible. Concrete and brick that could be repurposed would be crushed and used for ground densification and structural fill where appropriate. Demolition of concrete and brick will include screening for contaminants and hazardous materials. Impacted materials will not be reused and will be disposed of at an appropriate offsite facility. Material sorting, crushing, and reuse will be conducted in a manor to mitigate dust generation, stormwater runoff, and any other potentially deleterious byproducts. Site grading would be limited to that necessary for facility and infrastructure construction, along with appropriate stormwater and erosion control measures.

Utility trenches would be excavated to bring services to new buildings within the aquaculture facility. The trenches would vary from two to three feet wide and four to six feet deep. Excavated soil would be returned to the trenches to cover the utilities.

Dewatering may be required during excavation, and, if so, would be pumped to an appropriate upland area and infiltrated, or stored in baker tanks depending on water quality. The designs for foundations, process piping, and utilities are limited to a 12-foot maximum depth below surface to limit any work below the water table or the need for trench dewatering.

It is anticipated that sheet piling will be utilized where sufficient area is not available to slope excavations and in areas of deep excavation to limit any dewatering that may be required. Sheet piling will be installed with a vibratory hammer, to an approximate depth of 30 feet below ground surface, and will be removed once work in the excavation is complete.

2.2.4 Foundations

Because the Project is located on the Samoa Peninsula, which consists largely of sand and sandy soils, the construction of the building foundations involves soil densification (i.e. compaction) techniques in order to adequately support the slab foundations. There are a variety of soil densification techniques available, of which the following three are considered suitable for the Project: Rammed Aggregate Piles (RAP), Vibro Displacement Columns (VDC), and Vibro Compaction. Rapid Impact Compaction, a commonly used technique, is not considered viable for this project and will not be used.

2.2.5 Construction Stormwater Management

Management of onsite stormwater will be addressed during construction of the facility. Construction activities will be covered by obtaining coverage under the Construction General Permit Order 2009-0009-DWQ. A Stormwater Pollution Prevention Plan (SWPPP) will be developed and implemented for the duration of construction activities at the site to manage and reduce the potential for pollution from concentrated stormwater runoff from the site.

Since construction is to be phased, short term stormwater Best Management Practices (BMPs) will be installed and/or modified during each phase of construction to ensure compliance with stormwater discharge requirements. Stormwater affected by construction related activities will be treated by implementing soil stabilization, sediment control, temporary tracking control, wind erosion control, non-stormwater management, and waste management and materials pollution control BMPs, as necessary, throughout the project site.

As construction of the site facilities progresses temporary stormwater BMPs, such as temporary sediment basins, will either be decommissioned due to the area being developed, or finalized and incorporated as part of the permanent stormwater infrastructure.

2.3 Project Operations

The summary of project operations is preliminary and subject to results from forthcoming special studies and technical investigations and final design development internal to each production building and ancillary infrastructure. An overview of current site logistics designs is provided on Figure 4 – Figure 9 (Appendix A).

2.3.1 Water and Utility Infrastructure

The facility will use both freshwater and saltwater sources to achieve optimal salinity levels for the fish and the RAS system. Both freshwater and saltwater water sources are addressed in the following subsections.

Freshwater

Freshwater is to be delivered by the HBMWD through existing infrastructure to the Samoa Peninsula. The HBMWD has significant excess capacity of fresh water from the Mad River. The HBMWD is currently conducting a project to ensure necessary upgrades of this infrastructure for NAFC and other future users at the Peninsula.

Freshwater is provided to the Project Site by the existing HBMWD 1-MG water storage tank, located west of the site, which previously supplied water to the pulp mill. The existing onsite water service would be connected to the new buildings for potable use, fire sprinklers, and irrigation. Water service to the buildings would connect to an existing underground water line running from the 1-MG tank to the Project Site.

Saltwater

As described in detail above, the existing sea HBHRCD chests on the RMT II and Red Docks will provide saltwater withdrawal and supply to the site. The Project will connect with the sea chest piping on HBHRCD property in proximity to the northeastern corner of the RMT II facility.

Water Treatment

Water treatment by NAFC of intake water and discharge water will take place in onsite buildings. All infrastructure will be placed indoors. Dewatered sludge (feces and feed) rich in nutrients will be a byproduct of the wastewater treatment process. The sludge will be recycled for other uses such as fertilizer, biogas, etc. The sludge is stored in sealed tanks for regular out-shipment and will thus not result in local odors. The other output is filtered and treated water that will be discharged through the existing outfall pipe that extends 1.55 miles (8,200 feet) offshore from the Samoa Peninsula into the Pacific Ocean.

The water treatment building will be connected to existing water infrastructure that is located on the surrounding HBHRCD property. The aquaculture facility will utilize the existing outfall pipe owned by the HBHRCD adjacent to the Project Site. An underground connecting pipe will be installed by NAFC connecting to the existing outfall pipe.

2.3.2 Aquaculture Facility Operation

As shown in Figure 2 (Appendix A), the proposed facility will be comprised of multiple buildings to house and support aquaculture operations. The following sections provide a description of each building and the associated facility functionality. It should be noted that the presented layout is preliminary, and subject to change as design for the Project progresses.

Buildings 1 & 2: Phase 1 and Phase 2 Grow-out Modules

The Phase 1 production modules are proposed to be located along the northern edge of the aquaculture facility, which will contain the initial grow-out modules. The construction of the Phase 1 buildings and ancillary infrastructure is scheduled for to be completed during Phase 1, with the remaining Phase 2 modules to be constructed during Phase 2. The westerly portion of building 2 will contain the intake water treatment facility and thus will also be constructed in Phase 1.The CUP houses the heating and cooling equipment needed to maintain proper water temperature during operation.

In order to reduce energy demands, the facility is designed to capture as much as possible of the heat generated by the fish, and therefore a network of heat exchangers and heat pumps will be installed and connected to the production modules with subgrade heating/cooling water lines. It should be noted that upon completion of Phase 1 the facility will be commissioned and begin operation, which will continue through the ensuing construction phases. The production module buildings will be the largest structures onsite. The buildings will contain a series of tanks that will house the fish as they grow from juvenile to market size. Each tank system will feature an independent RAS system that will continuously recirculate, filter and treat the tank volume twice per hour; with one percent of water to be removed and piped to the wastewater treatment facility (Building 5) for additional filtration and treatment prior to being discharged into the existing outfall pipe. The utility density for these buildings will be high, and include electrical, process water, heating/cooling water, and fish transport piping.

Building 3: Hatchery

Located in the eastern side central corridor of the site is the Hatchery building, which houses the hatchery and rearing tanks needed to grow the fish from eggs to juvenile stages. The tanks within this facility will operate similarly to those within the grow-out modules; each tank cluster will be tied to a particular stage of growth and feature its own RAS system. Also like with buildings 1 and 2, the utility density in this facility will be very high, necessitating careful foundation design to accommodate the many tie-in points for process and utility lines. Fish are transported from the Hatchery building to the grow-out buildings through swim-pipes under the ground.

Building 4: Fish Processing and Administration

Building 4 contains the final stage of the process; fish are transported via underground piping from the grow-out modules to building 4 for the purge process and final processing. Packaging and shipping will also occur within this building, and therefore it is important that it be centrally located on the site. On the upper floor of the processing facility will be administrative offices that will contain staff that oversee every aspect of the facility operation and management.

Building 5: Wastewater Treatment and Backup Power

The wastewater treatment plant (Building 5), will house both the saltwater and freshwater discharge waste streams from the grow-out modules, hatchery, and fish processing facilities. The discharge solids will be removed through filtration and the solid sludge will be stored in air-tight containers located either below or above grade. The filtered wastewater will then undergo multiple treatment processes, included biological treatment, and UV disinfection prior to discharge through the outfall pipe into the Pacific Ocean. Building 5 will house the emergency backup generators and switch gear above the modeled tsunami inundation level on the second floor.

Oxygen Generation

The central area of the facility will house the oxygen generation system and store liquid oxygen as emergency oxygen for all systems.

