TRIDENT SEAFOODS CORPORATION

5303 Shilshole Ave. NW, Seattle, WA 98107-4000
(206) 783-3818 • Fax: (206) 782-7195

VIA ELECTRONIC MAIL

April 27th, 2021

Ms. Jackie Ebert
Alaska Department of Environmental Conservation
555 Cordova Street
Anchorage, AK 99501
jackie.ebert@alaska.gov

RE: Draft Alaska General Permit Number AKG521000 Comments

Dear Ms. Ebert,

Please find Trident Seafoods Corporation's (Trident) comments on the Alaska Department of Environmental Conservation (ADEC) draft Alaska General Permit No. AKG521000 below. Trident wishes to provide comments on several issues we believe need to be revised prior to finalization of the permit.

To facilitate review of these comments, the section number associated with ADEC's Draft Permit document is listed with each comment when applicable.

Section 1.3.8 – Discharges not Covered from Vessels

Please clarify that the discharge of seafood waste and wastewater by vessel not covered by the permit refers to discharges from processing vessels operating offshore (more than 0.25 miles from shore) to avoid confusion with the conveyance of seafood processing waste and wastewater from a support vessel to a shorebased treatment system, catch transfer water conveyed to the seafood facility or authorized discharges from support vessels moored/docked as provided in Section 2.1.9.

Section 1.6.4-1.6.5 – Updated NOI/Modified Operations may not commence prior to written approval

Trident has several concerns about the ability of the Wastewater Discharge Authorization Program (Permitting) to review and approve updated NOIs consistent with the timelines and requirements laid out in Conditions 1.6.3 - 1.6.5.

First, minor changes related to production variability, such as commodity line changes, discharge totals, production levels, and processes, that do not require ESPR review often need to be made, with little to no advance notice, as a result of the dynamic nature of the seafood industry. The industry and Permitting are unlikely to be able respond timely to the changes that need to happen to be economically viable when harvesting a natural resource and comply with a 30-day lead time and authorization to be issued prior to implementing such changes. Trident proposes that NOI changes that do not trigger review and approval by the Engineering Support Plan Review Program (ESPR) nor other major changes such as modification of outfall locations, mixing zones, or zone of deposit modifications, not be subject to the requirement to submit the amended NOI at least 30 days in advance and that submittal of an updated NOI with the Annual Report be sufficient to comply with the requirement to maintain an updated NOI on file with ADEC.

Second, in Trident's experience, changes that do trigger ESPR review and approval typically take much longer than 30 days to complete, often months or years. Trident is concerned that submittal of updated NOIs and engineered drawings

April 27th, 2021

Ms. Jackie Ebert
Alaska Department of Environmental Conservation
Wastewater Discharge Authorization Program

Re: Draft Alaska General Permit Number AKG521000 Comments

for review and approval at least 30 days of lead time is not realistic and will lead to delays in receiving NOI approval until the ESPR review process is complete, and will negatively impact the ability for processors to respond to changes in the natural resource availability. Trident requests that when permittees have submitted unrelated (production changes) NOI updates, in-progress Approval to Construct, Interim, or Final Approval to Operate application status not affect NOI Authorization issuance if facilities are in good standing with ESPR.

Section 1.10.1 Change in Facility Location

Section 1.10.1.1 requires that changes in facility location or discharge location require submittal of a NOT and a new NOI is not consistent with Section 1.6.4.2 that requires a permittee with current coverage to submit an update NOI if there are proposed changes to discharge location or processing plant location. Section 1.10.1.2 requires that a proposed change to an outfall terminus requires submittal of an NOI at least 90 days prior to the relocation. Please clarify which requirements apply to changes to processing facility or discharge location, Section 1.6.4 or Section 1.10.

Section 1.10.3 – Broken or repositioned outfall line

Together with the margin of error for accuracy noted in Section 1.7.1.1, Trident interprets this condition to mean that if an outfall is observed to have actually moved greater than 50 ft away from its previously approved location, it would require an updated NOI and ESPR application. Trident notes that the recent improvements in GPS accuracy and WAAS technology referenced in the Fact Sheet do not take into account the degradation of GNSS performance at high latitudes or the variability in accuracy dependent on amount of satellites acquired. Trident requests that changes in GPS coordinates only be considered a repositioned outfall line if there is evidence of actual outfall line movement by a Seafloor Survey, other survey or other means.

Additionally, Trident disagrees that discovery of a broken or repositioned outfall constitutes “discharging to an unauthorized discharge location,” necessitating 24-hour reporting of noncompliance, in all cases. For example, if a pre-discharge survey following a 12-month shutdown were to reveal a broken outfall pipe that was not present during the prior routine seafloor survey, this condition would require reporting of unauthorized discharge when no discharge had occurred for at least a year. Trident requests that this condition be modified to include exceptions when there is no evidence that discharges to an unauthorized location have actually occurred.

Sections 1.10.4 and 1.10.5

Possible typo. These sections appear to be somewhat out of order with Section 1.10.3. Are these sections intended to be included under Section 1.10.2 regarding new operators?

Section 2.1.2 – Flow Measurements

Section 2.1.2.1 requires that permittees continuously measure and record effluent flow after installation of the flow meters required in Section 2.1.1. The fact sheet mentions that these meters are intended or required to be “permanently installed” in order to collect data to determine if “wastewater is discharged at unexpected times.” This, along with the requirement to maintain “continuous” measurements of flow, presents a number of logistical

challenges due to the need to winterize the waste handling systems at all of our seasonal facilities each year. In Trident's experience operating such meters, if the pipes in which they are installed are dry (as is the case when facilities are not in operation and winterized), the types of meters which are best suited for monitoring our wastewater discharge will register faulty data and the continuity and accuracy of the totalizer data will be impacted. Leaving static water in a non-flowing run of pipe containing the meter as recommended the meter manufacturer is potentially an option to avoid faulty data, but under freezing conditions, the pipe(s) and meters are likely to be damaged or destroyed in the process. Additionally, in several of Trident's seasonal locations, local ice conditions are likely to directly destroy metering equipment during the winter, and in others there is no power run to the facilities during the off-season with which to operate a flow meter. Considering that the majority of permittees covered under this permit will operate only seasonally, Trident requests that ADEC include an exclusion to cease continuous flow metering on a seasonal basis based on the dates of a facility's operation as indicated on the NOI in accordance with Section 2.1.4.8.2.

Section 2.1.3.1.3 – Pre-Discharge Biological Survey

The requirement to perform a pre-discharge seafloor survey at a location where a facility is restarting after discharges have not occurred for the past 12 months add significant cost without any clear environmental benefit. The high cost of mobilization to conduct a seafloor survey both pre and post season following a single year of not operating would be a further deterrent to operating facilities in some areas and is not equitable with other industry permit requirements for intermittent operation.

