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By E-mail and U.S. Mail

Cassidy Teufel
California Coastal Commission
45 Fremont, Suite 2000
San Francisco, CA 94105

RE: Ventura Shellfish Enterprise – CC-0009-18

Dear Cassidy:

This letter is submitted on behalf of the Ventura Port District ("VPD") in response to your September 13, 2019 letter[1] requesting additional information regarding the Ventura Shellfish Enterprise project. Your letter has requested additional detail in several areas concerning monitoring, oversight, and enforcement responsibilities. VPD agrees that these are important considerations and that there needs to be clear delineation of such responsibilities. VPD has attempted to answer these questions to the best of its ability at this time in the permitting process; however, please note that many of these issues will require concurrence from the U.S. Army Corps of Engineers ("Corps"). As noted below, VPD also plans to submit a draft operations plan to the Corps and Coastal Commission that addresses many of these issues in greater detail.

1. *Fouling Organisms. Please provide the following information related to this response: (a) a list of examples of fouling organisms that would be considered to have the potential to cover the sea floor; (b) a description of the training methods and proposed training materials proposed to be used to enable growers and their employees to identify potential invasive species; (c) the manner in which growers would be trained to dispose of such species; (d) how adherence to this proposed protective measure would be assessed and*

[1] VPD and its consultants did not receive your letter until September 30.

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ensured; (e) examples of benthic monitoring results that would be considered evidence of "adverse impacts to the seafloor;" and (f) the types of responses that would be triggered by such monitoring results.

Response[2]:

(a) The benthic species that are expected to occur on the sandy (or soft bottom) seafloor near or beneath the project site as well as their potential to act as biofouling agents of the mussel farm are listed in Table 1. As described in Table 1, the benthic species anticipated to occur within the project site are not expected to act as biofouling agents on hard structure (ropes, buoys, anchor screws, or mussel socks) within the framework of the mussel farm. The native benthic species naturally colonize the sandy seafloor; however, no non-native invasive species are currently expected to occur within the project site or cover the sea floor in the vicinity of the proposed project. Further, Dudek does not expect biofouling organisms that colonize hard structures, such as the various physical components of a mussel aquaculture farm and the mussels themselves, to cover the soft bottom seafloor near or beneath the project site. As described in the *Biological Assessment for the Ventura Shellfish Enterprise* (Biological Assessment, Dudek 2018a), the submerged structures of the project can provide hard substrates for non-native invasive and native fouling organisms; however, these species would need to disperse from occupied hard substrate habitats or be brought to the project site on a hard substrate such as a vessel (i.e., boat hull). The Biological Assessment also states that there is a "lack of available substrate within or near the project site suitable for colonization by fouling organisms, as these invasive species cannot attach themselves to the sandy bottom substrate at the project site." Dudek (2018b) prepared an *Essential Fish Habitat Assessment for the Ventura Shellfish Enterprise* in which rockfish (*Sebastes* spp.) and other hard bottom species were reviewed for habitat suitability and the project effect on their fishery. It was determined that rockfish habitat did not occur on-site since the benthos beneath the project site is expected to contain only soft bottom habitat, an unlikely substrate for biofouling organisms that colonize hard structures or for rocky reef specialists such as *Sebastes*. The sandy bottom habitat was further supported based on two independent siting studies provided by the National Oceanic and Atmospheric Administration ("NOAA") (Theuerkauf et al. 2018) and a spatial analysis by the Bren School of Environmental Science and Management at University of California, Santa Barbara (Lester et al., in press).

The information on the sandy bottom habitat has been derived from literature and database research and personal observations of similar sites in the Santa Barbara Channel; however, as described in the Sediment and Water Quality Management Plan (Dudek 2019), as part of permit conditions, VPD will be required to conduct baseline monitoring prior to installation and construction to confirm habitat and sediment conditions as well. Since the currently identified

[2] Response to 1(a) provided by Dudek Environmental.

invasive fouling organisms are only known to attach to hard substrates (Adams et al. 2011), no fouling organisms are expected to cover the sea floor within the project site.