Facility Operation

The facility is estimated to employ around 90-100 employees for Phase 1, and up to 150 for full Phase 2 buildout. The facility will operate 24/7, with regular operation occurring Monday-Saturday. The employees will work in two shifts, one early morning and one late afternoon. It is estimated that the morning shift will consist of about 60 employees in Phase 1, increasing to approximately 90 in Phase 2, and the evening shift will have about 30 employees in Phase 1, increasing to approximately 60 in Phase 2. Aside from shift arrival and departure, on-site traffic will be mainly limited personnel movement, deliveries, and outgoing shipments of products and coproducts. Fish movement within the site will be handled by subgrade piping and thus will not add to surface traffic.

Facility Parking

Parking at the facility will be located throughout the central campus corridor between Building 1 and Building 2 providing access to all facility buildings. The facility will include a three-truck loading dock, seven-truck unloading / loading areas,115 standard light vehicle parking spots, and six ADA accessible light vehicle parking spots. At full production there would be a maximum of 100 employees at the facility at any given time. That would include approximately 20 employees in the approximate 6,400 square foot office / management area of Building 4 and approximately 80 employees spread throughout the rest of the facility.

Facility Truck Traffic

Facility operations will include regular shipments from and deliveries to the facility. Shipments would include finished product to market and waste streams to secondary use processing sites. While the final distribution strategy for the facility is still in development, initial estimates have been made based on knowledge of existing West Coast markets in relative proximity to the project site. At full production it is currently estimated that there will be 40 outgoing product delivery trucks per week with approximately 30% going to the Seattle area, approximately 30% going to the Los Angeles area, and approximately40% going to the San Francisco Bay Area. It is expected at full production there will be 32 outgoing trucks weekly carrying waste streams to various secondary use processing sites within 150 miles of the facility. Deliveries to the facility include fish feed, shipping materials, and process chemicals. Deliveries of fish feed will consist of 20 trucks per week originating in central Oregon. The final feed vendor will be selected later. Deliveries of shipping materials and process chemicals will consist of three trucks per week likely originating in the Redding or San Francisco Bay area. As project design progresses NAFC will refine its sourcing and distribution strategies to align with market demand and optimize logistics.

2.3.3 Supporting Systems and Facilities

The systems and facilities described in the following subsections would support the operation of the aquaculture facility.

Power Backup Systems

If electrical power supply is shut down to the aquaculture facility, an onsite emergency backup power system would activate to maintain all critical functions for the fish. NAFC anticipates that several dual fuel (natural gas or diesel) generators with a combined capacity of approximately 20 MW will be needed to supply emergency power to the fully developed facility. The natural gas will be supplied by the existing 4" main on site. Low Sulphur diesel fuel will be supplied by two new 25,000 gallon double walled fiberglass underground storage tanks (UST). The USTs will be located under a paved area east of Building 5 which will house the backup generators. The USTs will include associated piping that will provide primary and secondary containment and will be equipped with continuous vacuum, pressure, or hydrostatic (VPH) monitoring. The design and installation of the USTs will ensure that in the event of a tsunami there will be no release of fuel from the tanks. Tsunami mitigation will include anchoring and armoring the tanks, securing all ports with watertight locking hatches, and locating vents above the modeled inundation levels. Generator testing and maintenance activities will be done using natural gas. Emergency operation of the generators will use natural gas, except in the event that the supply of natural gas is interrupted in which case the generators will run on diesel fuel. In this way, diesel provides a "backup to the backup." The backup generation system will be designed to rapidly respond to interruptions in the power supply to the facility and maintain critical equipment and infrastructure. The backup power generation system can run as long as necessary in the event of a prolonged power outage, but is anticipated to be used no more than several hundred hours in a given year. Additional onsite power will be generated by the rooftop solar installation.

Oxygen Systems

Onsite oxygen generation systems will be used, with additional liquid oxygen storage tanks. There will be a curb around the oxygen storage area to contain any minor spills; however, spills are not anticipated, and any liquid oxygen released would quickly evaporate into the atmosphere. The oxygen system will be dimensioned and planned in more detail in the permitting phase.

Central Utilities

This facility will include required heating and cooling systems, as well as the central facility switch boards. Water-based temperature systems will be used to reduce electricity use.

Storage/Workshop Area

A space will be reserved for various materials and equipment storage uses. This multifunctional space will additionally provide workshop space for use by operations and maintenance staff of the aquaculture facility.

2.3.4 Utility Improvements and Services

Sanitary Sewer

Sanitary sewer service is not currently provided to the Project Site. An existing leach field is located at the southern portion of the Project Site as shown on Figure 2 (Appendix A). The existing leach field is currently utilized by the RMT II and ancillary facilities occupying the Project Site. The leach field was designed and approved to handle a flow of 14,700 gpd of domestic wastewater generated by the employees of the pulp mill while in operation. The leach field was designed and constructed as two separate but adjacent units. Each of the two leach field units has a distribution box and 17 4-Inch diameter, 90-foot long, perforated pipe leach lines, spaced at 10 feet on center. In 2014 the Humboldt Bay Harbor, Recreation and Conservation District proposed and received approval to separate the two units with one designated to receive domestic wastewater and the other receiving process wash water from RMT II operations. The capacity of the leach field utilized for domestic wastewater has a total capacity of 7,350 gpd. Current usage of the domestic wastewater leach field from

RMT II and ancillary facilities operations is estimated to be between 363 gpd to 570 gpd based on current water usage from HBMWD and employee / fixture counts. Domestic wastewater production from NAFC during Phase 1 operations on the Project Site has been estimated to be less than 900 gpd, leaving a minimum excess capacity in the domestic wastewater leach field of 5,880 gpd.

The existing leach field would be used by the Project temporarily during construction and operation of Phase 1. The leach field use will be discontinued once construction begins on Phase 2 production modules, as the second production module building is proposed to be located over the existing leach field. Once the Phase 2 production modules are under construction, the Project Site structures will be connected to the Peninsula Community Services District (PCSD) sewer line that will be constructed west of the Project Site. Domestic wastewater is further discussed in Section 2.3.5 below.

Electrical, Natural Gas, and Telecommunications Services

Electrical service is currently provided to the Project Site by Pacific Gas & Electric Company transmission lines (PG&E). PG&E currently has a 4-inch steel natural gas service line located adjacent to the electrical substation at the Site. The gas line is not currently being utilized. Telecommunications service would be provided to the Project by AT&T or Sudden Link. Modernization and upgrade of the existing substation is planned to include expanding the total capacity of the switchyard to 35 MW to be utilized by NAFC and HBHRCD RMT II operations. Connections to the new buildings would be made from the existing electrical switchyard located at the northwest portion of the former pulp mill site. Electrical utilities would be extended to the new building within multiple trenches or above-ground transmission lines. Electrical connections would extend from the existing switchyard to new transformer(s) to be installed from the switchyard adjacent to the new structures.

Access Roads

The Project Site is accessed from Vance Avenue via New Navy Base Road and LP Drive. Repair, resurfacing, and striping upgrades of Vance Avenue and LP Drive to support site access, construction, and operation is expected. Significant expansion of the paved surface of Vance Ave is not expected through the repair and resurfacing process.

2.3.5 Handling of Waste Streams

NAFC operations are based on a responsible recycling philosophy, with the goal that all waste resources be recycled for secondary uses. The NAFC approach to handling of waste streams at aquaculture facilities is to assess potential off-take options in the region and based on that enter into agreements for off-take or to develop NAFC refinement solutions. For this facility, the following waste streams will be further clarified in the future permitting stage:

1. Processing coproducts (heads, racks, viscera, etc.) are sorted automatically in the processing steps and stored in chilled sealed containers. These are protein resources that have an economic value in pet food, biotech, supplements industry, and more. It can also be used in biogas production. It is estimated that the facility will produce between 8,000 to 12,000 metric tons of processing waste annually

when fully operational. Processing coproducts will be stored in chilled sealed containers, maintained as food grade products, and shipped on an ongoing basis from the facility by truck.

2. Sludge can be dewatered to different dry matter levels depending on final use. The most likely uses in this case will be fertilizer/soil enhancement, biogas, or composting. This is also an attractive input into microalgae production. Sludge will be shipped offsite by truck with the facility producing in the range of 2 to 4 trucks daily at full production.

3. Fish Ensilage Mortalities for NAFC facilities are very low, however fish do die and are culled for a variety of reasons. In NAFC facilities dead fish are ground and stored in storage tanks with a weak acidic solution to maintain a pH of 4 to prevent odor. The final product will have a variety of secondary use opportunities.