The fact sheet notes that the purpose of this survey is to identify if a living substrate has moved into the area and to confirm that the outfall is still intact. This type of survey is appropriate to locate a newly proposed operation and outfall line, but seems excessive for an approved outfall terminus with an authorized Project Area ZOD that has been authorized to exceed the water quality criteria for residues and the anti-degradation requirements of 18 AAC 70.015 within the authorized Project Area ZOD. While we believe such a finding would be unlikely, if a living substrate were found and the outfall terminus were required to be moved, the administrative (plan review), economic (direct cost and potential lost income), and logistical (component delivery and labor) complexity to move an outfall terminus would be impossible to complete within a calendar year prior to the operating season. In Trident's experience, facilities are temporarily shut down because there are economic and fisheries productivity struggles that make operating the plant untenable. Adding survey costs and the potential high costs described above serves to further depress the facility's economic viability in that location and allowing lower water quality in the area has been previously determined necessary to accommodate important economic or social development in the area where the outfall is located.

Trident proposes that there are alternatives to confirm the integrity of an outfall line that do not require an expensive survey. One alternative that is testing with a fresh water discharge through the outfall and conducting sea surface monitoring, looking for visual indicators such as bubbles or fluorescing dye prior to the outfall terminus, and if observed which would require further investigation, including investigation by a diver, or survey and repair activity.

April 27th, 2021

Ms. Jackie Ebert
Alaska Department of Environmental Conservation
Wastewater Discharge Authorization Program

Re: Draft Alaska General Permit Number AKG521000 Comments

Page 4

Section 2.1.4.7.1 – DMR Due Date

Trident has experienced significant difficulties with receiving laboratory results for the end of a previous month by the 15th of the following month. In order to ensure adequate time for lab reports to come in, Trident requests a due date of the 25th of the month, or later, when all results are more likely to be received. Retaining a due date of the 15th of the month is likely to result in routine resubmittals for additional laboratory data, which are an unnecessary administrative burden on both industry and ADEC for no environmental benefit.

While contracting DMR submittal to a laboratory as discussed in a previous ADEC meeting could possibly reduce the administrative burden of lagging results for that particular instance on industry's side, coordinating DMR data delivery for all of the in-situ and production data would be impractical and likely error prone. In Trident's experience, NetDMR does not allow partial DMR submittals such as only laboratory data parameters.

Section 2.1.4.8.6 – Hold Time Exceedances

This condition requires that if samples arrive at a laboratory out of the method hold time, that noncompliance reporting is required as "Other Noncompliance". Trident maintains that if re-sampling during the monitoring period is successfully completed, the initial hold time exceedances are no longer a noncompliance event. Please clarify if this condition applies if the permittee is able to fulfill the sampling requirement for the reporting period with a replacement sample, and whether the analysis of a sample with quality problems should be reported/included in averaging and flagged, or excluded from reporting. Please also clarify whether this condition applies to other types of data quality anomalies such as hold temperature, laboratory errors, and laboratory QA standards excursions.

Section 2.1.4.4 – Approved Analytical Methods

Trident has been unable to locate an approved method under 40 CFR Part 136 for density (Tables 3, 4, 5). Trident requests that ADEC provide a reference to specific methods in the permit for any required analyses that do not appear in 40 CFR 136.

Section 2.1.5.3.1 – "No Water" Outfall Terminus Conditions

This condition was newly introduced to the draft permit following the 10-day preliminary draft review period. Trident is deeply concerned about the economic impact of this condition, particularly considering its absence in the prior draft, lack of any discussion regarding this concern from ADEC permitting or compliance, and absence of supporting justification for the condition in the Fact Sheet. Trident concurs with the comments made on this condition by PSPA on our behalf and strongly supports their request that it be removed from the Draft Permit.

Trident North Naknek has a period during low tide most days in which the outfall may be considered or appear "dry" (this term is not defined in the permit). A prohibition on discharging during "dry" outfall conditions would reduce Trident North Naknek's daily processing capacity by approximately 55,000 lbs for every hour during which its outfall is considered "dry", potentially multiple hours for each low tide, a significant reduction in productivity in an already compressed and high intensity processing season. By Trident's estimation, a holding tank(s) capable of storing up to 800,000 gallons of screened wastewater would be necessary to allow production to continue

throughout "dry" conditions prior to discharge, which would rival the capacity of Trident's largest fuel tank farms in Western Alaska. This limitation and requirement to store the wastewater while the outfall is "dry" is impractical and economically infeasible with no historical evidence of negative environmental impact.

Section 2.1.6.1.4 – Scuppers Routed to Waste Conveyance System

The word "scupper" is typically reserved for small drainage holes located on the deck of a vessel, and not commonly used to refer to components of shorebased facilities. If ADEC is attempting to refer to shoreside docks which may have a gap in between the bull rail and the dock decking which may allow the discharge of seafood processing wastewater and/or contact water as "scuppers", routing incidental processing waste to the shorebased waste conveyance system is acceptable but the condition should be revised to remove the term "scupper" to avoid confusion.

If ADEC intends to refer to scuppers on support or permanently moored vessels, the permit appears to state that all scuppers must be routed through the vessels waste conveyance system. A vessel docked at a facility still must maintain stability, and cannot route every point of discharge to a single outfall without compromising the stability of the vessel. Trident suggests DEC insert language that the vessel may utilize other BMPs to protect from incidental seafood processing solids from going out scuppers such as screens. In addition, the permit should contain a clause that specifies that discharges of seafood processing wastewater out the scuppers are allowable if the safety of the vessel and its crew are in jeopardy.

Section 2.1.6.1.5 – Sea Surface Residues BMPs

This condition requires that if sea surface residues violations occur outside of the "standard 100-foot authorized mixing zone" that the permittee must implement BMPs to eliminate violations. Please rephrase this condition to note that such BMPs are required if residue violations occur "outside of the approved mixing zone" to capture any approved non-standard mixing zones.

Section 2.1.7.2 - Offseason Damaged Outfall Noncompliance Reporting

As described above regarding Section 1.10.3, damage to outfalls may be discovered during the outfall inspection portion of the seafloor survey, which takes place when the facility has ceased operating for the year. 24-hour reporting of this as a discharge in an unauthorized location without documented evidence of when the damage to the outfall occurred and a discharge actually occurred is only conjecture. Trident also attests that if the outfall is repaired prior to the facility resuming discharge, this should not be required to be reported as a noncompliance incident.

Section 2.1.7.5, 2.3.6.7 - Digital Photographs Date/Time Stamp

Trident requests that other methods to clearly document date and time of picture capture be allowed besides only digital date and time stamp visible on the image, such as original image metadata or other methods such as a printed sheet in frame with date/time.

April 27th, 2021

Ms. Jackie Ebert
Alaska Department of Environmental Conservation
Wastewater Discharge Authorization Program

Re: Draft Alaska General Permit Number AKG521000 Comments

Page 6

Section 2.1.7.6 – Noncompliance Summary

This section references photo requirements under Section 2.1.7.5; however, 2.1.7.5 does not mention any requirement to capture photographs of noncompliance situations. Trident has concerns that additional documentation requirements of noncompliant conditions may delay corrective action response, especially when such photos must be captured by a designated camera capable of showing date/time stamp on photos. Please amend this condition to require that if photos are taken, such photos should be included in the Noncompliance Summary.