While the aquaculture gear and structures are not anticipated to result in the spread of invasive species, it is possible that invasive species could be introduced to the project site through vessel transport. Some invasive species have been identified in the Port of Ventura and other nearby ports, where biofouling on boat hulls could transport such organisms to the project site, where they could attach to longlines, mussel socks, and other aquaculture gear (Table 2). Because these invasive species require hard substrate for cultivation and expansion, it is highly unlikely that they will spread on the project site beyond the hard structures provided by the aquaculture gear. Further, because their point of origin would be from Ventura Harbor or other nearby ports, the project would not facilitate the spread of these invasive species in locations where they have not already established. Hull fouling has also been identified as the most important vector for spread of invasive species (GISP 2008) and it is likely that commercial and recreational boat traffic between nearby ports will continue to be the most likely source of any transmission of invasive species between ports. Transport of invasive species by vessels servicing the project site will be limited by VPD's requirement that all product harvested on the site will be landed in Ventura Harbor.

Biofouling is also a significant concern for commercial growers because it can limit farm productivity. As provided in Mitigation Measure BIO-8 and our previous response, any invasive species discovered on aquaculture gear must be properly disposed of at an upland facility. Compliance with this condition will limit the ability of longlines and other aquaculture gear acting as a vehicle for transport of invasive species.

Table 1. List of Benthic Species Expected to Occur Along the Sea Floor for the Ventura Shellfish Enterprise Project

Organism	Habitat[2]	Potential to Biofoul
Characteristic Benthic Organisms on the Continental Shelf (below 400 feet)[1]		
Amphiodia urtica Burrowing brittle star	Eastern pacific ocean, tropical and benthic environments; depth range 0 – 1,200 feet. Lives in muddy habitats where it submerses itself in the mud and feeds by raising its arms and capturing particles from the water.	Unlikely. This species is known to burrow into substrates and no suitable burrowing substrates will be present on mussel socks or equipment.
Spiophanes berkeleyorum [No Common Name]	Occurs in the northeast Pacific, including along California, in low intertidal habitats to 1,500 feet in depth and prefers sandy substrates in less than 650 feet.	Unlikely. This species is known to burrow into substrates and no suitable burrowing substrates will be present on mussel socks or equipment.
Spiophanes missionensis [No Common Name]	Occurs in the Pacific, including along California. Known to occur in moderately high-tide lines and on sandy beaches. Inhabits well-constructed sand covered tubes disposed vertically in sandy beaches.	Unlikely. No suitable sandy substrates will be present on mussel socks or equipment.
Nephasoma [Golfingia] minuta Peanut worm	Benthic species often found in rock crevices on the lower shore or sublittorally but may also occur in mud, sand or gravel.	Unlikely. No suitable mud, sand, or gravelly substrates will be present on mussel socks or equipment
Taxa Major Groups Observed in Soft Bottom Samples, Number of Taxa Recorded, and * Example Characteristic Species[3]		
Segmented Worms (*Annelida,* 434) * *Onuphis iridescens* * *Notoproctus pacificus* * *Pectinaria californiensis*	In marine environments, species in this group inhabit tidal zones and hydrothermal vents. Most polychaetes (marine worms) live in the ocean, where they either float, burrow, wander on the bottom, or live in tubes they construct;	Unlikely. No suitable typical substrates are present on mussel socks or equipment.
Crustaceans (*Crustacea*, 288) **Pleuroncodes planipes* * Philomedes dentata * Pinnixa occidentalis	Species in this group live close to the sea floor and are highly mobile. The group is composed of both herbivorous and omnivorous species.	Unlikely. No suitable food substances or habitat substrates are present on mussel socks or equipment.
Mollusks (*Mollusca*, 154) * *Axinopsida serricata* **Acila castrensis* * *Amphissa bicoor*	Species in this group inhabit a variety of habitats and exhibit various dispersal methods. Marine mollusks are found on a variety of substrates including rocky shores, coral reefs, mud flats, and sandy beaches.	Low potential to occur on equipment surfaces, such as long lines.

