ALASKA POLLUTANT DISCHARGE ELIMINATION SYSTEM
and State Wastewater Discharge Individual Permit

Permit Number: **AK0053481-Permit Fact Sheet – Preliminary Draft**

Kodiak Island Borough Landfill

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Wastewater Discharge Authorization Program
555 Cordova Street
Anchorage, AK 99501

Public Comment Period Start Date: DRAFT
Public Comment Period Expiration Date: DRAFT
Alaska Online Public Notice System

Technical Contact: Marie Klingman; (907) 451-2101; marie.klingman@alaska.gov

Proposed issuance of an Alaska Pollutant Discharge Elimination System (APDES) permit to:

KODIAK ISLAND BOROUGH

For wastewater discharges from
Kodiak Island Borough (KIB) Landfill
1203 Monashka Bay Road
Kodiak, AK 99615

The Alaska Department of Environmental Conservation (the Department or DEC) proposes to reissue an APDES individual permit (permit) to the KIB. The permit authorizes and sets conditions on the discharge of pollutants from this facility to waters of the State. In order to ensure water quality and human health, the permit places limits on the types and amounts of pollutants that can be discharged from the facility and outlines best management practices to which the facility must adhere.

This fact sheet explains the nature of potential discharges from the KIB Landfill and the development of the permit including:

- information on public comment, public hearing, and appeal procedures
- a listing of effluent limitations and other conditions
- technical material supporting the conditions in the permit
- monitoring requirements in the permit

Public Comment

Persons wishing to comment on or request a public hearing for the draft permit for this facility, may do so in writing by the expiration date of the public comment period.

Commenters are requested to submit a concise statement on the permit condition(s) and the relevant facts upon which the comments are based. Commenters are encouraged to cite specific permit requirements or conditions in their submittals.

A request for a public hearing must state the nature of the issues to be raised, as well as the requester's name, address, and telephone number. The Department will hold a public hearing whenever the Department finds, on the basis of requests, a significant degree of public interest in a draft permit. The Department may also hold a public hearing if a hearing might clarify one or more issues involved in a permit decision or for other good reason, in the Department's discretion. A public hearing will be held at the closest practicable location to the site of the operation. If the Department holds a public hearing, the Director will appoint a designee to preside at the hearing. The public may also submit written testimony in lieu of or in addition to providing oral testimony at the hearing. A hearing will be tape recorded. If

there is sufficient public interest in a hearing, the comment period will be extended to allow time to public notice the hearing. Details about the time and location of the hearing will be provided in a separate notice.

All comments and requests for public hearings must be in writing and should be submitted to the Department at the technical contact address, fax, or email identified above (see also the public comments section of the attached public notice). Mailed comments and requests must be postmarked on or before the expiration date of the public comment period.

After the close of the public comment period and after a public hearing, if applicable, the Department will review the comments received on the draft permit. The Department will respond to the comments received in a Response to Comments document that will be made available to the public. If no substantive comments are received, the tentative conditions in the draft permit will become the proposed final permit.

The proposed final permit will be made publicly available for a five-day applicant review. The applicant may waive this review period. After the close of the proposed final permit review period, the Department will make a final decision regarding permit issuance. A final permit will become effective 30 days after the Department's decision, in accordance with the state's appeals process at 18 Alaska Administrative Code (AAC) 15.185.

The Department will transmit the final permit, fact sheet (amended as appropriate), and the Response to Comments to anyone who provided comments during the public comment period or who requested to be notified of the Department's final decision.

Informal Reviews and Adjudicatory Hearings

A person authorized under a provision of 18 AAC 15 may request an informal review of a contested decision by the Division Director in accordance with 18 AAC 15.185 and/or an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340. See DEC's "Appeal a DEC Decision" web page https://dec.alaska.gov/commish/review-guidance/ for access to the required forms and guidance on the appeal process. Please provide a courtesy copy of the adjudicatory hearing request in an electronic format to the parties required to be served under 18 AAC 15.200. Requests must be submitted no later than the deadline specified in 18 AAC 15.