Section 2.1.9 – Moored Support Vessels

Unlike a fishing vessel or tender that delivers fish to a facility, Moored/Docked Support Vessels and Barges are acting as seafood processing vessels while tied to the dock; however, they are typically fully functioning mobile vessels that must be safe and seaworthy, and are often independent floating processing facilities themselves. Industrial and sanitary wastewaters from these vessels are routed to shorebased treatment, but it is infeasible and potentially unsafe to route the numerous Other Wastewaters that are discharged overboard in the course of normal vessel operations to shore.

Trident can discern no apparent basis for prohibiting non-ballast Other Wastewaters discharges from Support Vessels when the exact same discharges may be authorized as point source discharges from the immediately adjacent shorebased facility or from the same seafood processing vessel acting in their own capacity offshore. Trident specifically requests discharges which may be authorized as Other Wastewaters under AKG523000 or AKG521000 be allowed under this condition. Trident acknowledges that these discharges would be added to the Other Wastewaters monitoring required at the permittee facility under Table 5.

Table 4 – Seafood By-product Monitoring Requirements

This section requires the amount of seafood received by the by-product recovery lines to be measured by weighing. This is not generally feasible due to the methods by which product is received at the by-product recovery facilities. These weights are often estimated by calculating based on finished byproduct amounts or primary raw product recovery percentages. Please amend this requirement to allow calculated or estimates of by-product raw material weights.

Table 5, Footnote F – Transfer Water Discharges Monitoring Period

This footnote states that monitoring of transfer water discharges is only required during the 2nd and 4th years of the permit. This conflicts somewhat with the allowance in 2.2.6.3 to apply for reduced monitoring of Other Wastewaters if no water quality exceedances are detected after 2 years of monitoring. To maintain the incentive to minimize pollution conferred by this allowance, and to make the Other Wastewaters requirements more consistent for permittees year to year, Trident suggests that Transfer Water monitoring be moved to the 2nd and 3rd years.

Section 2.3.1 – Mixing Zone Authorization

April 27th, 2021

Ms. Jackie Ebert
Alaska Department of Environmental Conservation
Wastewater Discharge Authorization Program

Re: Draft Alaska General Permit Number AKG521000 Comments

Page 7

Section 2.3.1.3.2 provides the list of water quality criteria that may be exceeded within an authorized standard mixing zone. This section should be edited to remove the word "standard" since other mixing zone sizes can be authorized. Also, after the lengthy discussion in the fact sheet regarding the potential for ammonia to be present in the wastewater discharges, there is no authorization for exceedances of the ammonia water quality criteria within an authorized mixing zone. Please conduct the necessary evaluation of ammonia and add ammonia to the list of criteria for which DEC may authorize a mixing zone with modified effluent limits.

Section 2.3.4 – PAZOD Responsibility in Areas with Multiple Seafood Processors

The definition of the Project Area ZOD (PAZOD) does not appear to take into account scenarios with nearby facilities contributing seafloor seafood waste to an adjacent facility's PAZOD. Seafloor seafood waste contributions from adjacent facilities has been observed at Cordova and likely occur at other locations throughout Alaska. At Cordova, three facilities are clustered together and have adjacent proposed PAZODs (Figure 1). Ambient currents in the Cordova outfall areas are strong (typical peak tidal currents exceed 2 feet per second). As a result, seafood waste discharged from these three facilities can be rapidly transported to adjacent PAZODs and deposited. Figure 1 provides a map showing three adjacent Cordova proposed PAZODs and surficial seafood waste observed during a 2018 seafloor investigation (INSPIRE 2019). This map illustrates that seafood waste is distributed throughout the three PAZOD and in areas in-between. Trident respectfully requests that the permit be modified to enable permittees to deduct material contributed from other discharges from ZOD calculations within their PAZODs.

Section 2.3.5.1 - Seafloor Survey – Bristol Bay

AKG520000 included provision for requesting a waiver from Seafloor Survey monitoring prior to conducting a survey, which was removed in this permit. Trident notes that many facilities in Bristol Bay estuarine waters have outfalls which have a visible terminus at low tide. Trident attests that if an authorized discharge location is dry at MLLW and the terminus area becomes visible, all such facilities should be exempt from seafloor survey requirements. Photographs of this area from the facility would be practical and more appropriate.

It is not practical to conduct seafloor surveys in the Naknek River by ROV or diver due to turbidity and current speed, and the window of time that the outfall terminus area may be safely accessed by foot on each calendar day is short. Considering that visual observation of this area has never shown evidence of a Zone of Deposit and industry will be collecting hydrological measurements during Receiving Water monitoring, Trident strongly questions the benefit of conducting a survey in this area. Trident requests that special provision be made for this area to allow a Waiver Application for Seafloor Survey monitoring without first conducting a Part 1 or Part 2 Seafloor Survey.

Section 2.3.5.6.1 – 1 Acre ZOD Remedial Actions

While Trident recognizes that the goal of the APDES program is pollution elimination, using the term in this condition sets an unreasonable standard for responding to a Zone of Deposit exceedance. Trident recommends changing the phrase "pollution elimination program" to "pollution reduction program" or "pollution minimization program"

April 27th, 2021

Ms. Jackie Ebert
Alaska Department of Environmental Conservation
Wastewater Discharge Authorization Program

Re: Draft Alaska General Permit Number AKG521000 Comments

Page 8

Section 2.5.6.7.7.1 – Flow Rates for Ammonia System Discharges

This section directs the permittee to develop flow monitoring protocols for discharges from various refrigeration system-related Other Wastewaters to commingled outfalls; however, the Other Wastewaters monitoring and analysis sections do not require separate monitoring of internal outfalls. Please remove or edit this section so that it is consistent with the Other Wastewaters requirements in Section 2.2.6.

Section 2.5.6.7.17 – Operational Plans Incorporated by Reference

This condition requires documents related to the proper operation and maintenance of refrigeration systems that are incorporated by reference into the BMP plan to be kept, presumably as hard copies, with the BMP plan. Trident's PSM (ammonia systems) and Freon compliance plans are frequently updated, dynamic sets of documents and likely run in the hundreds of pages if one were to produce a hard copy of the entire "plan." Trident suggests rephrasing this to "proper procedures for operation and maintenance of refrigeration systems which may result in a discharge to the wastewater system".

Section 2.5.6.7.20 – Spill Prevention, Control and Countermeasure Plan Incorporated by Reference

In the case of spill response procedures incorporated by reference, Trident suggests adding allowance that a hyperlink in an electronic document to the current spill response procedures or SPCC plan would be acceptable. Maintaining separate copies in multiple places becomes difficult to ensure that documents are updated in all places when annual review is conducted.

Section 2.6.4.1.1 – Hours of Seafood Processing

This data collection requirement is not mentioned anywhere else in the permit. For clarity, please either remove this section or add this data collection requirement to the monitoring requirements in Table 3.