Organism	Habitat[2]	Potential to Biofoul
True corals, anemones, jellies, medusa, jellyfish, etc. (*Cnidaria*, 40)	Species in this group inhabit a variety of habitats and exhibit various dispersal methods. Species in this group live close to the sea floor and/or are highly mobile.	Unlikely. No suitable food substances or habitat substrates are present on mussel socks or equipment.
Sea stars, sea cucumbers, urchins, etc. (*Echinodermata*, 39) * *Brisaster latifrons* * *Brissopsis pacifica* * *Strongylocentrotus fragilis*	Species in this group inhabit a variety of habitats and exhibit various dispersal methods. Species in this group live close to the sea floor and/or are highly mobile.	Unlikely. No suitable food substances or habitat substrates are present on mussel socks or equipment.
Ribbon worms (*Nermertea*, 16) * *Carcinonemertes errans*	Bottom dwelling marine organisms that inhabit relatively shallow waters; burrows in sand and mud, lives beneath shells and stones, lives cryptically among holdfasts of algae.	Unlikely. No suitable food substances or habitat substrates are present on mussel socks or equipment.
Peanut worms (*Sipunculida*, 6) * *Nephasoma [Golfingia] minuta*	Benthic species often found in rock crevices on the lower shore or sublittorally but may also occur in mud, sand or gravel.	Unlikely. No suitable mud, sand, or gravelly substrates will be present on mussel socks or equipment
Spoon worms (*Echiura*, 5) * *Arhynchite californicus*	Common in some mudflats of California; inhabits U-shaped burrows in the muddy sand of low-zone mudflats.	Unlikely. No suitable mud, sand, or gravelly substrates will be present on mussel socks or equipment

Notes: [1]See SAIC 1986a, Table 3-12; [2] Habitat information from SeaLifeBase 2019, Walla Walla University 2019, Bunie 2003, City and County of San Francisco 2008, Hartman 1941a, b, MMS 1993, Monterey Bay Aquarium 2019, Reish 2019, The Marine Life Information Network 2019, Verna 2005, Washinton State Department of Ecology 2016; [3] See SAIC 1986b, Table 1-2. Taxa where more than 5 taxa was recorded shown in table. Additional taxa not shown above includes *Ectoprocta, Chelicerata, Plathyhelminthes, Kinorhynchus, Nematoda, Phoronida, Brachiopoda,* and *Hemichordata.*

Table 2. List of Potential Biofouling Organisms for the Ventura Shellfish Enterprise Project[1]

Biofouling Organism	Habitat		Propagule Dispersal	Potential to Occur
Seaweed	Gametophyte	Sporophyte	Spores	
Undaria pinnatifida "Wakame"	Found in temperate coastal waters in low intertidal and subtidal areas.	Sporophyte attaches to hard structures, including natural and man-made structures; known to attach to rocky reefs, mudstones, cobbles, or even shells of bivalves.	Low dispersal ability. Motile spores travel short distances, as little as 0.2m to < 10m unless sporophyte is adrift.	*Undaria* was first discovered in Ventura Harbor in 2008 and was established at Anacapa Island in 2016. Although its natural spore distribution is limited, its efficient hitchhiker thereby spreading its spores and establishing itself in more remote areas. **Moderate** potential to occur on mussel socks due to vessel transport from colonized areas.
Sargassum horneri Devil weed	Occurs in the intertidal zone down to depths of 100 feet.	Sporophyte attaches to hard structures, including natural and man-made structures; extensive natural dispersal capabilities via drifting fragments; may disrupt aquaculture activities.	Capable of self-fertilization. Young plants grow from embryos released from the reproductive structures. Can spread by attaching to vessel hulls or drifting. Due to its short planktonic stage, ship fouling is the likeliest mode of transportation and dispersal.	This species was first reported in California in 2003 and discovered in Ventura Harbor in 2003. The species has extensive natural dispersal capabilities via drifting fragments. **Moderate** potential to occur on mussel socks due to vessel transport from colonized areas.