Documents are Available

The permit, fact sheet, application, and related documents can be obtained by visiting or contacting DEC between 8:00 a.m. and 4:30 p.m. Monday through Friday at the addresses below. The permit, fact sheet, application, and other information are located on the Department's Wastewater Discharge Authorization Program website: https://dec.alaska.gov/water/wastewater/.

- 555 Cordova Street; **Anchorage**, AK 99501; (907) 269-6285
- **Mail**: P.O. Box 111800;
  In Person: 410 Willoughby Avenue, Suite 303; **Juneau**, AK 99811-1800; (907) 465-5180
- 610 University Avenue; **Fairbanks**, AK 99709; (907) 451-2183

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1.0 APPLICANT

1.1 Applicant

This fact sheet provides information on the APDES permit for the following entity:

Permittee:	Kodiak Island Borough (KIB)
Facility:	KIB Landfill Leachate
APDES Permit Number:	AK0053481
Facility Location:	1203 Monashka Road, Kodiak, AK 99615
Mailing Address:	710 Mill Bay Road, Kodiak, AK 99615
Facility Contact:	Ms. Aimee Williams, KIB Manager

1.2 Authority

Section 301(a) of the Clean Water Act (CWA) and AAC 18 AAC 83.015 provide that the discharge of pollutants to water of the State is unlawful except in accordance with a State or APDES permit. In compliance with the provisions of the CWA, 33 U.S.C. §1251 et seq., as amended by the Water Quality Act of 1987, P.L. 100-4, this permit is issued under provisions of Alaska Statutes (AS) 46.03; the AAC as amended; and other applicable State laws and regulations where DEC is the permitting authority. A violation of a condition contained in the Permit constitutes a violation of the CWA and subjects the permittee of the facility with the permitted discharge to the penalties specified in AS 46.03.760 and AS 46.03.761.

1.3 Permit History

In 2007, the KIB submitted a National Pollutant Discharge Elimination System (NPDES) permit application to the Environmental Protection Agency (EPA) for the discharge of treated landfill leachate and baler squeezings to wetlands. EPA deemed the application complete but did not issue a permit prior to DEC receiving approval to administer the NPDES Program in the State of Alaska in October 2008.

In 2015 DEC issued the KIB an APDES permit for the landfill leachate discharge and subsequently reissued it in 2021 for a five-year permit term. The permit expires March 31, 2026. Under the Administrative Procedures Act and state regulations at 18 AAC 83.155(c), an APDES permit may be administratively extended (i.e., continues in force and effect) provided that the permittee submits a timely and complete application for a new permit prior to the expiration of the current permit. A timely and complete application for a new permit was submitted by KIB on December 1, 2025; therefore, if the reissuance of the permit is delayed and not effective by April 1, 2026, the 2021 permit shall be administratively extended until such time a new permit is reissued.

2.0 BACKGROUND

2.1 Facility Information

The KIB owns and operates the KIB Landfill, located approximately six miles northwest of Kodiak, Alaska. Originally established as an informal dump site in the 1960s, the landfill has since evolved into a Class I facility encompassing roughly 30.2 acres. The landfill accepts a variety of solid waste including municipal solid waste, baled waste from industrial, commercial, and institutional sources, as well as construction and demolition debris, landscaping materials, and marine debris.

2.2 Wastewater Treatment

Compacted waste bales are hauled to the working face of the landfill and stacked in rows and covered daily with fill. Septic waste from the baler building is captured in a septic tank that drains to a leachfield near the baler facility. Sludge in the septic tank is pumped out as needed.

In 2015, the northeastern end of the landfill was expanded with the construction of an engineered lining system that contains an impermeable liner (geomembrane and geosynthetic clay) and a leachate collection/conveyance system. Once collected in the landfill's collection system, leachate and baler waste streams are channeled to a leachate storage lagoon that equalizes pollutant loadings and flow rates. From the storage lagoon, wastewater flows to a pumping station where it is conveyed through fine screens. Screenings fall into a dumpster and are disposed of in the landfill.