Section 2.6.4.4 – Water Usage Information

This condition specifically requires the volume of incoming seawater or freshwater used for cooling water to be reported with the Annual Report. This data collection requirement is not mentioned anywhere else in the permit, and seems to be somewhat randomly included without mention of other water usage types (processing water, etc). Please either remove this section or substantially clarify the monitoring requirement elsewhere in the permit.

Appendix E - Seafloor Survey Protocol

In condition 2.1.7.1, it appears that ADEC is only requiring outfall integrity inspections concurrently during an already occurring seafloor survey. Please confirm.

In addition, outfall lines at several facilities are buried for either a portion or large majority of the outfall line. Buried lines have a low risk of discharge at an unauthorized location when still buried but are impossible to visually observe without unburying. Pressure testing is not practical on most main seafood processing lines due to the pipe diameter, outfall length, and construction method. Trident also has concerns that the act of pressure testing on

April 27th, 2021

Ms. Jackie Ebert
Alaska Department of Environmental Conservation
Wastewater Discharge Authorization Program

Re: Draft Alaska General Permit Number AKG521000 Comments

Page 9

outfall lines could cause damage. Please add reference to the outfall inspection applying only the exposed portion of the outfall line.

Seafood Waste Confirmation Soil Sediment Sampling – Page E-5

This requirement is provided as footnote "1" at the bottom the Seafloor Survey Protocol section. Footnote 1 does not appear to be linked to the protocol (i.e., there is no "1" in the text referring the reader to the footnote). Trident requests clarification. Was this footnote intended to specify an additional seafloor survey requirement or was it an unintended draft document artifact?

Part I Survey Protocol 4 (f) Substrate - Buried Waste – Appendix E-8

This requirement appears to have its origins in hazardous waste remediation program guidance documents (i.e., CERCLA and RCRA documents). Under hazardous waste remediation programs, toxic substances (e.g., elevated levels of PCB or metals) are often buried and pose an ongoing threat to the environment. Buried seafood waste is not a hazardous substance and should not be regulated as such. Buried seafood waste typically consists of aged, chemically inert fish bone and crab carapace. Buried aged seafood waste materials do not pose a threat to the environment and do not cause a change in benthic habitat conditions. Buried aged seafood waste no longer contains significant organic nutrients, such as lipids and protein, and has no more influence on the environment than naturally occurring shell hash. Healthy benthic habitat conditions have been observed in seafood processing outfall areas where 3 to 6 inches (or more) of native material was overlying buried seafood waste.

Healthy, biologically active surficial sediments are been observed over the top of buried aged seafood waste in several seafood waste deposit areas in recent years (e.g., at Sand Point and Akutan). These surveys provide evidence that the buried aged seafood waste material does not adversely impacting the benthic community or ecological function. Trident respectfully requests that the requirement for inclusion of buried seafood waste in ZOD areas be removed. If ADEC elects not to remove buried seafood waste for ZOD areas, then we respectfully request an explanation of the environmental harm posed by buried seafood waste.

Part I Survey Protocol 4 (b)(iii)(3) Detection Levels –Thickness Page E-7

All analytical methods require a method detection limit and minimum detection level. There is no clear determination or supported basis for differentiation between having a minimum thickness detection limit for waste deposits inside the PAZOD and no minimum thickness detection limit for areas outside the PAZOD. There are practical limits on the ability to detect seafood waste deposits that depend on the method of survey being performed. There is no discernible basis for creating two different detection standards for deposits and impact based on the location of the waste observed.

In addition, Trident would like to note that with varying thickness detection levels inside and outside of the PAZOD, seafood waste observed outside of the PAZOD could be counted towards a permittee's Zone of Deposit, but if a permittee applied to expand a PAZOD to extend over that area, the same seafood waste could no longer be included in the ZOD if it is below the 1/2" thickness threshold. This does not make logical sense as it creates two

April 27th, 2021

Ms. Jackie Ebert
Alaska Department of Environmental Conservation
Wastewater Discharge Authorization Program

Re: Draft Alaska General Permit Number AKG521000 Comments

Page 10

inconsistent categories of deposits. Trident expects that this quandary is likely to occur, as shown by the stations with surficial waste observed outside of the publicly noticed PAZODs in the Cordova area in attached Figure 1.

Part I Survey Protocol 4 (c) *Beggiatoa* or Other Bacterial Mats Page E-8

Trident has concerns regarding equating *Beggiatoa* mats areas to continuous seafood waste deposit areas (i.e., ZODs). Continuous, thick *Beggiatoa* mats are indicative of organic over-enrichment, but are not the same as seafood waste deposits. Trident suggests revising the permit language to: "All continuous, thick microbial mat areas shall be counted as areas of seafloor impairment. Areas of seafloor impairment shall be added to continuous seafood ZOD areas." This revision will allow for continuous, thick *Beggiatoa* mat areas to be added to ZOD areas without incorrectly labeling them as seafood waste deposits.

In addition, the presence of *Beggiatoa* mats could be due to other sources of organic enrichment (e.g., organic detritus resulting from algal blooms). Trident requests that a provision be added to allow the permittee to provide scientific studies describing the presence of other sources of organic enrichment for ADEC review and consideration. These studies could potentially document that organic enrichment that caused the continuous, thick *Beggiatoa* mats were due to another source of organic enrichment.

Part I Survey Protocol 4 (e) Hydrology – Page E-8

The increased survey parameters including water quality testing appear redundant with the receiving water monitoring which the facility will be conducting two times each year.

Part I Project Area Zone of Deposit Survey

Trident has three separate comments regarding the sampling grid requirements, as described below:

1. The seafloor survey requirements in Appendix E, Part I and Part II are not clearly described and could lead to confusion for permittees. In some cases, it appears that the permit is requiring sampling of the entire PAZOD (e.g., in the passage from the first paragraph of Appendix E-3, *"The permittee shall complete a seafloor survey (primarily an observation and photographic survey) of the entire project area ZOD."*) and in other cases, it appears that the permit is requiring sampling along a grid pattern outward from an expected deposit area until seafood waste is no longer observed on the seafloor (e.g., in the passage from the third paragraph of Appendix E-3, *"The survey shall be completed on a 30 foot by 30 foot grid pattern (30 feet between transect lines and 30 feet between sample plots along each transect). A minimum of nine sample plots must be surveyed. The sample plots must be centered around the outfall and must be adequate to encompass all seafood processing waste coverage areas."*). Based on our review, Trident believes that the latter interpretation is correct. Specifically, it is our understanding that the seafloor survey should be conducted beginning over an area where seafood waste has previously been observed and moving outward until seafood waste is no longer observed. Under this interpretation, sampling of every portion of the PAZOD would not be required unless seafood waste was observed. Please confirm that this interpretation of the seafloor survey requirements is correct.