4. Domestic Wastewater from the proposed facility is estimated to produce approximately 1,500 gpd at full buildout, and less than 900 gpd for Phase 1. The site currently features an active leach-field with sufficient capacity to accommodate Phase 1 operations. It is expected that well before Phase 2 comes online the facility will be connected to the Peninsula Community Services District (PCSD) sewer line that will be constructed west of the Project Site. It is important to note that the facility's domestic wastewater will not include captured water from the facility floor drains, which will be piped to the on-site wastewater treatment facility.

2.3.6 Biosecurity Measures

NAFC facilities have extensive biosecurity measures in place to protect the fish and the surroundings which are described in detail below.

Hatchery Phase

All incoming eggs will have a health certificate with testing for all pathogens of concern. Eggs and nursery fish are effectively in fully isolated quarantine phases, with separate isolated systems. The water from this operation undergoes thorough biosecurity treatment. Eggs will be certified pathogen free by the source hatchery prior to shipping. All eggs shipped will be disinfected in an iodophor solution twice: prior to shipping and upon entry to NAF Ca LLC's quarantine facility. Eggs will be held at depressed temperatures to prevent development while appropriately screening for pathogens of regulatory concern is conducted. Screening procedures will be conducted with guidance from and in collaboration with independent, certified fish health professionals and regulatory officials. Once screening protocols have adequately demonstrated freedom of pathogens of regulatory concern, the eggs will be allowed to hatch.

NAFC LLC's quarantine facility will be held in the hatchery building separate from all on-growing units (production modules). This building consists of separate rooms (sub-facilities) dedicated to the rearing of four life stages: eggs, fry, parr and smolt. Each sub-facility, including the quarantine will operate on an independent recirculating aquaculture system (RAS), which will also be separated from one another by walls. Each sub-facility will be separated by biosecurity gates, where hand sanitizing stations and footbaths will be placed.

Personnel entering the quarantine units will be restricted to a designated personnel entrance leading to a dedicated changing room. Here staff will change clothing and footwear and wash and sanitize hands prior to and upon completion of work in the quarantine area and will adhere to strict personnel movement plans. Lab tests are conducted on samples from each cohort to detect any known pathogens. Should any pathogen be detected, then either a vet prescribed and administered treatment or destruction of the fish and proper disposal will occur. Certified healthy fish are transferred to the next growth stage. Fish are monitored for any sign of pathogens or distress on a daily basis by our trained employees in the remaining hatchery stage.

The quarantine unit will consist of a reception unit where the iodophor disinfection testing will take place. The eggs will thereafter be transferred to the hatching cabinets where the quarantine will be carried out.

Normal practice will be for quarantine of a cohort to end after the required screening results are attained in the hatchery. However, the layout of the hatchery facility effectively enables isolation and implementation of quarantine protocols in any of the sub-facilities at any time.

Grow-Out Phase

Fish will be monitored on a daily basis for any signs of unusual behavior. All fish mortalities are inspected and sent for lab testing in cases where there are concerns over possible pathogen. Mortalities collected within the grow out facility will be stored in a weak acidic solution. During the growth stage, each module operates on a dedicated RAS system effectively isolating each module from other modules. This would effectively prevent any biosecurity issue that may arise from spreading to other systems and limiting exposure and remediation measure to relatively a small group. Although there have never been disease outbreaks in NAFC facilities, preemptive and containment measures remain the highest priority in the design, standard operating procedures, staff training and partnerships.

Intake and Discharge Water

Both intake water and discharge are subjected to strong biosecurity measures to prevent intake or discharge of pathogens. A detailed description of the proposed water treatment systems is provided in Section 2.1.11 and 2.1.12. Both fresh and saltwater intakes will be subjected to fine filtration and UV disinfection prior to being introduced to the production facilities. Within each RAS core a portion of the treated water will be continuously treated with ozone dosing and UV. Wastewater from the production tanks will be directly piped to the wastewater treatment plant prior to discharge, where it will be subjected to 0.04-micron ultrafiltration and a 250-300mJ ELL UV dose before discharge.

Personnel and Visitor Policies

Staff at rearing facilities will consist of designated personnel. Access to these facilities will be restricted and efforts will be made to limit the movement of personnel between rearing facilities on any given day. A formal personnel movement plan will be developed and implemented. This movement plan will be posted in all units for quick reference. All personnel will move through biosecurity gates where proper sanitation and hand washing will be performed upon both entrance to and exit from the units. Touch free hand washing stations will be used. Operational duties in the hatchery facility and personnel performing them will generally be separate from those in the on-growing facilities (modules).

Non-staff visitation to rearing facilities will be limited with a focus on ensuring visitors have not visited other aquariums or aquaculture facilities within 48 hours. Public visitation interests will be served by a visitor's area at the front of the property, reducing the demand for non-personnel access. Access of visitor's area staff to production facilities will be limited.

Veterinary

NAFC will work with approved fish health professionals and state regulators to establish and implement a fish health management plan including good husbandry practices, vaccination regiment and pathogen screening protocols for diseases of regulatory concern. The facility will undergo regular inspections from veterinarians experienced in fish health management. This program will be consistent with the requirements and intent outlined in California regulations.

2.3.7 Stormwater Management

Construction and post-construction stormwater for the NAFC facility will be managed in compliance with the California State Water Resources Control Boards' (SWRCB) Construction General Permit (CGP) and Industrial General Permit (IGP).

The preliminary stormwater design for the site has been developed using a Low Impact Development (LID) approach to mimic the site's predevelopment hydrology by using techniques that infiltrate, filter, store, evaporate, and detain runoff close to the source of rainfall with non-structural controls and conservation design measures.

The NAFC preliminary stormwater treatment system, depicted on Figure 2 in Appendix A, utilizes landform grading that matches the existing topography, and incorporates vegetated bioretention/infiltration ponds, LID facilities, and subsurface infiltration piping to capture and infiltrate the stormwater runoff anticipated from up to the 100-year storm event. The preliminary stormwater treatment system has also been designed to treat the anticipated stormwater runoff associated with the 85th percentile storm event. The stormwater infiltration areas have been located in areas that are not anticipated to be negatively affected by regions of historical contamination at the site.

Stormwater runoff from the site currently discharges into the existing stormwater pipe network, which ultimately discharges to Humboldt Bay and the ocean outfall. The NAFC stormwater treatment facilities have been designed to infiltrate the runoff anticipated from the 100-year storm event, therefore no offsite stormwater discharge is anticipated for the facility under normal operating conditions. The majority of the existing stormwater infrastructure will be demolished as part of construction of the NAFC facility. Portions of the existing stormwater network, however, will remain in place and will be connected to the new stormwater treatment system to provide overflow discharge for major storm or flood events.

The sizes and locations of the stormwater treatment areas identified in Figure 2 (Appendix A) are preliminary and will be adjusted as the overall design for the site finalizes.

During operations NAFC will implement industrial stormwater Best Management Practices (BMPs) such as good housekeeping, preventative maintenance, spill and leak prevention and response, material handling and waste management, erosion and sediment controls, employee training, and quality assurance and record keeping BMPs in accordance with the IGP guidelines. NAFC will also maintain and modify site wide operations BMPs, provide employee training, and complete annual reports for the facility on an annual basis in compliance with the IGP operations requirements.

2.3.8 Fish Escape Prevention

NAFC facilities have a series of physical barriers in place to eliminate risk of fish escape, with the final one being a sub-micron filtration stage before discharge of process water.

Nordic aquafarms facility will be house fish no closer than 300 feet from the water in access controlled buildings. Fish are moved between buildings using underground pipes that are solely used to transport fish. Nordic employs nine individual fish escape barriers in each system. Many the barriers on each system are designed specifically to prevent fish passage. Other very robust measures in place such as the bioreactors and each systems 20-40 micron mesh drum filter screens, and 0.04 micron mesh filters, at the waste water treatment plant are integral parts of the water treatment processes.

Each system is equipped with jump screens to prevent the fish from being able to jump out of the tank and will also work to contain them in the case of sloshing during an earthquake. The floor drains are fitted with grates specifically designed to prevent fish passage. Secondary grates sized to prevent fish passage are installed in the drain collection wells. All floor drains are sent to the waste water treatment plant for the same rigorous treatment as all production water. Furthermore, all transport of fish within the site will occur via a contained piping system, which prevents them from ever being exposed to the external environment.