Screened wastewater enters an anoxic tank for denitrification and alkalinity recovery, followed by an aerobic tank for nitrification and biochemical oxygen demand (BOD_5) removal using fine-bubble aeration. A post-anoxic zone provides additional denitrification prior to the final aerated tank that contains a membrane bioreactor (MBR) system. The MBR process combines biological treatment with a physical barrier to pollutants. Two MBR units provide redundancy for maintenance and variable flows. Waste activated sludge is thickened using a belt filter press, and filtrate is returned to the lagoon. Septic waste from the leachate treatment facility is captured in a tank, pumped to a truck, and transferred to the City of Kodiak Wastewater Treatment Facility. Treated wastewater is discharged to constructed primary wetland cells followed by secondary treatment natural wetlands.

Effective denitrification requires sufficient BOD_5 in the anoxic zones to convert nitrate to nitrogen gas. Per design, a supplemental carbon source is sometimes needed to meet effluent limits when influent ammonia is high and influent BOD_5 is low; actual usage is adjusted based on influent nitrogen and BOD_5 loading.

In spring 2025, a pre-treatment system was added to improve pH adjustment and solids removal. This system diverts screened leachate to an aeration tank for pH elevation, then to a slant plate clarifier for solids settling, and finally to a holding tank before returning flow to the main treatment process. Flow through the pre-treatment system is controlled manually. Currently, the system is being bypassed due to challenges maintaining MBR chemistry. Built-in tanks that are not currently piped into the system, could support future chemical injection to enhance pH control and heavy metal separation if needed.

Design analysis determined that the facility typically treats leachate at an average flow rate of approximately 40 gallons per minute (gpm) under normal conditions. To accommodate precipitation events and to create storm capacity by draining down the lagoon, the system is designed for a maximum flow rate of 200 gpm (288,000 gallons per day. Leachate flows were estimated using historical rainfall data, measured flow at the terminus of the existing leachate system, and an estimated infiltration fraction across the landfill area.

Figure 1 depicts the layout of the KIB Landfill and Figure 2 provides an overview of the KIB Landfill treatment process.

(Figure 1- KIB Landfill Site Plan is on the following page)