April 27th, 2021

Ms. Jackie Ebert
Alaska Department of Environmental Conservation
Wastewater Discharge Authorization Program

Re: Draft Alaska General Permit Number AKG521000 Comments

Page 11

2. Under the sampling protocol described in Appendix E, the seafloor survey is required to continue until seafood waste material is no longer observed. In some locations, such as at Cordova, several permittees are adjacent to each other and seafood waste material may be observed throughout and across several PAZODs and in-between (Figure 1). Trident respectfully requests that DEC provides reasonable boundaries limiting the spatial extent of seafloor surveys at Cordova and other congested areas.

3. The prescribed 30 ft by 30 ft sampling grid may be appropriate at some locations, but other adaptive sampling designs may provide better and more efficient seafloor coverage at other locations. Trident respectfully requests that DEC provide a process whereby permittees may request an alternative sampling design as part of the seafloor survey work plan review process. DEC could then review the alternative sampling design and decide whether it provided acceptable coverage of the study area.

Part II Survey Protocol 4 (j)Thickness determination and Coring – Page E-12

Based on recent studies completed for Trident Seafoods Corporation on how to accurately measure seafood waste deposit thickness, this requirement "Measure and record seafood processing waste deposit thickness [from the seafloor to the highest point of the pile] using a marked stick or pipe to the nearest 0.5-inch at each sample site" is not possible or accurate. As Trident has discovered, pushing a measuring device into the seafood waste deposit until apparent refusal does not accurately measure the thickness of the deposit, especially at locations where native sediments are naturally softer. We suggest that this requirement be deleted. If the requirement cannot be deleted, we suggest that all references to "Seafood Waste Deposit Thickness" be amended to "Depth of Apparent Refusal" to more accurately describe the parameter that is being measured.

Regarding coring, Trident questions the requirement to determine the thickness since the applicable regulatory limit for deposits is based on surface area rather than the volume of waste. Trident has experience with various methods of coring and has found that deposits with bone often cause plugging and do not provided accurate depth of seafood waste deposits. If coring remains a requirement, please include a threshold of apparent depth or thickness of seafood waste at which coring would be expected. The statement that it may be included is ambiguous and not clear.

Part II Survey Protocol 4 (l) Gas Observations and Analysis – Page E-12

The presence of methane and hydrogen sulfide gases escaping from the seafloor are indications of low dissolved oxygen (DO) concentrations in surficial sediments but are not necessarily indicative of low DO conditions in the overlying water column. Methane and hydrogen sulfide gases originating in surficial sediments are unlikely to persist in the water column due to the specific physical and chemical properties of the gases. Sampling the water column for methane or hydrogen sulfide would be difficult and highly unlikely to yield meaningful concentrations of either gas. As a result, we respectfully request that this permit condition be modified to require only near-bottom water column DO measurements to determine whether low DO conditions in surficial sediments have moved up into the near-bottom water column. A technical rationale for this request is provided below.

April 27th, 2021

Ms. Jackie Ebert
Alaska Department of Environmental Conservation
Wastewater Discharge Authorization Program

Re: Draft Alaska General Permit Number AKG521000 Comments

Page 12

When anoxic conditions develop in surficial sediments, DO is completely depleted and anaerobic microbial respiration takes over. This includes sulfate reduction, which produces hydrogen sulfide, and methanogenesis, which produces methane. Under these conditions both methane and hydrogen sulfide gases can diffuse from the sediments into the water column.

Hydrogen sulfide is not likely to form bubbles in the sediment porewater or in the water column because the solubility of this gas is high. As a result, hydrogen sulfide release from the sediments cannot be visually detected. Collecting water column samples for hydrogen sulfide measurements would fail to capture measurable levels because hydrogen sulfide is rapidly (abiotically) converted back to harmless sulfate when exposed to oxygen in the water column.

Methane bubbles can form when rates of methanogenesis are high and the sediment porewater becomes oversaturated in dissolved methane concentrations, as dictated by the solubility of methane in water. These methane bubbles may be released into the overlying water column. Methane bubbles from the sediments will dissolve into the water during ascension through the water column and will generally dissipate.

Sampling for hydrogen sulfide in the overlying water column would not result in measurable concentrations due to the properties of hydrogen sulfide. Sampling for methane would be very difficult. Capturing measurable methane concentrations in the overlying water column might be possible, but is unlikely due to the ephemeral nature of methane gas fate and transport. Assuming that measurement of methane gas was possible, Trident respectfully requests clarification of the purpose of this sampling. The observation of gas bubbles, along with other indicators, such as *Beggiaotoa*, provide confirmation of sediment anoxia. Measurement of near-bottom water column DO supports characterization of whether sediment anoxia has moved up into the water column. What would be the purpose of attempting to collect methane measurements in the overlying water column? We are not aware of an applicable water quality criterion for methane gas. What data quality objectives would be addressed?

Trident respectfully requests that the requirement for water column dissolved gas sampling be removed and replaced with near-bottom DO measurement. If the dissolved gas measurement requirement persists, Trident requests an explanation of the purpose of this sampling requirement.

Part I Survey Protocol (6) Change Sheet – Page E-9

All submittals are required to be certified by a responsible individual in accordance with Appendix A, Part 1.12. If ADEC suspects that a permittee is submitting false or untrue information, ADEC has the authority to investigate and convict a permittee for submittal of false information. If an additional certification of the seafloor survey data is required, Trident suggests modifying this condition to require a surveyor to certify that the survey data is true and accurate. Not every seafloor survey report is authored by the seafloor surveyor and requiring a surveyor to certify a report they did not write is not acceptable.

Project Area Zone of Deposit Digitized Waste Piles

April 27th, 2021

Ms. Jackie Ebert
Alaska Department of Environmental Conservation
Wastewater Discharge Authorization Program

Re: Draft Alaska General Permit Number AKG521000 Comments

Page 13

Trident has compared the shapefiles from the referenced seafloor surveys to the digitized waste piles in the mapped Project Area Zone of Deposit publicly noticed maps. In areas with greater than zero Zone of Deposit, the published maps do not appear to correlate with the most recent seafloor survey data, as indicated in the file's metadata. Please see attached Figure 2 for Cordova North Digitized Waste Pile Map Comparison, attached Figure 3 for Cordova South Digitized Waste Pile Comparison, attached Figure 4 for Ketchikan Digitized Waste Pile Map Comparison, and attached Figure 5 for Wrangell Digitized Waste Pile Map Comparison. Please correct the published Digitized Waste Pile objects to match Trident's most recently submitted seafloor survey ZOD data or provide the data source for the digitized waste piles on the publicly noticed maps.