2.3.9 Odor and Noise

The NAFC facility will not have detectable odor outside the facility. The potential sources of odor and management strategies are listed below:

1. <u>Sludge</u> would be stored in sealed and airtight containers before out shipment using BMP.

2. <u>Fish processing coproducts</u> will be maintained as food grade products and stored in chilled airtight containers for shipment.

3. <u>Fish feed</u> would be a minor odor source. Feed is stored in indoor rodent proof silos and will not be a source of outdoor odor.

The NAFC facility would incorporate designs and best practices to store and maintain the value of waste resources. These practices also prevent odor.

NAFC facilities are designed for operations in consideration of any nearby residential areas. NAFC designs will be compliant with applicable noise thresholds established in the Humboldt County General Plan. The most notable sources of noise on site will be the ventilation units and backup generators when they are in use. The building ventilation intakes and discharge points will be located along the interior of the facility and the building rooftops, respectively, and are not expected to generate enough noise to impact surrounding areas. The backup generators will be compliant with all sound regulations and housed in an enclosed structure located in the facility interior with vibration-dampening measures in place, and therefore any noise generated will be limited to the close proximity of that building. Noise and other effects of the facility will comply with the Industrial Performance Standards in Humboldt County Code Section 313-103.1.

2.3.10 Air Emissions

The source of air emissions would be the facility generator backup systems, with anticipated limited operation use. Air emissions generated by use of electrical backup generators will be offset by NAFC efficiency and renewable energy investments, including the rooftop solar array.

3. AB 52 Consultation

The California Environmental Quality Act (CEQA) requires lead agencies to determine if a proposed Project would have a significant effect on tribal cultural resources. The CEQA Guidelines define tribal cultural resources as: (1) a site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American Tribe that is listed or eligible for listing on the California Register of Historical Resources, or on a local register of historical resources as defined in PRC Section 5020.1(k); or (2) a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant according to the historical register criteria in PRC Section 5024.1(c), and considering the significance of the resource to a California Native American tribe. Consultation will be coordinated and conducted by Humboldt County.

4. References

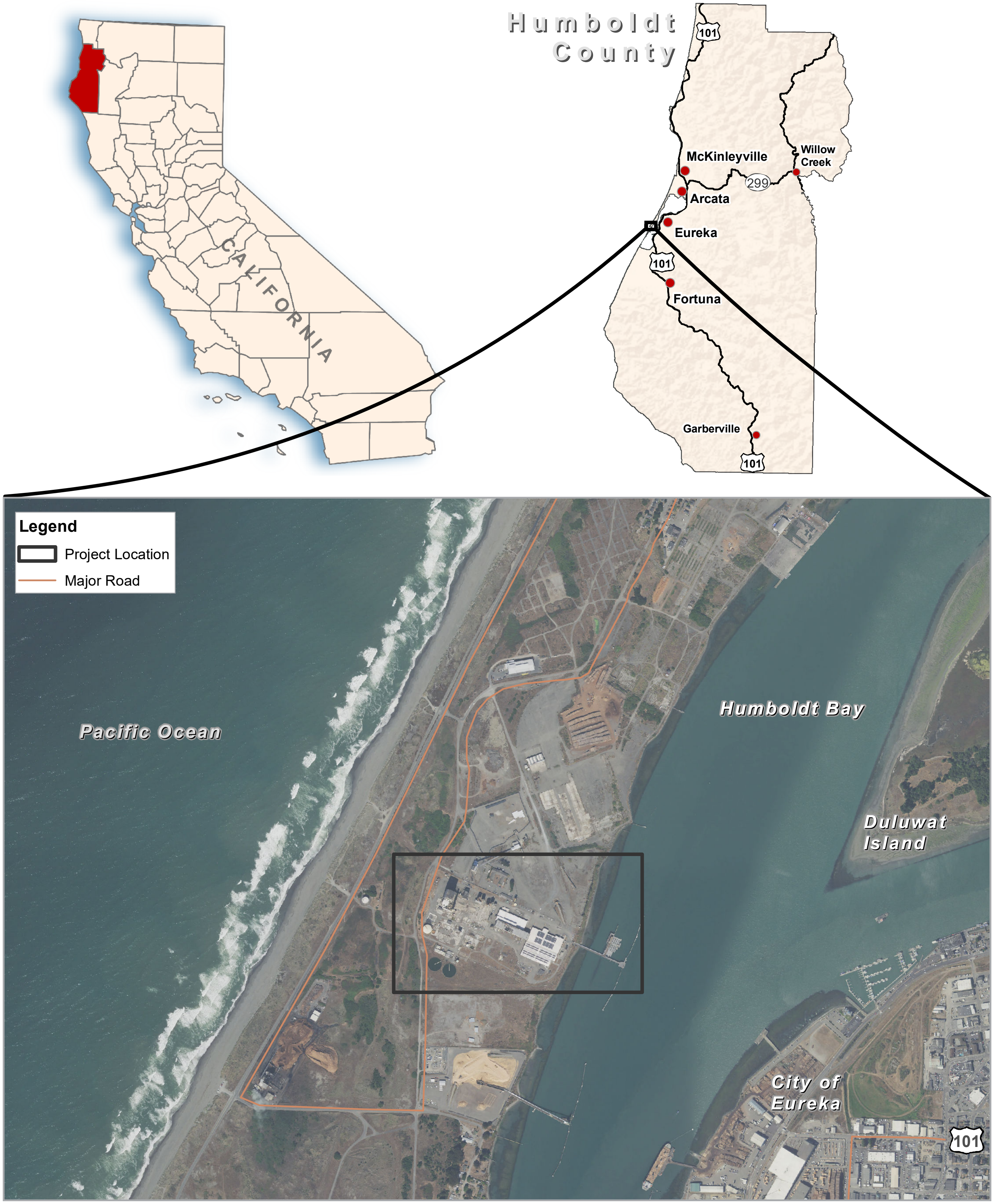
The following is the list of references and personal communications cited in the above sections.

MM Diving Inc., October 2019. Eureka Outfall (memorandum). Kelseyville, CA.

Times Standard, July 6, 2018 (updated July 30, 2018). *Years later, Evergreen Pulp likely not to pay for Samoa pulp mill emergency cleanup it caused*. Will Houston. Eureka, CA. Accessed on January 7, 2020 via https://www.times-standard.com/2018/07/06/years-laterevergreen-pulp-likely-not-to-pay-for-samoa-pulp-mill-emergency-cleanup-it-caused/

Ramboll, October 9, 2019. Review of USEPA July 2019 Soil Investigation Results, Due Diligence Support: Redevelopment of Nordic Aquafarms, Inc. Recirculating Aquaculture Facility, One TCF Drive, Samoa, Humboldt County, California. Ramboll. Emeryville, CA.

Redwood Coast Energy Authority. December 2, 2016. RCEA 2016 Biomass Request for Offers Questionnaire. RCEA, Eureka, CA. Accessed on January 7, 2020 via https://redwoodenergy.org/wpcontent/uploads/2017/08/DGF_RCEA_2016_Biomass_RFO_Questionnaire.pdf



Paper Size ANSI A

0 360 720 1,080 1,440 1,800

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

GHD

Nordic Aquafarms California, LLC
Samoa Peninsula Sustainable
Aquaculture Development Project
Samoa, Humboldt County, California

Vicinity Map

Project No. **11205607**
Revision No. **-**
Date **Apr 2021**

FIGURE 1

N:\US\Eureka\Projects\561\11205607\GIS\Maps\Deliverables\Project_Description\11205607_001_VicinityMap_RevC.mxd
Print date: 05 Apr 2021 - 13:29

Data source: 2018 NAIP imagery; Sources: Esri, USGS, NOAA. Created by: jclark2

Paper Size ANSI A

0 100 200 300 400 500

Feet

N

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

GHD

Nordic Aquafarms California, LLC
Samoa Peninsula Sustainable
Aquaculture Development Project
Samoa, Humboldt County, California