Biofouling Organism	Habitat	Propagule Dispersal	Potential to Occur
Caulerpa taxifolia Killer seaweed	Found on rocky, sandy and muddy bottoms in shallow lagoons, or at deeper depths.	Arises from horizontal stems (stolons). Invasive strain is asexual and reproduces through fragmentation. Can grow from small fragments transported by boat anchors and fishing gear.	This species was first discovered in 2000 in lagoons in Carlsbad and Huntington Beach and was officially eradicated in 2006. No other infestations of the cold water strain have been located. **Low** potential to occur. Although sandy bottoms are present, this species is currently expected to be absent from the area. *Caulerpa* surveys are usually required pre-construction of projects in federal waters.
Invertebrates			
Bryozoans			
Watersipora subtorquata Encrusting Bryozoan	Lower intertidal and subtidal areas; found on variety of natural and man-made surfaces, including rocks, shells, vegetation, woody debris, marine mammals, pier pilings, vessel hulls, etc.	Reproduces sexually by releasing sperm and eggs in the water where they unite and form swimming larvae; larvae settle onto hard surfaces, mature and bud into a colony.	This species was first reported in California in 2003 and discovered in Ventura Harbor in 2003. **Moderate** potential to occur on mussel socks, buoys, and long lines due to vessel transport from colonized areas.
Amphipods			
Laticorophium baconi Mud tube amphipod	Marine intertidal areas, including hard substrates and unstructured bottoms. The species builds U-shaped tubes in shallow subtidal muddy substrates and on hard surfaces. It spreads by attaching to vessel hulls in marinas.	Its reproduction is unstudied; however, the species has separate sexes, brooded embryos, and direct development.	This species is a native along the California coast, including Ventura Harbor area. **High** potential to occur on mussel socks, buoys, and long lines due to vessel transport from colonized areas.

Biofouling Organism	Habitat	Propagule Dispersal	Potential to Occur
Tunicates			
Diplosoma listerianum Colonial sea squirt	Subtidal marine environments. Attach to a variety of surfaces including rocks, shells, other marine animals, seaweeds, buoys, lines, woody debris, vessel hulls, etc.	Reproduces asexually by budding or sexually by releasing sperm and eggs into the water, where they unite to form swimming larvae.	*D. listerianum* can foul cultured shellfish and aquaculture equipment and outcompete other colonial tunicates and benthic invertebrates for space. **Moderate** potential to occur on mussel socks, buoys, and long lines due to vessel transport from colonized areas.
Ciona spp. (*C. intestinalis*, & *C. savignyi*) Solitary sea squirts	Low intertidal to subtidal areas. Found attached to a variety of surfaces including rocks, woody debris, and vessel hulls in marinas.	Reproduces sexually by releasing sperm and eggs into the water, where they unite to form swimming larvae.	*Ciona* spp. can foul cultured shellfish and aquaculture equipment and outcompete other colonial tunicates and benthic invertebrates for space. **Moderate** potential to occur on mussel socks, buoys, and long lines due to vessel transport from colonized areas.
Tube Worms			
Filograna implexa Lacy tube worm	Subtidal and low intertidal areas; encrusts hard surfaces including rocks, shells, marine animals, vessel hulls, piers, etc.	Reproduces asexually by budding or sexually by releasing sperm and eggs into the water, where they unite to form swimming larvae; spreads by attaching to vessel hulls.	This species is found worldwide, including California. **Moderate** potential to occur on mussel socks due to vessel transport from colonized areas.
Spirorbis spp. Spiral tube worm	Lower intertidal and shallow subtidal areas. Attaches to vessel hulls, rocks, pier pilings, shells of other animals, etc.	Reproduce sexually by releasing sperm and eggs into the water, where they unite to form swimming larvae; spreads by attaching to surfaces in marinas.	This species is found worldwide, including California. **Moderate** potential to occur on mussel socks due to vessel transport from colonized areas.