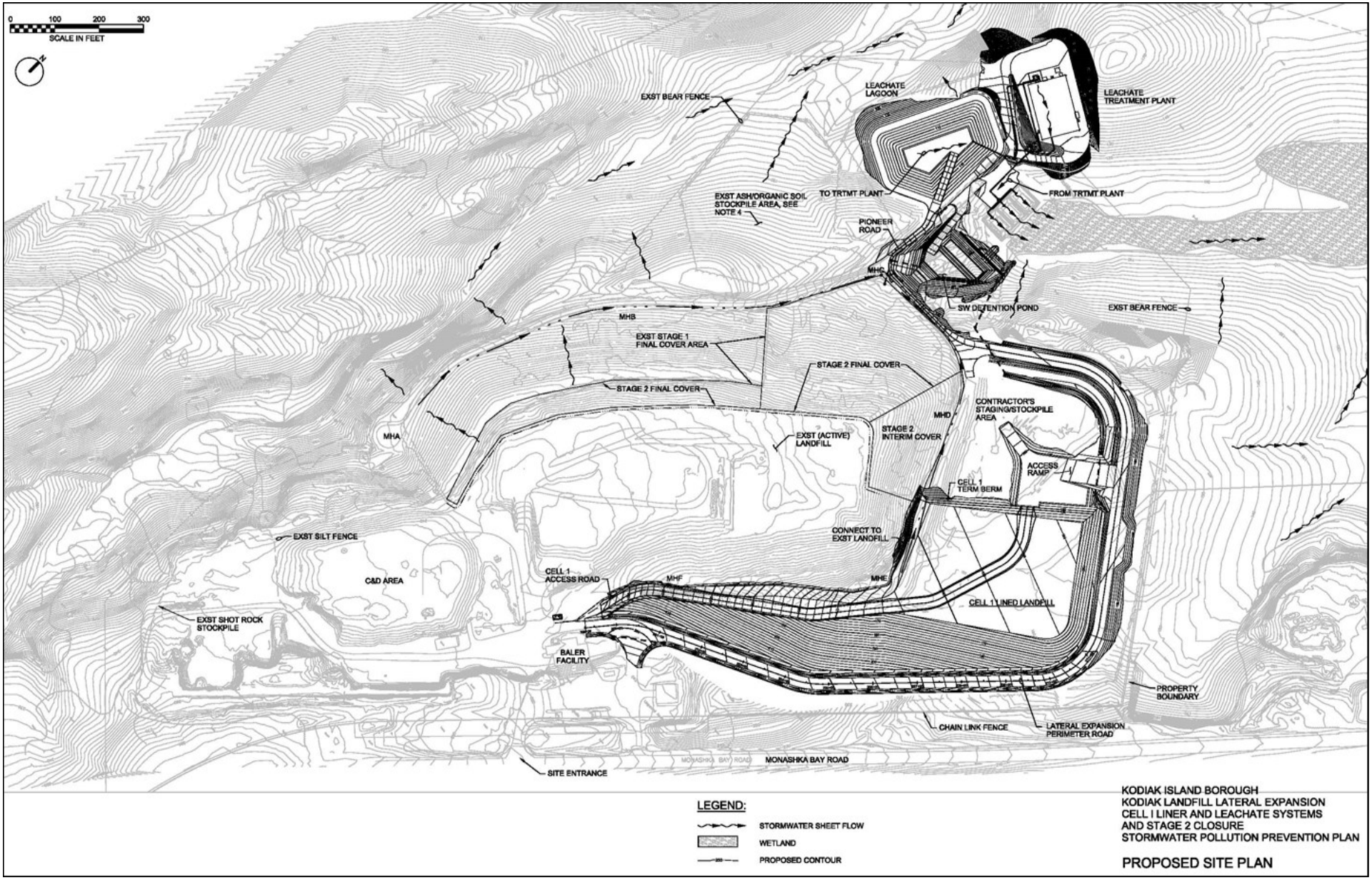

Figure 1- KIB Landfill Site Plan

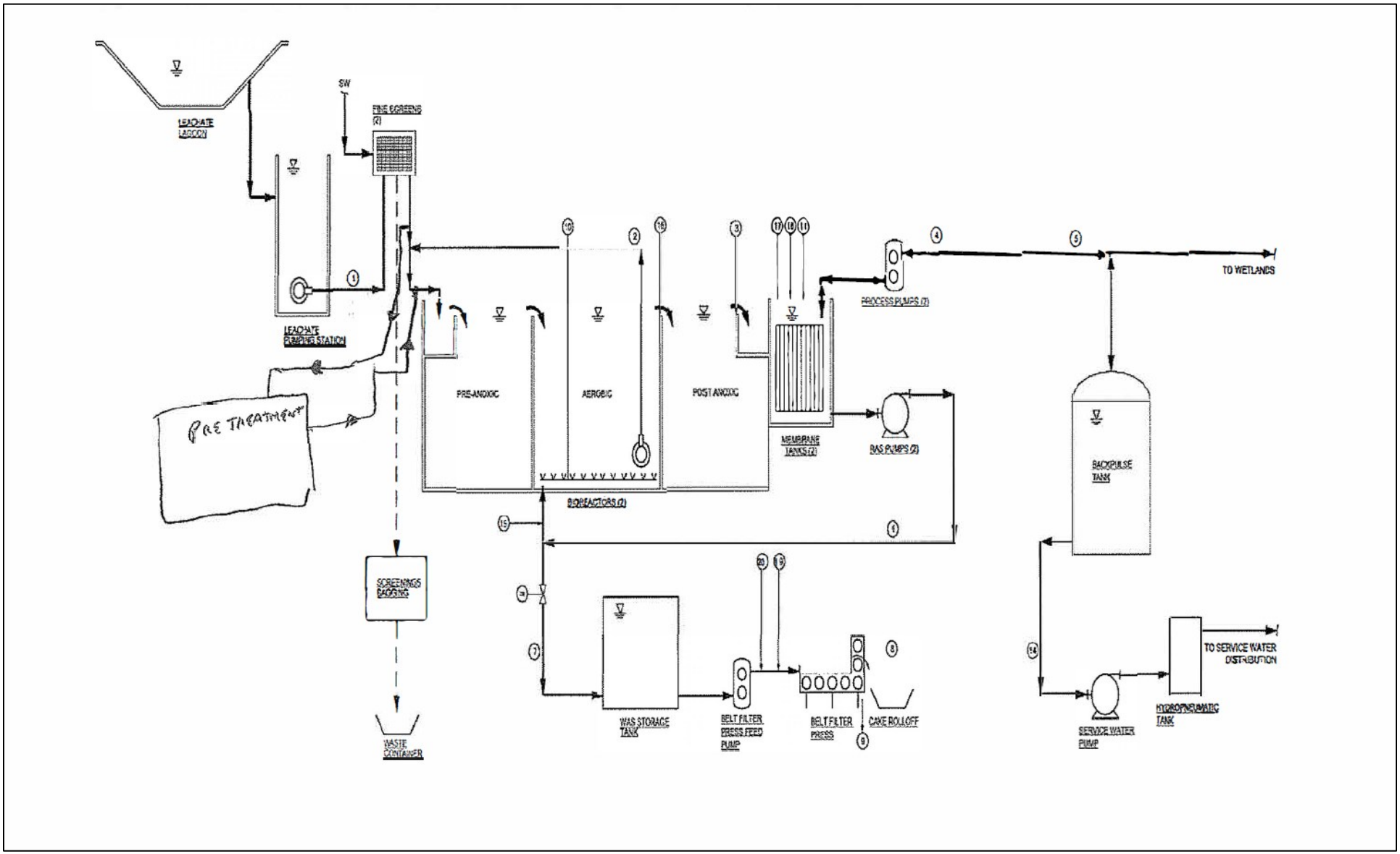

Figure 2- KIB Landfill Leachate Process Flow

2.3 Pollutants of Concern

Landfill leachate varies from site to site based on a number of factors such as the types of waste accepted, operating practices, fill depth, waste compaction, annual precipitation, and landfill age. The main contaminants are derived from the materials deposited at the fill that may contain metals and other toxic pollutants. Pollutants observed in the effluent at least once above a maximum water quality criterion or permit effluent limit between June 2021 and September 2025 are depicted in Table 1.

Table 1 -Pollutants Observed in Effluent above Water Quality Criteria or Permit Limit

Pollutant	Units	Maximum Observed Concentration or Measurement	Water Quality Criteria or Permit Limit
Total Ammonia as Nitrogen (ammonia)	mg/L	110	Technology Based Effluent Limits 10 acute, 4.9 chronic
Nitrate as Nitrogen (N)	mg/L	120	Water Quality Criterion 10 drinking water
Nitrate and Nitrite as N	mg/L	170	Water Quality Criterion 10 drinking water
Whole Effluent Toxicity (WET)	chronic toxic units (TUc)	>8.0 *Pimephales promelas* (flathead minnow) larval survival and growth	Water Quality Criterion 1.0 daily maximum
Zinc	micrograms per liter (µg/L)	45	Water Quality Criteria 32 acute and chronic aquatic life

2.4 Compliance History

Table 2 contains permit limit exceedances that have occurred since the effective date of the most recent permit, June 1, 2021 through September 2025. Compliance information for this facility, including compliance with other environmental statutes, is available on Enforcement and Compliance History Online (ECHO). The ECHO web address for this facility is: Detailed Facility Report | ECHO | US EPA. DEC did not conduct any onsite inspections nor desk audits of the landfill between June 2021 and September 2025.