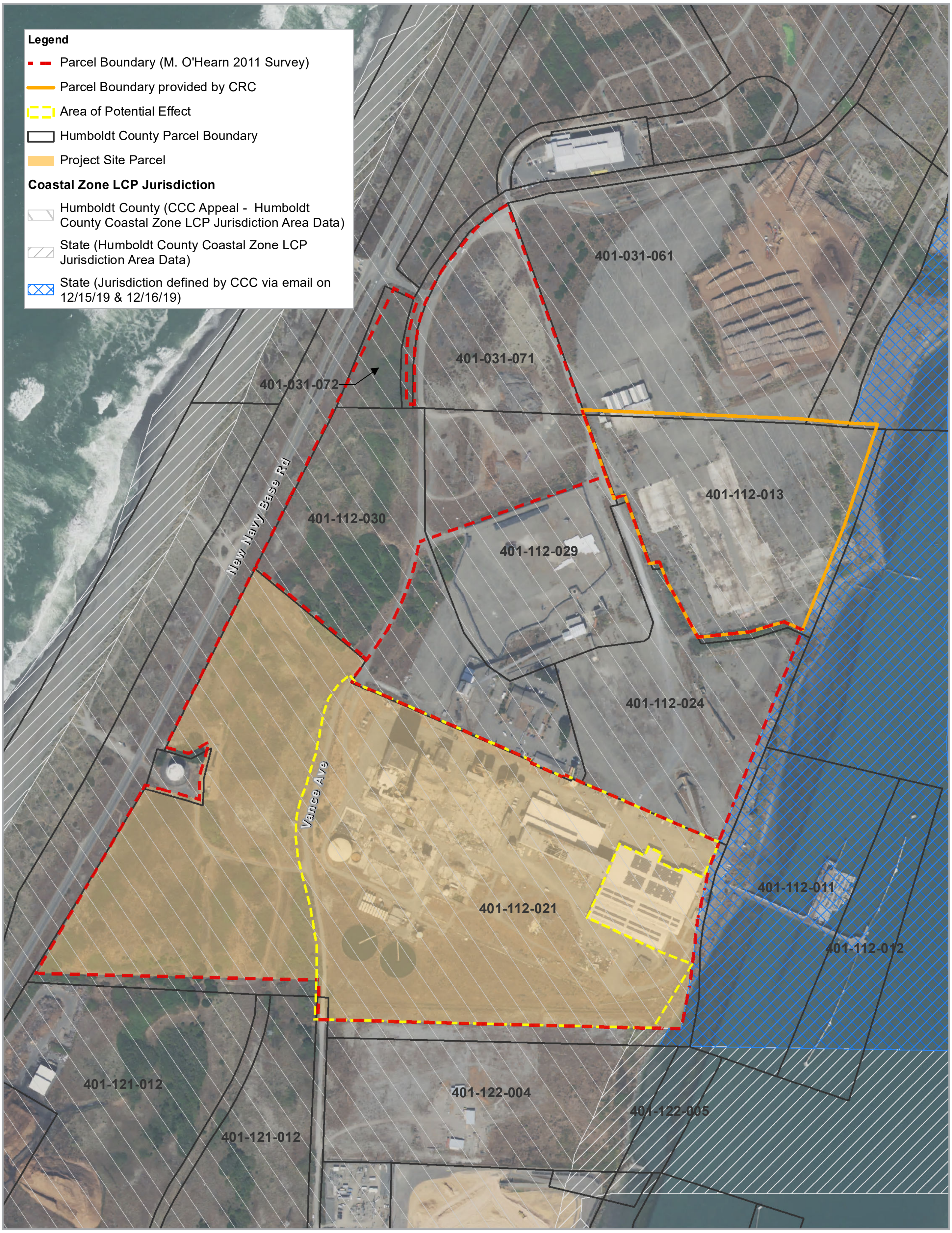
Proposed Site Layout

Project No. 11205607
Revision No. -
Date Apr 2021

FIGURE 2

N:\US\Eureka\Projects\561\11205607\GIS\Maps\Deliverables\Project_Description\11205607_002_Site_Layout_RevJ.mxd
Print date: 14 Apr 2021 - 17:41

Data source: Project design elements, April 1st, 2021; APE, June 12, 2020; USDA, NAIP Imagery, 2018; Humboldt County Parcel Dataset, 2019. Created by: jclark2



Paper Size ANSI A

0 150 300 450 600

Feet

N

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

GHD

Nordic Aquafarms California, LLC
Samoa Peninsula Sustainable
Aquaculture Development Project
Samoa, Humboldt County, California

Project No. **11205607**
Revision No. **-**
Date **Apr 2021**

Jurisdictional Boundaries

FIGURE 3

N:\US\Eureka\Projects\561\11205607\GIS\Maps\Deliverables\Project_Description\11205607_003_Site_Boundaries_RevF.mxd
Print date: 05 Apr 2021 - 13:38

Data source: APE, June 12, 2020; USDA, NAIP Imagery, 2018; Humboldt County Parcel Dataset, 2019; Site Survey. Kelly-O'Hern Assoc., 2012; Humboldt County. Coastal Zone LCP Jurisdiction, 2017 . Created by: jdark2