Biofouling Organism	Habitat	Propagule Dispersal	Potential to Occur
Hydroides spp. Tube worms	Subtidal and low intertidal areas. Attaches to hard natural and man-made surfaces, including woody debris, shells of other animals, oyster reefs, rocky reefs, pier pilings, vessel hulls, intake lines, canals, etc.	Reproduce sexually by releasing sperm and eggs into the water, where they unite to form swimming larvae; spreads by attaching to surfaces.	This species is found worldwide, including all along the California coast. In southern California, this species was first found in 1931 in Los Angeles-Long Beach Harbors. **Moderate** potential to occur on mussel socks due to vessel transport from colonized areas.

Notes: [1] Identification of invasive and fouling organisms available through University of California Cooperative Extension, California Aquatic Invasive Species Program. Accessed November 2019. https://ucanr.edu/sites/CalAIS/Seaweeds_and_Hull_Fouling_Species/?uid=10&ds=781

(b) An important aspect of the Ventura Shellfish Enterprise project is a training protocol that will be developed in coordination with California Sea Grant, NOAA, Coastal Marine Biolabs, and others. Part of this initial and annual training will be to provide information to growers regarding the proper identification, management, and disposal of invasive species. The training materials will review existing invasive species regulations in California, including the California Department of Fish & Wildlife's Marine Invasive Species Program, and any additional available information from NOAA regarding invasive species in marine federal waters and will incorporate available photographs of high risk invasive species that harvesters will annually review in a PowerPoint presentation to assist with species detection during harvest. The training will involve two components:

(1) An annual PowerPoint presentation given by a qualified marine biologist discussing proper identification of invasive species, which will also be recorded so that growers may provide new employees hired after the presentation to be trained appropriately.

(2) An invasive species identification handbook provided to each grower to assist with invasive species detection during maintenance and before and after harvest, as well as proper reporting, removal, and disposal methods.

Any invasive species will be separated from long-lines during harvest and will be collected on the vessel deck for disposal at an appropriate upland facility. If Coastal Commission staff is aware of any invasive species of concern that may exist within the project area, we can incorporate them into the training materials.

(c) Due to the location of the project site, the mussel farm is not anticipated to attract or promote the spread of non-native invasive species within the Santa Barbara Channel. In addition to the reasons discussed under (a) above, multiple studies have found that there is reduced biofouling biomass and less diversity in biofouling communities with increased depth on marine farm structures such as mussel longlines (Cronin et al. 1999, Woods et al. 2012). To the extent that any invasive species are discovered on longlines, they will be separated (either mechanically or by hand) and disposed of at an appropriate upland facility. It is anticipated that training would focus on any invasive species discovered on aquaculture gear and then describe the most appropriate species-specific removal methods.

(d) A robust oversight and compliance plan is critical to demonstrating full project compliance with all permit terms and conditions and VPD is currently drafting an operations plan that will include additional details regarding compliance and enforcement, including VPD's role in ensuring compliance. As required by the proposed Sediment and Water Quality Monitoring Plan, video must be collected at all sampling and reference sites where benthic samples are collected, using a submersible video camera. The video will be submitted to VPD staff or an independent VPD contractor for analysis, which is then synthesized into an annual report describing sediment and benthos data. This video and analysis could also be used to identify

and characterize invasive species populating the seafloor. In the event that the video and associated benthic data evidence a concern regarding invasive species of concern, VPD, NOAA, and/or the Corps will take appropriate enforcement action. Depending on the severity of the issue, this may include (1) requiring the grower to clean up the site prior to recommencing operations; (2) requiring third-party supervision of harvests to ensure that harvesting is being performed appropriately and that invasive species of concern are being disposed of properly; (3) requiring additional monitoring and reporting; and/or (4) termination of the grower's sub-permit or VPD operating agreement.[3]