Sincerely,

Shawn Stokes
Regulatory Affairs Director
Trident Seafoods Corporation

Attachments:

Figure 1: Map of Surficial Seafloor Seafood Waste Observed in the Cordova Study Area during 2018 Survey (INSPIRE 2019)
Figure 2: Cordova North Digitized Waste Pile Map Comparison
Figure 3: Cordova South Digitized Waste Pile Map Comparison
Figure 4: Ketchikan Digitized Waste Pile Map Comparison
Figure 5: Wrangell Digitized Waste Pile Map Comparison

April 27th, 2021

Ms. Jackie Ebert
Alaska Department of Environmental Conservation
Wastewater Discharge Authorization Program

Re: Draft Alaska General Permit Number AKG521000 Comments

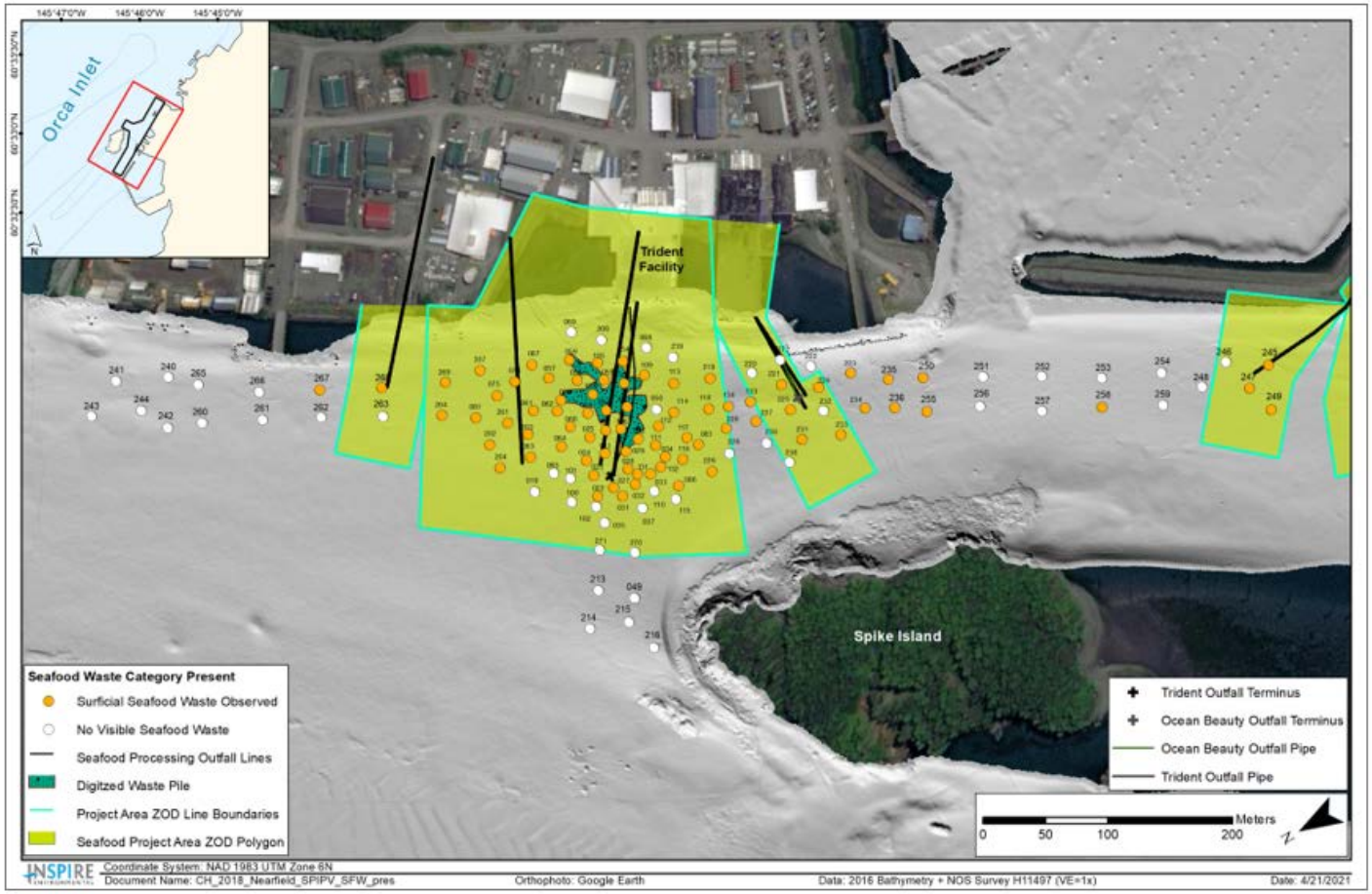

Figure 1. Map of Surficial Seafloor Seafood Waste Observed in the Cordova Study Area during 2018 Survey (INSPIRE 2019)

April 27th, 2021

Ms. Jackie Ebert
Alaska Department of Environmental Conservation
Wastewater Discharge Authorization Program