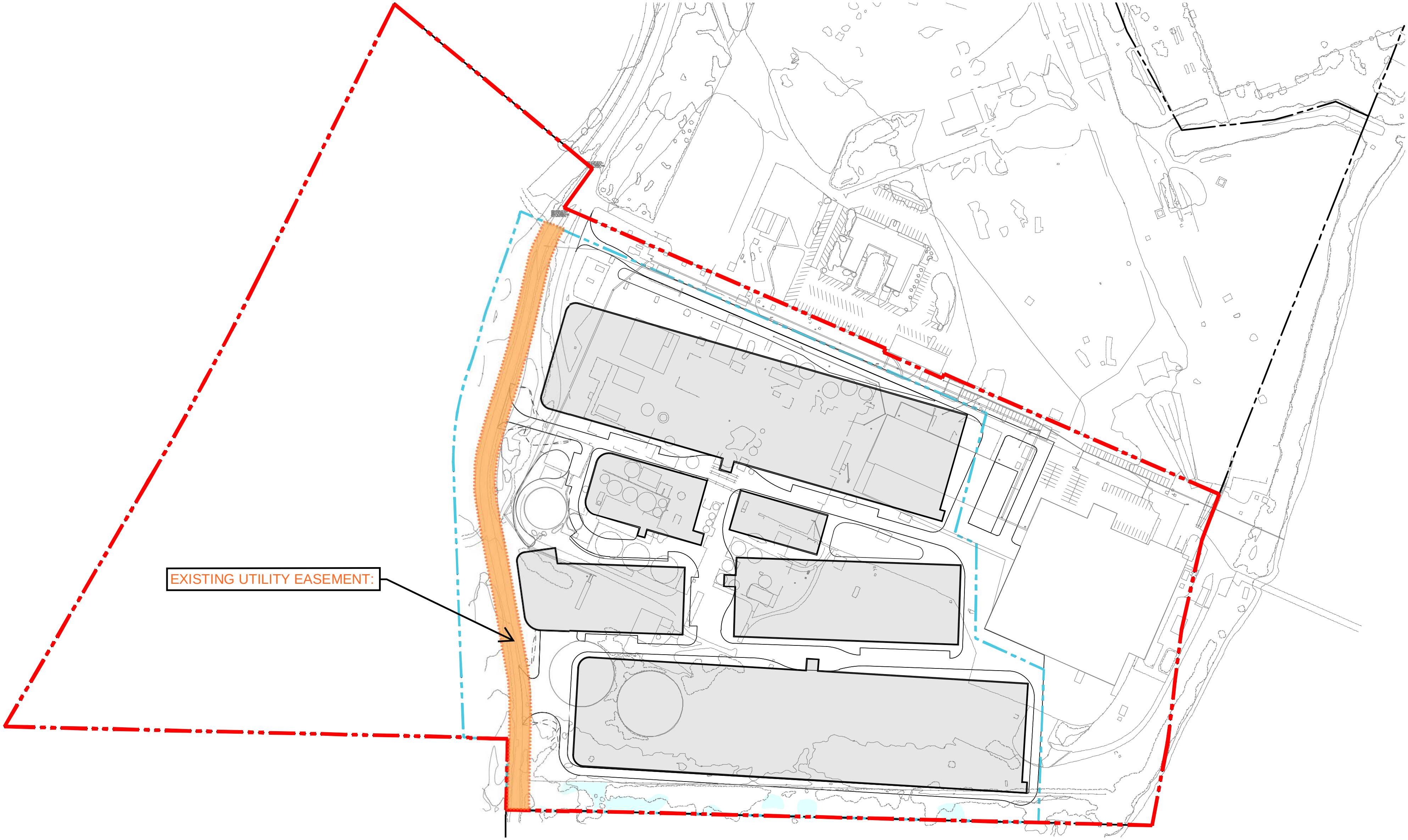


Figure 4: DRAFT UTILITY EASEMENT LOCATION

Nordic Aqua Farms, Samoa, California

April 2021

SMRT PROJECT NO. 19120

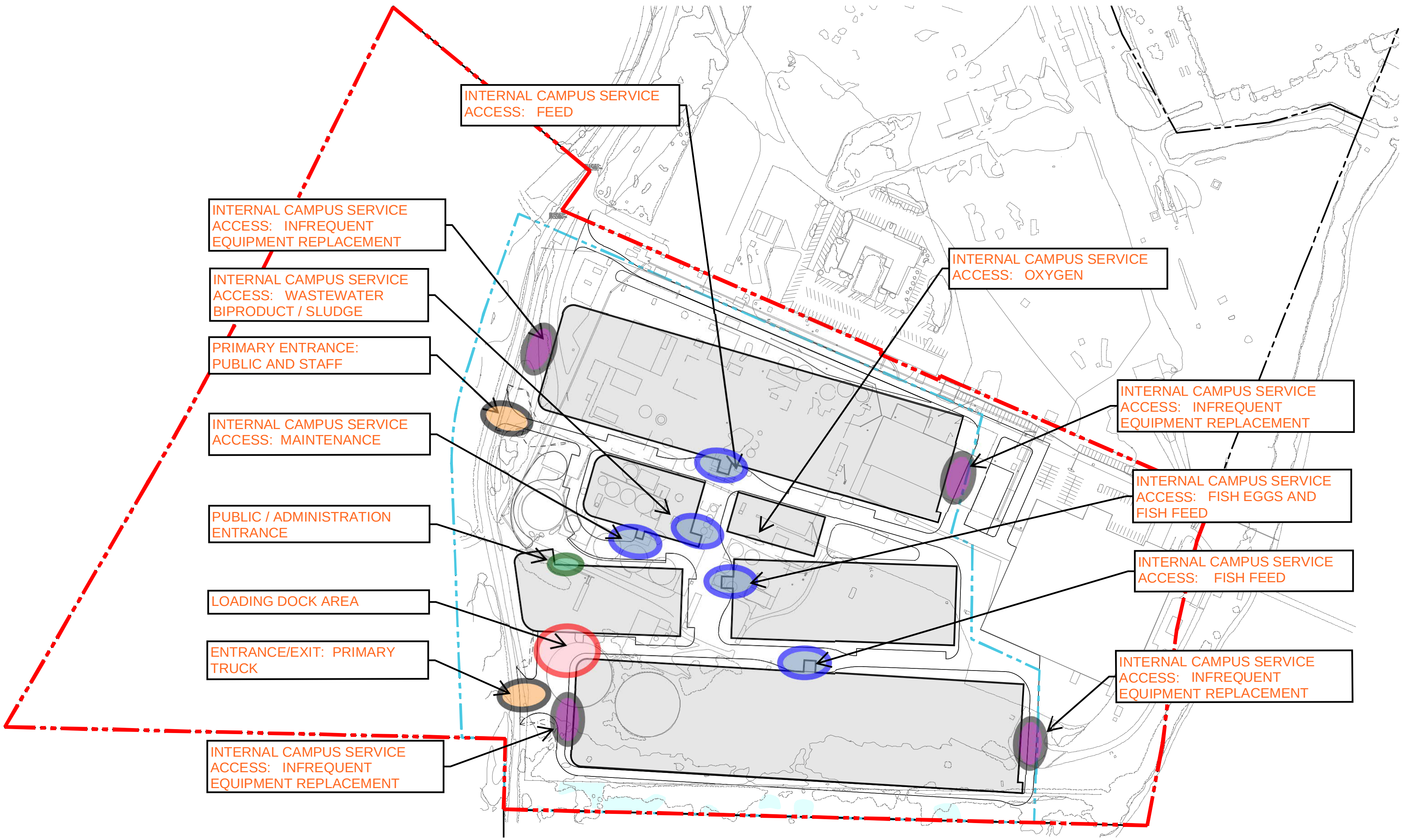


Figure 5: DRAFT SITE LOGISTICS
Nordic Aqua Farms, Samoa, California
April 2021

SMRT PROJECT NO. 19120
0 50' 100' 200' 300'
N

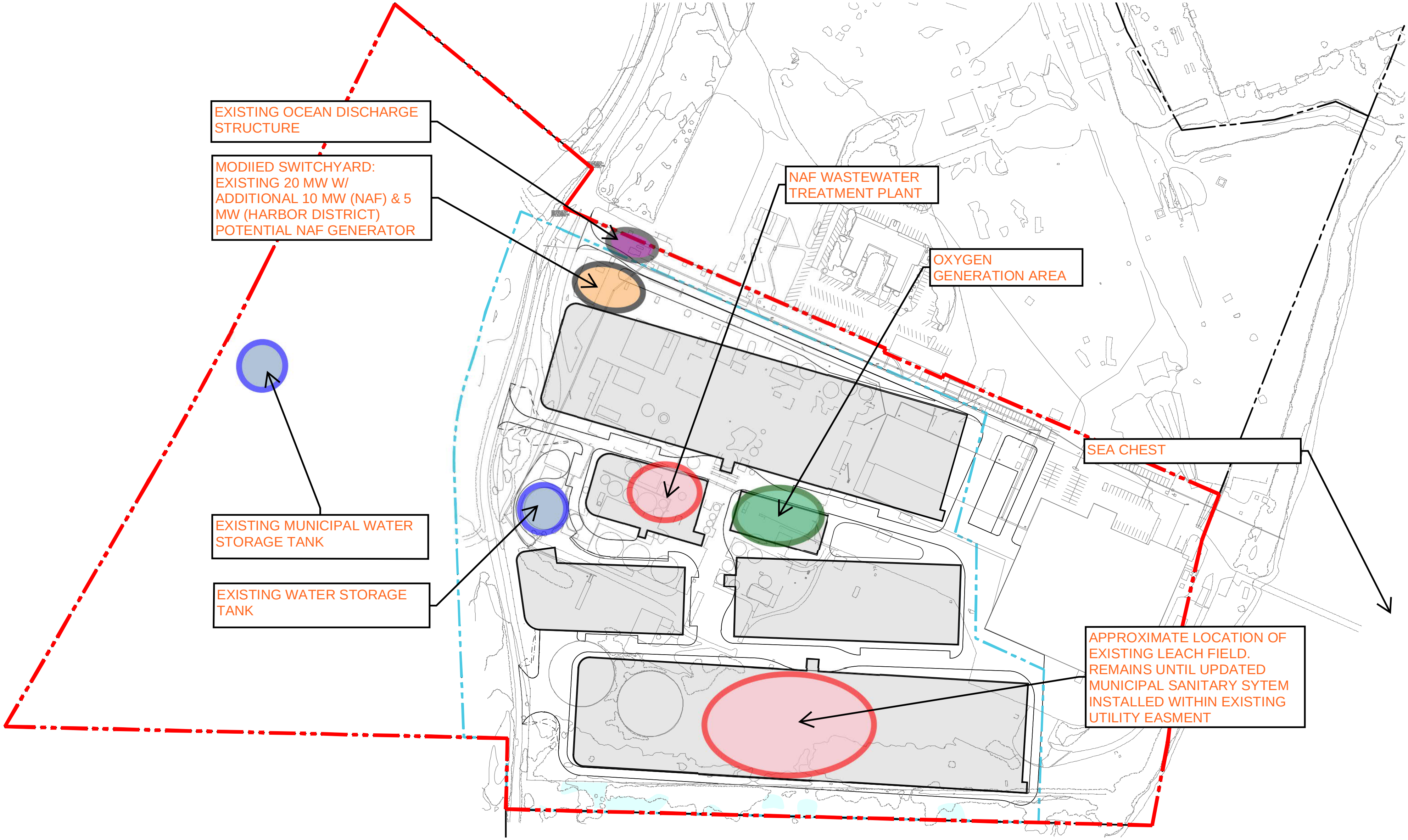


Figure 6: DRAFT SITE INFRASTRUCTURE
Nordic Aqua Farms, Samoa, California
April 2021