(e) Sections 3 and 4 of the draft Sediment and Water Quality Monitoring Plan establish the criteria used to evaluate water quality and benthic impacts. Sediment chemistry and toxicity will be evaluated as compared to the reporting limits and thresholds established in Appendix C of the Sediment and Water Quality Monitoring Plan. Benthic index characterization values are characterized by the degree of benthic biota disturbance, utilizing the standards also described in Appendix C. Thresholds for water quality parameters will be based upon EPA water quality standards. The Sediment and Water Quality Monitoring Plan is proposed as a before-after-control-impact ('BACI") study design, which will allow project impacts to be compared with baseline conditions prior to project implementation, as well as control points located outside of the project area. Significant adverse changes in sediment chemistry or toxicity, or significant adverse changes in benthic biota populations, would trigger adaptive management protocols identified in the draft Sediment and Water Quality Monitoring Plan.

(f) The appropriate response will depend on a number of factors, including (1) whether the issue was caused by an identifiable one-time event or is a persistent issue at the site; (2) the degree of benthic impact; (3) the duration of the impact; and (4) whether the issue is caused by specific grower operations or is a larger issue associated with the project as a whole. As stated in Section 7 of the Sediment and Water Quality Monitoring Plan, "if significant impacts are found, then appropriate adaptive management regimes will be employed to ameliorate those impacts. Such adaptive management will depend on the character, severity, and frequency of impacts, as well as whether the impact is project-wide or isolated within a particular sub-permit area or areas." If adaptive management is required, it will focus on eliminating the source of the adverse impact. For example, if mussel shells are accumulating on the seafloor, and it is determined that the accumulation is creating significant adverse chemical impacts, the VPD, in coordination with NOAA and the Corps, could require more frequent site cleanup to remove and dispose of accumulated shell. If other project operations are causing pervasive adverse

[3] Please note that the proposed sub-permitting process and enforcement responsibilities are still being discussed with the Corps. While we have answered these questions to the best of our ability at this time, the relevant permitting, monitoring, and enforcement protocols remain to be approved by the Corps and are therefore subject to change. We will notify the Coastal Commission if the relevant permitting, monitoring, and enforcement protocols change as compared to that stated in this letter.

benthic impacts, other options would be to reduce the size of the operations and/or terminate the sub-permit or VPD operating agreement.

2. *Inspection and Maintenance Activities. Please describe how completion of the proposed twice monthly gear inspections would be documented and confirmed as well as the proposed actions that would be triggered for growers that do not carry out or complete these required inspections.*

Response: Growers will be required to submit monthly monitoring results to the VPD. The VPD will in turn develop and file an annual report to NOAA Fisheries, the Coastal Commission, and the Corps, describing the monitoring results during the previous calendar year. This will include a summary of (1) the monthly gear monitoring results; (2) the results of any derelict gear removal effort and lost gear; (3) wildlife entanglement, if any; (4) beach cleanup efforts; and (5) any issues or concerns identified in the previous year. VPD also plans to conduct regular site visits and inspections to confirm that the site is being operated properly and consistent with all regulatory requirements and conditions. As a public agency and the permittee for the overall project, it is extremely important to VPD that all shellfish growers comply with all requirements and conditions, including but not limited to the Aquaculture Gear Management Plan. Additional details regarding VPD's oversight and inspections will be provided in the draft operations plan.

While specific enforcement protocols remain to be fully delineated with the Corps, VPD anticipates that its specific enforcement authority and protocols will be described in the sub-permits or operating agreements issued to individual growers. The appropriate response will depend on the severity of the violation and non-compliance; however, generally, VPD will follow the following enforcement protocol:

1. Send notice to the grower of the violation and request immediate cure of the violation.

2. Depending on the nature of the violation, VPD may request third-party monitoring through an independent consultant selected by VPD, the cost of which would be paid by the violating grower.