Table 2- Permit Limit Exceedances

Parameter	Units	Basis	Permit Limit	Number of Exceedances	Maximum Reported Value	Date of Maximum Reported Value
BOD_5	mg/L	Average Monthly	37	1	78	March 2024
Ammonia	mg/L	Daily Maximum	10	18	110	May and July 2024
Ammonia	mg/L	Average Monthly	4.9	20	110	May and July 2024
Ammonia	Pounds per day (lbs/day)	Daily Maximum	24	17	136	May 2024
Ammonia	lbs/day	Average Monthly	12	19	136	May 2024
Nitrate as N	mg/L	Daily Maximum	10	1	59	August 2021
Nitrate and Nitrite as N	mg/L	Daily Maximum	10	3	170	August 2021
Zinc	µg/L	Daily Maximum	32	1	45	December 2022
Zinc	µg/L	Average Monthly	32	1	37	December 2022
pH	Standard units (S.U.)	Daily Minimum	6.5	1	6.4	June 2022

3.0 EFFLUENT LIMITS AND MONITORING REQUIREMENTS

3.1 Basis for Permit Effluent Limits

DEC authorizes discharges of domestic or non-domestic wastewater into state waters under the regulatory authority of 18 AAC 72 – Wastewater Disposal. Determining which waters are State waters is not straightforward because the new definition of Waters of the U.S. (WOTUS), as described in 40 Code of Federal Regulations (CFR) pt. 120, is still without a clear guidance of how the WOTUS determination will be made in certain circumstances. Previously, nearly all wetlands were categorized as WOTUS. However, in the recent Superior Court decision in the case of Sackett v. EPA the court held that the CWA's use of "waters" in 33 USC 1362(7) refers only to "geographic[al] features that are described in ordinary parlance as 'streams, oceans, rivers, and lakes' and to adjacent wetlands that are 'indistinguishable' from those bodies of water due to a continuous surface connection."

This recent decision means many waters and wetlands that were previously categorized as WOTUS are, at this time, now state waters. While the determination procedures remain in flux, the level of environmental protection remains the same regardless of whether waters are categorized as WOTUS or state waters. In other words, 18 AAC 70 - Water Quality Standards (WQS) applies to both designations and the resulting permit limits and conditions remain the same for either. The primary implication lies in the reporting of monitoring results. Reporting to the EPA is required for discharges to WOTUS while discharges to waters of the state are reported only to the state. Hence, the designation of receiving water only affects the method of reporting.

The KIB Landfill discharges treated leachate to a wetland area that may be distinguishable from the adjoining waterbody, Leachate Creek. For this permit reissuance, while the definition of WOTUS remains unresolved, the unnamed wetland will be referred to as waters of the state. Reporting procedures for monitoring results will remain unchanged from the previous permit.

The Department prohibits the discharge of pollutants to state waters unless the permittee has first obtained a permit issued by the state that meet the purposes of AS 46.03 and is in accordance with the CWA Section 402. Per these statutory and regulatory provisions, the permit includes effluent limits that require the discharger to (1) meet standards reflecting levels of technological capability, (2) comply with 18 AAC 70, and (3) comply with other state requirements that may be more stringent.

The CWA requires that the limits for a particular pollutant be the more stringent of either TBELs or water quality-based effluent limits (WQBELs). TBELs are set according to the level of treatment that is achievable using available technology. A WQBEL is designed to ensure that the WQS of a waterbody are met. WQBELs may be more stringent than TBELs.

The permit contains both TBELs and WQBELs. The applicable TBELs are based on EPA Effluent Limit Guidelines found at 40 Code of Federal Regulations (CFR) pt. 445, Subpart B-Resource Conservation and Recovery Act Subtitle D Non-Hazardous Landfill, New Source Performance Standards. A detailed discussion of the basis for the effluent limits contained in the permit is provided in Appendix A.