Re: Draft Alaska General Permit Number AKG521000 Comments

Page 15

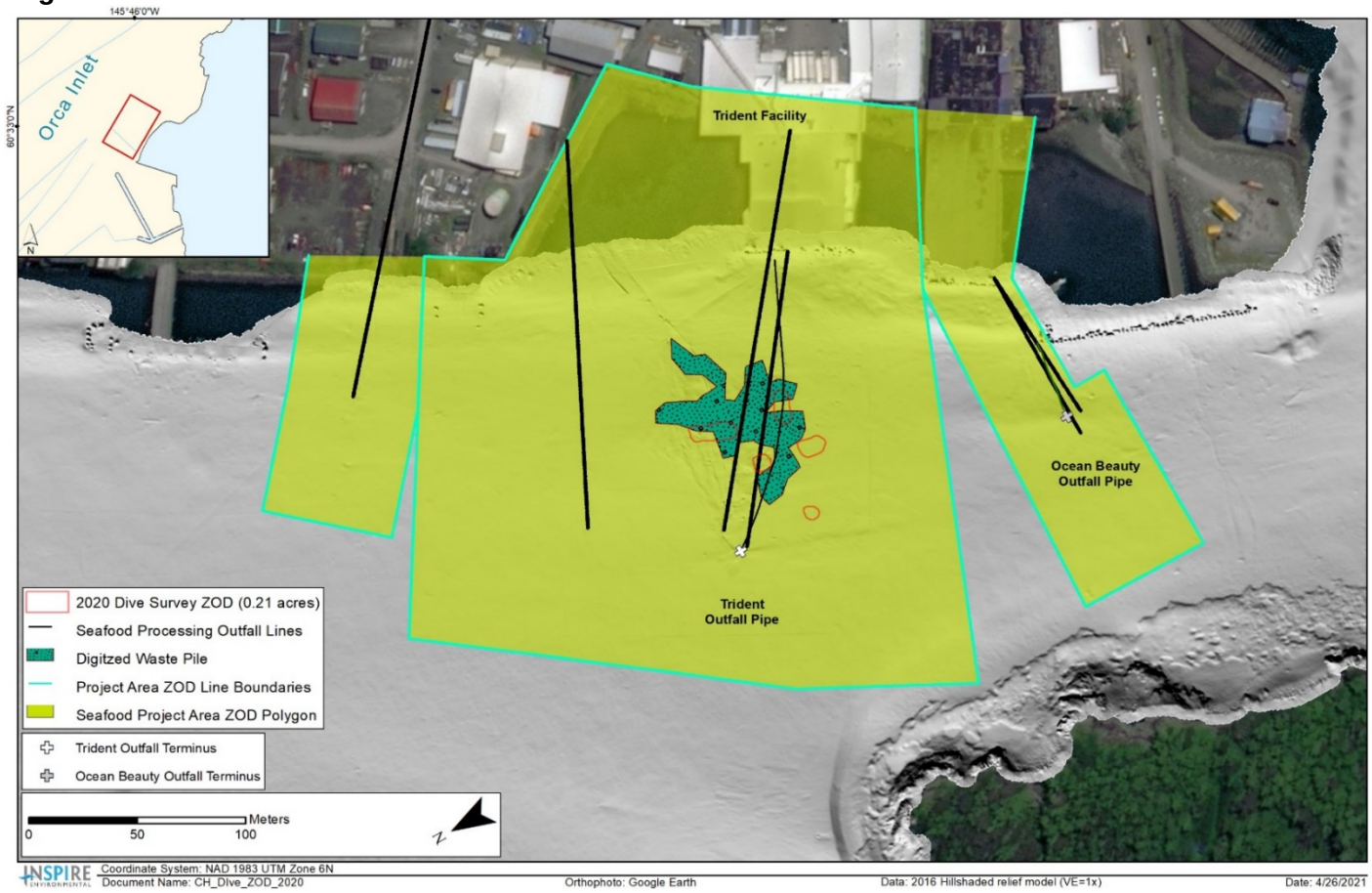

Figure 2: Cordova North Digitized Waste Pile Map Comparison

April 27th, 2021

Ms. Jackie Ebert
Alaska Department of Environmental Conservation
Wastewater Discharge Authorization Program

Re: Draft Alaska General Permit Number AKG521000 Comments

Page 16

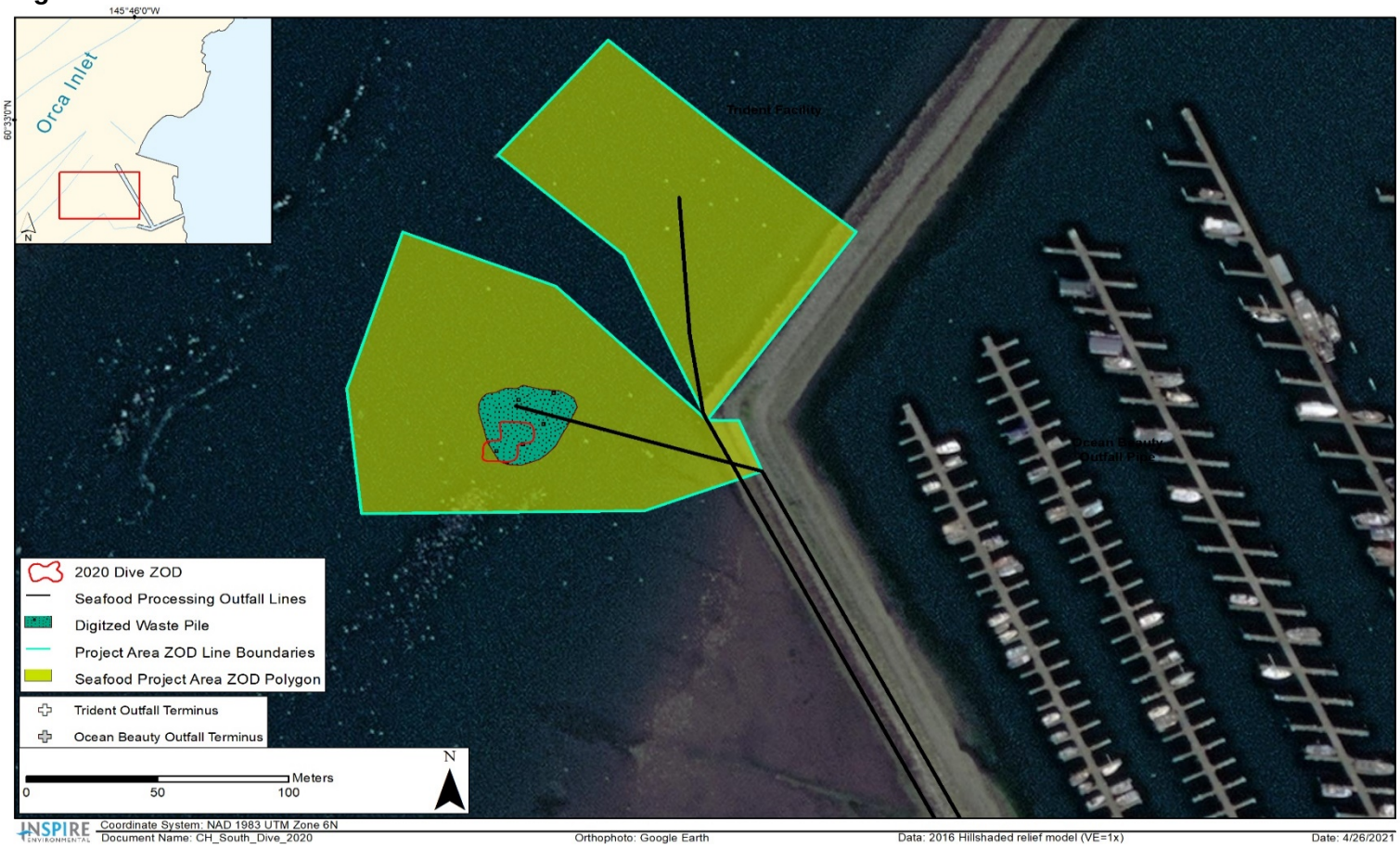

Figure 3: Cordova South Digitized Waste Pile Map Comparison

April 27th, 2021

Ms. Jackie Ebert
Alaska Department of Environmental Conservation
Wastewater Discharge Authorization Program