3. In the case of severe or frequent violations or issues of non-compliance, VPD may terminate the sub-permit and seek to evict the grower from the project site.

All of the above enforcement options are in addition to the Corps' enforcement authority pursuant to Section 10 of the Rivers and Harbors Act, which it would retain regardless of any additional enforcement authority held by VPD.

3. *Installation. Please describe: (a) how proper and complete installation of anchoring devices and cultivation equipment would be assessed and determined; and (b) the*

proposed actions that would be triggered if a grower fails to properly or completely install anchoring devices or cultivation equipment.

Response: Installation of the anchoring devices is proposed to be performed by a professional company specializing in installation of screw anchors. Individual shellfish companies will only be permitted to install anchors if they can establish that they have experience successfully installing screw anchors at similar depths at other aquaculture sites. Successful anchor installation and maintenance will be confirmed through the Aquaculture Gear Management Plan, which requires monthly reporting regarding gear maintenance and any issues associated with broken or lost gear. As mentioned above, VPD will also conduct regular site inspections to confirm that all aquaculture gear is properly managed and maintained. The proposed actions for grower non-compliance would be similar to those identified above in response to Question 2. Specifically, upon detection that the anchors were not installed correctly or have not been properly maintained, VPD would request that the grower conduct any necessary site cleanup and maintenance, hire a company to properly reinstall the anchors, and confirm proper installation through video or photographic documentation. Depending on the severity and duration of the issue, VPD may also request additional monitoring and reporting. In the event of frequent or repeated issues concerning gear maintenance, VPD may consider termination of the sub-permit and/or operating agreement and eviction of the grower from the project site.

4. *Alternations to equipment and designs. Regarding this response, please describe (a) how modified cultivation equipment designs and installation configurations would be determined to be consistent with the engineering analysis; (b) how these changes and alterations would be reported to and authorized by the regulatory agencies; and (c) Ventura Port District's response if the alterations are not consistent with the engineering analysis or authorized by the regulatory agencies.*

Response: This process is generally described in the draft sub-permitting proposal currently being reviewed by the Corps. Each sub-permit applicant will submit an application that includes a project description. VPD will evaluate the application materials and project description to determine if it is substantially similar to the operational design approved by the Coastal Commission and Corps. Each sub-permit application would also be reviewed by the Corps for consistency. If the Corps determines that the proposed operation is not substantially similar to the design approved by the Coastal Commission and Corps, the applicant would need to seek approval of the changes from VPD, the Coastal Commission, and the Corps. Under no circumstances will such an operation be allowed to commence until such required amendments are approved by the applicable agencies. Any grower that installs gear or operates in a manner not authorized by VPD, the Coastal Commission, and Corps is subject to revocation of their sub-permit and/or operating agreement and eviction from the project site.

5. *Removal Bond. Please provide additional information about how $65,000 was determined to represent "110% of the estimated cost of gear removal and site cleanup for a 100-acre farm site." For example, please provide the scope and amount of removal activities that were used to establish this estimate as well as the entity that developed the estimate and relevant experience or expertise that qualify this entity to make an accurate estimate.*

Response: The cost of gear removal was estimated to be equivalent to the cost of installation of a fully occupied 100-acre site, with an additional $20,000 added for additional site cleanup activities. The cost of installation was projected by Scott Lindell from Woods Hole Oceanographic Institution, who has significant experience assisting with aquaculture projects throughout the country, and Graham Fielder from Fielder Marine, who has significant experience worldwide installing aquaculture gear, including several longline mussel farms that use a design similar to that proposed. We can provide their curriculum vitae if necessary. The installation costs can be confirmed upon installation of the first farmed plots. If the Coastal Commission has data concerning the costs of removal and cleanup efforts, we would welcome any such data.