NORDIC AQUAFARMS

SMRT PROJECT NO. 19120

0 50' 100' 200' 300'

N

SMRT

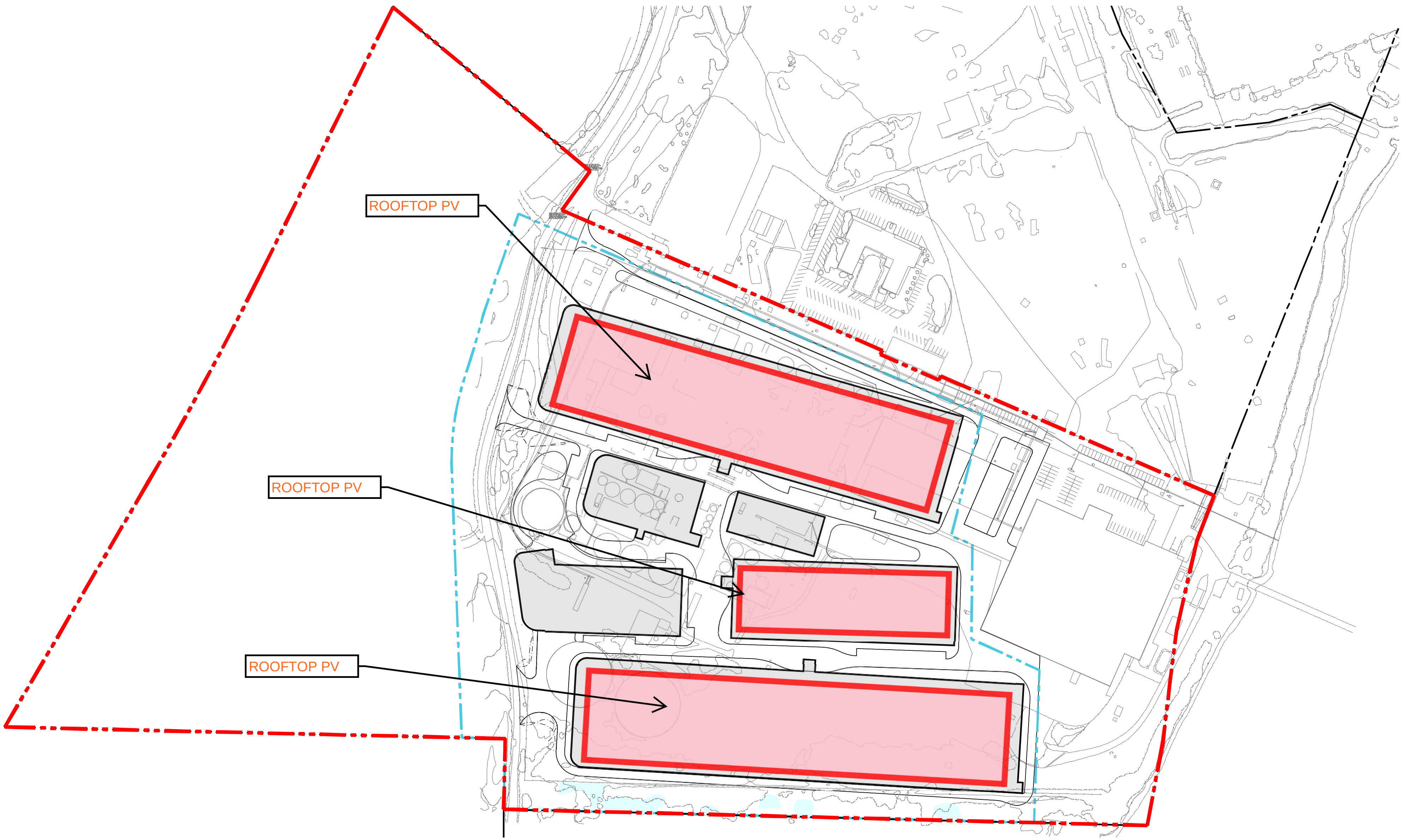


Figure 7: DRAFT ROOFTOP PV LOCATIONS

Nordic Aqua Farms, Samoa, California

April 2021

NORDIC AQUAFARMS
SUSTAINABLE AQUACULTURE

SMRT PROJECT NO. 19120

0 50' 100' 200' 300'

N

SMRT

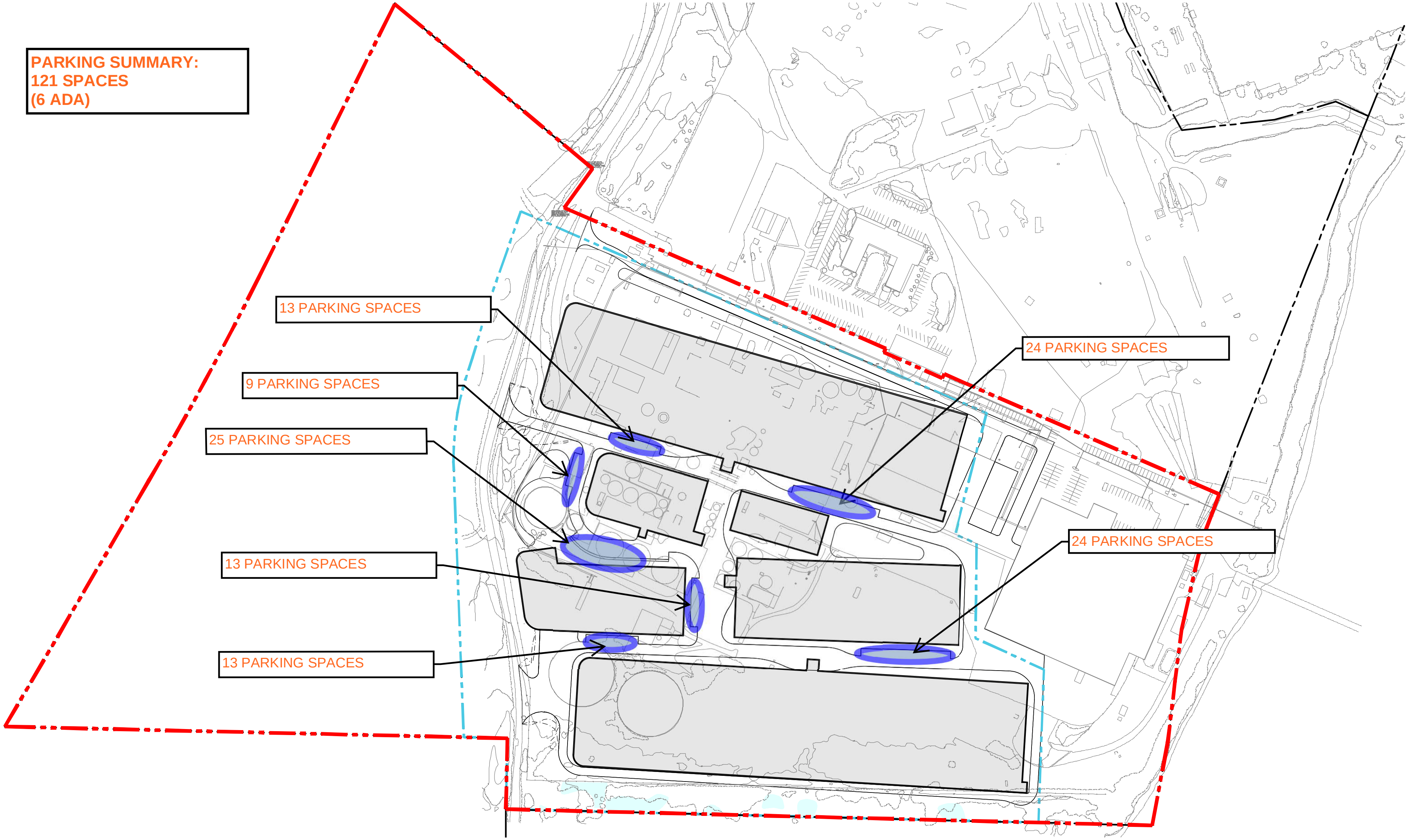


Figure 8: DRAFT PARKING PLAN
Nordic Aqua Farms, Samoa, California
April 2021

SMRT PROJECT NO. 19120

0 50' 100' 200' 300'