Re: Draft Alaska General Permit Number AKG521000 Comments

Page 17

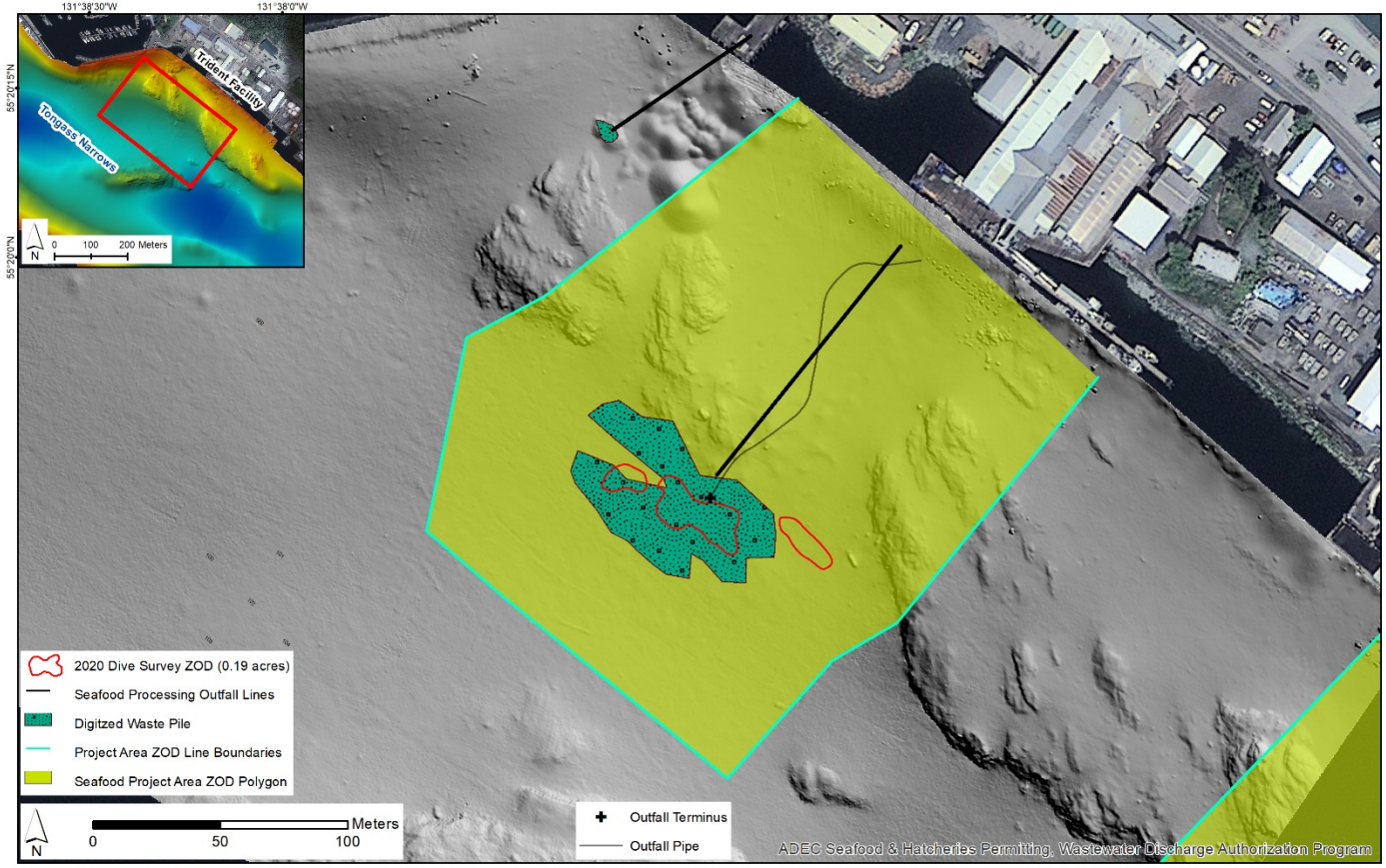

Figure 4: Ketchikan Digitized Waste Pile Map Comparison

April 27th, 2021

Ms. Jackie Ebert
Alaska Department of Environmental Conservation
Wastewater Discharge Authorization Program

Re: Draft Alaska General Permit Number AKG521000 Comments

Page 18

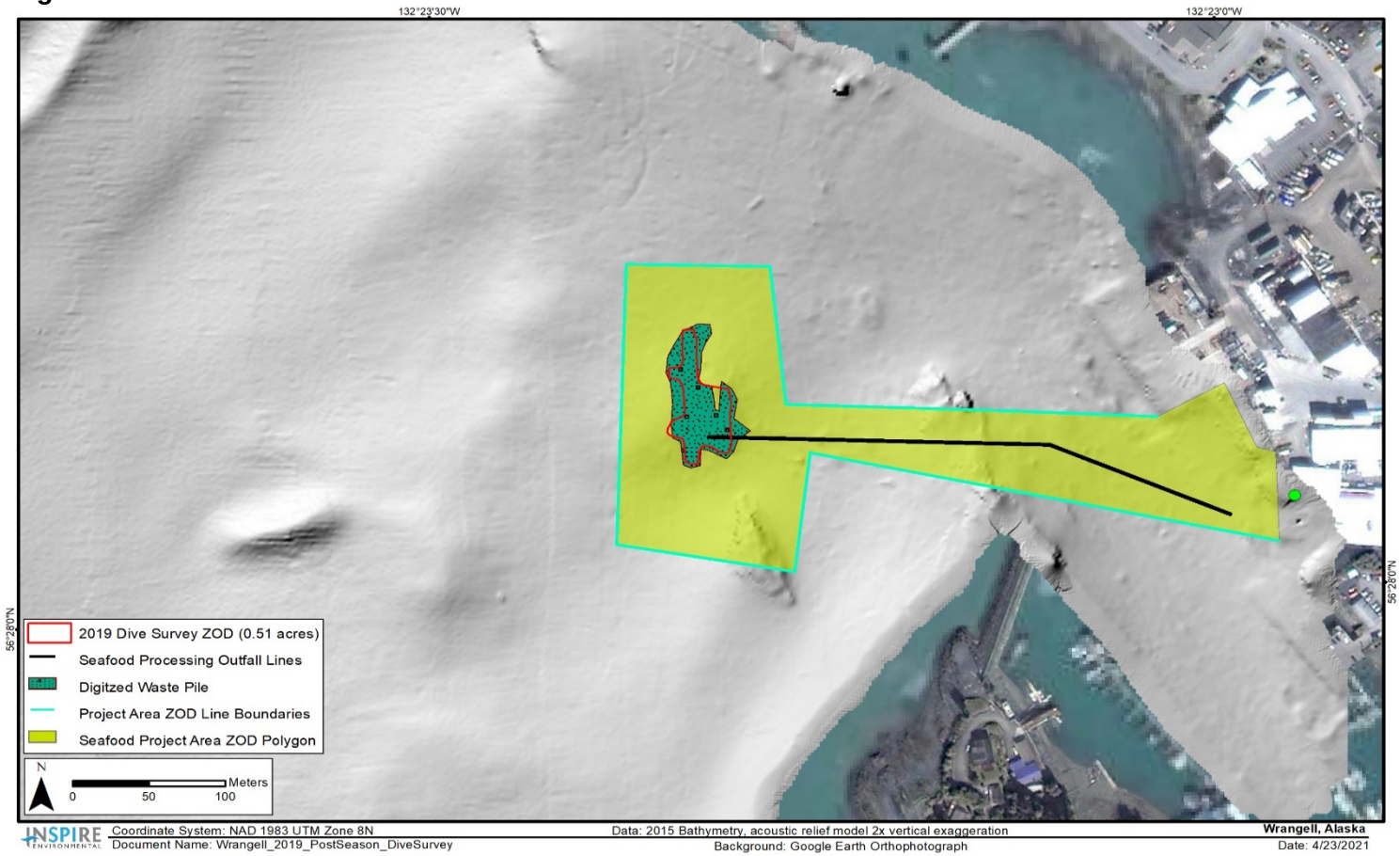

Figure 5: Wrangell Digitized Waste Pile Comparison