6. *Predator Control. Please clarify which methods of predator control, if any, are proposed to be used as part of the project.*

Response: As stated in the Predator Control Management Plan, the project has been designed in a manner that no predator control is anticipated to be necessary to deter predators. For example, the longlines have been proposed to be submerged at depths that would avoid diving ducks and cormorants. Section 8 of the Predator Control Management Plan identifies the methods of predator control in the unlikely event that such measures are required. As stated in Section 8.2, the only permitted predator control methods are increasing farm activity on the site, reducing unnecessary buoys (providing that such buoys are not required for engineering, navigational safety, or Coast Guard requirements), or installing protective socking around spat lines. No further predator control methods are approved without prior review and approval by the VPD, the Corps, and the U.S. Fish & Wildlife Service.

7. *Compliance and Enforcement. Please clarify and provide additional information about what Dudek and the Ventura Port District intends by noting that the responsibilities associated with monitoring, oversight, enforcement and project management would be shared with the National Oceanic and Atmospheric Administration and U.S. Army Corps of Engineers. Please specifically clarify which management, monitoring, oversight, and enforcement activities would be carried out by each entity and the manner in which these activities would be coordinated, documented, and reported.*

Response: We are unable to answer this question at this time because the answer depends on additional discussions with the Corps. We will provide an update regarding specific management, monitoring, oversight, and enforcement responsibilities once those details are

confirmed with the Corps. These responsibilities will be addressed in an operations plan prepared by the VPD. The VPD intends to be an active participant in the monitoring, administration, and enforcement of the project.

8. *Navigation Safety Risk Assessment. Please describe the current status of the Navigation Safety Risk Assessment review process with the U.S. Coast Guard.*

Response: VPD has responded to the Corps and U.S. Coast Guard that it will prepare the requested Navigational Safety Risk Assessment and is currently in the process of hiring a consultant with expertise preparing such assessments to prepare the analysis for the project.

9. *Substrate Survey Results. Please provide the results of site specific substrate surveys of the proposed anchoring/ mooring device installation sites and adjacent areas. This survey should document the substrate type(s) and biological resources present at the proposed anchoring/mooring locations and adjacent areas.*

Response: As stated in our previous August 16, 2019 letter, substrate will be confirmed based upon the baseline benthic analysis. VPD has not yet performed the baseline benthic surveys and only plans to do so after project approval. This is partly due to funding concerns; we anticipate that the benthic monitoring will be significantly expensive and the VPD, as a public agency, does not have the resources to invest in such monitoring unless and until growers are approved for the project. It is expected that the growers that occupy the project site would pay for the costs of the benthic monitoring.

VPD has committed to performing the benthic habitat analysis prior to installation of any aquaculture gear. As further described in Section 3 of the Sediment and Water Quality Management Plan, VPD proposes a minimum of three samples per 100 acre plot. The number of locations per plot will be determined using a sampling power curve (described in Section 3.1.2 of the Plan). It is assumed, based upon available data, that the substrate will be relatively homogenous sandy substrate. If there are areas that are not homogenous, those areas will be identified for further sampling.

As noted in the Plan, if rocky reef, hard bottom substrate, or other Essential Fish Habitat or Habitat Areas of Particular Concern are observed during baseline surveys, such habitat will be mapped and completely avoided. The Sediment and Water Quality Management Plan also includes baseline monitoring for benthic biological resources. All baseline data will be collected and reported pursuant to the Sediment and Water Quality Management Plan. Additionally, VPD has discussed this concern with the contractor that will be installing the anchors and the contractor has confirmed that the seafloor is visually checked by camera prior to drilling; therefore, any sensitive biological resources within the anchor area can be further confirmed immediately prior to drilling.

Thank you for your continued consideration of VPD's project. Should you need any clarifications regarding the responses provided above, we would be happy to schedule a call to discuss at your convenience.

Yours truly,

Robert M. Smith