N

SMRT

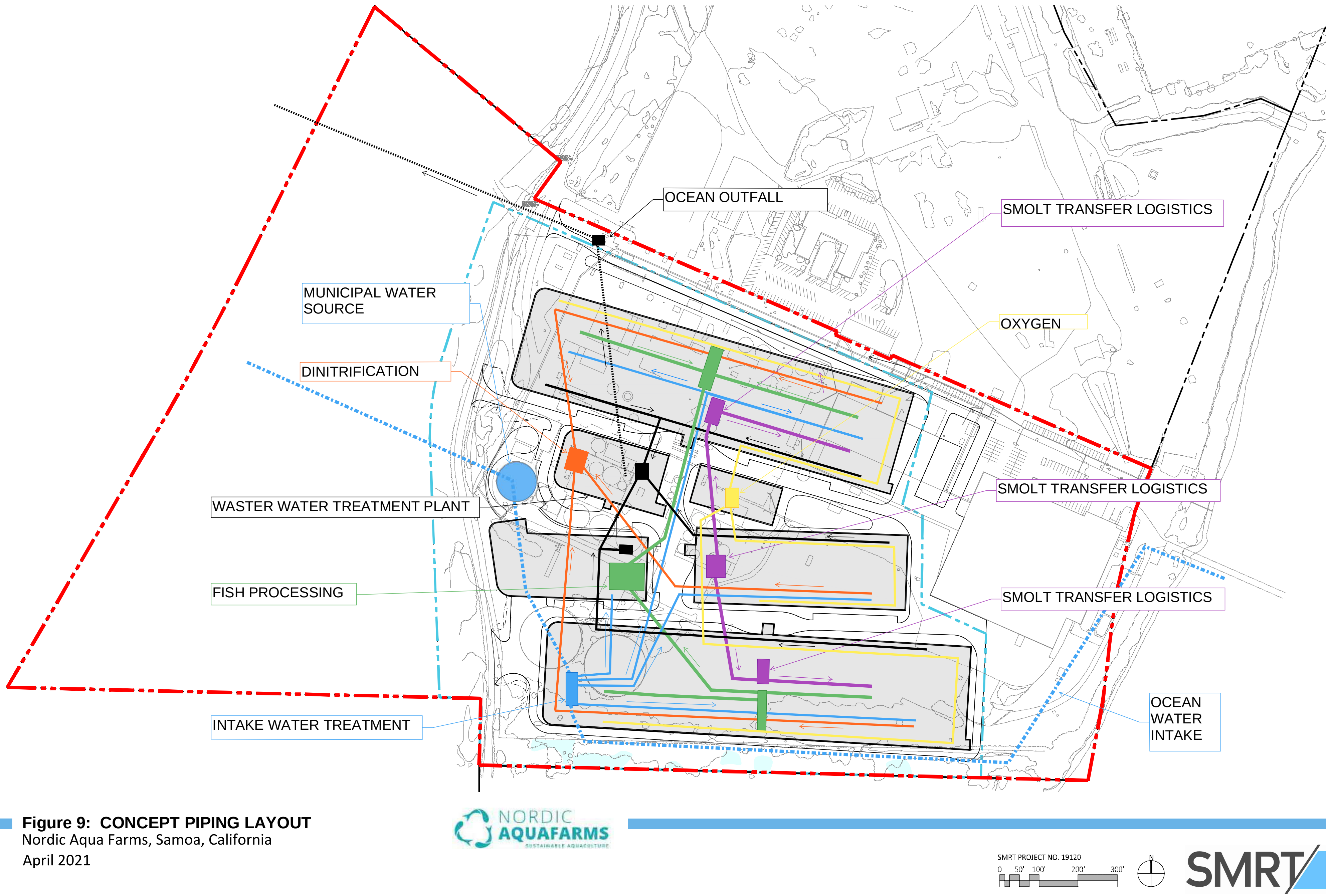
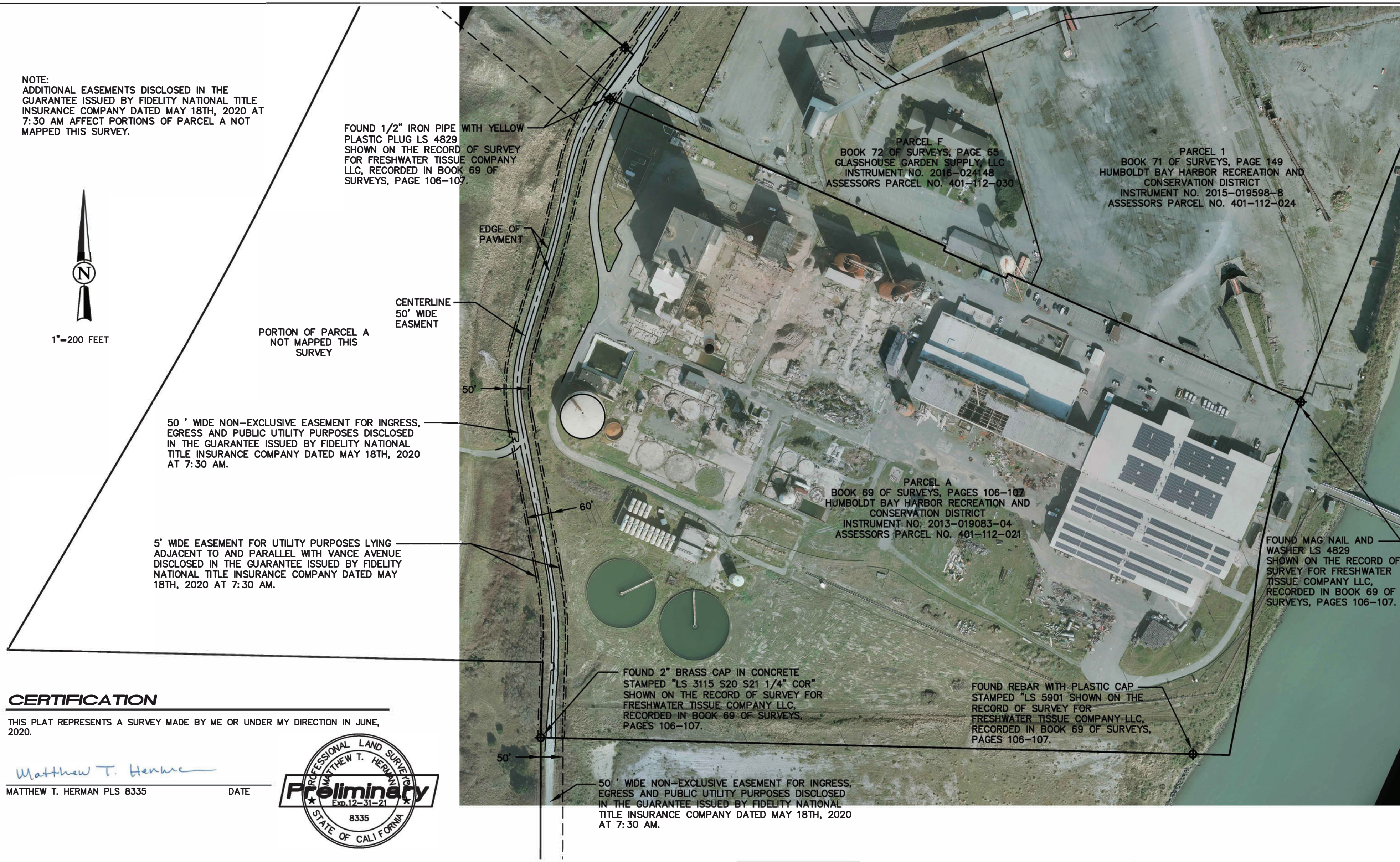


Figure 9: CONCEPT PIPING LAYOUT
Nordic Aqua Farms, Samoa, California
April 2021

NORDIC AQUAFARMS
SUSTAINABLE AQUACULTURE

SMRT



CERTIFICATION

THIS PLAT REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN JUNE, 2020.

Matthew T. Herman

MATTHEW T. HERMAN PLS 8335 DATE

PROFESSIONAL LAND SURVEYOR MATTHEW T. HERMAN Preliminary Exp.12-31-21 8335 STATE OF CALIFORNIA

Nordic Aqua Farms Samoa, California	Figure 10: Boundary and Easement Plat SHN 019146	
June 2020	019146-RECORD GND	Figure 10