3.2 Basis for Effluent Monitoring

In accordance with AS 46.03.110(d), the Department may specify in a permit the terms and conditions under which waste material may be disposed. Monitoring in a permit is required to determine compliance with effluent limits. Monitoring may also be required to gather effluent and surface water data to determine if additional effluent limits are required and/or to monitor effluent impact on the receiving waterbody quality. The permittee is responsible for conducting the monitoring and for reporting results on NetDMR or with the application for reissuance, as appropriate, to the Department.

3.3 Effluent Limits and Monitoring Requirements

Monitoring is required to determine compliance with effluent limitations and/or for use in future reasonable potential analyses. The permit requires monitoring of the treated landfill leachate that is discharged through Outfall 001A. Effluent limits for the KIB Landfill Leachate must be met at the end of the pipe prior to discharge to the wetlands.

Monitoring frequencies are based on the nature and effect of a pollutant, as well as a determination of the minimum sampling necessary to adequately monitor the facility's performance. Permittees have the option of taking more frequent samples than are required under the permit. These samples must be used in calculations and used for averaging if they are conducted using Department-approved test methods (generally found in 18 AAC 70 and 40 CFR pt. 136 [adopted by reference in 18 AAC 83.010]) and if the method detection limits are less than the effluent limits.

Appendix A contains the basis for effluent limits contained in Permit Section 1.2, Table 2.

3.4 Whole Effluent Toxicity Monitoring (WET)

Alaska WQS at 18 AAC 70.030 require that an effluent discharged to a water may not impart chronic toxicity to aquatic organisms, expressed as 1.0 TUc, at the point of discharge, or if the Department authorizes a mixing zone in a permit, approval, or certification, at or beyond the mixing zone boundary, based on the minimum effluent dilution achieved in the mixing zone.

WET tests are laboratory tests that measure the total toxic effect of an effluent on living organisms. WET tests use small vertebrate and invertebrate species and/or plants to measure the aggregate toxicity of an effluent. There are two different durations of toxicity test: acute and chronic. Acute toxicity tests measure survival over a 96-hour exposure. Chronic toxicity tests measure reductions in survival, growth, and reproduction over a 7-day exposure.

According to 18 AAC 70.030, an effluent may not impart chronic toxicity to aquatic organisms, expressed as 1.0 TUc, at the point of discharge, or if the department authorizes a mixing zone in a permit, approval, or certification, at or beyond the mixing zone boundary, based on the minimum effluent dilution achieved in the mixing zone. A mixing zone is not authorized for the KIB Landfill discharge; therefore, 1.0 TUc must be met at the point of discharge.

WET was included in the prior permit's Schedule of Compliance . The final WET effluent limit 1.0 TUc was required to be met as soon as possible, but no later than five years after the effective date of the final permit. In the interim, the permittee reported their WET testing results. The results ranged from 1.0 TUc to >8.0 TUc.

The reissued permit requires the permittee to conduct annual short-term tests with the water flea, *Ceriodaphnia dubia*, (survival and reproduction) and the fathead minnow (*Pimephales promelas),* (larval survival and growth) in the first year of the permit. For all subsequent tests, testing shall be conducted using the more sensitive species. At a minimum, the permit requires that testing include a dilution series containing 100%, 62.5%, 50%, 25%, 12.5% effluent and a control.

Six bi-weekly WET tests are required over a twelve-week period if any test result exceeds 1.0 TUc. If the permittee demonstrates through an evaluation of the facility operations that the cause of the exceedance is known and corrective actions have been implemented, only one accelerated test is required. If toxicity is greater than 1.0 TUc in any of the accelerated tests, the permittees must initiate a Toxicity Reduction Evaluation (TRE). A TRE is a site-specific process designed to identify the cause of effluent toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and confirm effluent toxicity reduction. The permittee may initiate a toxicity identification evaluation (TIE) as a part of the TRE. A TIE is a set of procedures that characterize, identify, and confirm the specific chemicals responsible for effluent toxicity.

3.5 Additional Effluent Monitoring Requirements

The permittee must perform the additional effluent testing contained in APDES application Form 2C for existing manufacturing, commercial, mining and silvicultural operations. The permittee must also monitor priority pollutants (identified as Compound Nos. 1-126 by the National Toxics Rule at 40 CFR § 131.36) in the fourth year of the permit. The permittee must submit the results with their application for permit reissuance.

4.0 RECEIVING WATERBODY

4.1 Description of Receiving Waterbody

Treated leachate from the KIB Landfill discharges into natural freshwater wetlands. The wetlands drain to Leachate Creek which in turn flows to Monashka Bay. The distance from the outfall to Monashka Bay is approximately one-half mile.

4.2 Outfall Location

The KIB Landfill outfall is located at 57° 48’ 49” north latitude and 152° 24’ 27” west longitude. Discharge from the leachate treatment plant flows into constructed rock-filled wetland cells, passes over a weir, and enters an unnamed natural freshwater wetland.

4.3 Water Quality Standards

Regulations in 18 AAC 70 require that the conditions in permits ensure compliance with the Alaska WQS. The State’s WQS are composed of use classifications, numeric and/or narrative water quality criteria, and an Antidegradation Policy. The use classification system identifies the designated uses that each waterbody is expected to achieve. The numeric and/or narrative water quality criteria are the criteria deemed necessary by the state to support the designated use classification of each waterbody. The Antidegradation Policy ensures that the existing water uses and the level of water quality necessary to protect the uses are maintained and protected.

Waterbodies in Alaska are protected for all uses unless the water has been reclassified under 18 AAC 70.230, as listed under 18 AAC 70.230(e). Some waterbodies in Alaska can also have site–specific water quality criterion per 18 AAC 70.235, such as those listed under 18 AAC 70.236(b). The receiving water for the discharge, an unnamed wetland, has not been reclassified, nor have site-specific water quality criteria been established. Therefore, the wetland must be protected for all freshwater use classes listed in 18 AAC 70.020(a)(1). These freshwater designated use classes consist of the following: water supply for drinking, culinary, and food processing, agriculture, aquaculture, and industrial; contact and secondary recreation; and growth and propagation of fish, shellfish, other aquatic life, and wildlife.

4.4 Water Quality Status of Receiving Water

Any part of a waterbody for which the water quality does not or is not expected to meet applicable WQS is defined as a “water quality limited segment” and placed on the state’s impaired waterbody list. For an impaired waterbody, Section 303(d) of the CWA requires states to develop a Total Maximum Daily Load (TMDL) management plan. The TMDL documents the amount of a pollutant a waterbody can assimilate without violating a state’s WQS and allocates that load to known point sources and nonpoint sources. The unnamed wetland is not included in Alaska’s 2024 Integrated Water Quality and Assessment Report.

5.0 ANTIBACKSLIDING

18 AAC 83.480 requires that "interim effluent limitations, standards, or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit.". 18 AAC 83.480(c) also states that a permit may not be reissued "to contain an effluent limitation that is less stringent than required by effluent guidelines in effect at the time the permit is renewed or reissued."

EPA's *Interim Guidance for Performance-Based Reduction of NPDES Monitoring Frequencies* (EPA, 1996), states that monitoring requirements are not considered effluent limitations under the Clean Water CWA, and therefore Antibacksliding prohibitions would not be triggered by reductions in monitoring frequencies.

Effluent limitations may be relaxed under 18 AAC 83.480, CWA Section 402(o) and CWA Section 303(d)(4). 18 AAC 83.480(b) allows relaxed limitations in renewed, reissued, or modified permits when there have been material and substantial alterations or additions to the permitted facility that justify the relaxation, or where new information is available that justifies the relaxation, or if the Department determines that technical mistakes or mistaken interpretations of the law were made.

All permit effluent limits, standards, and conditions are as stringent as in the previously issued permit and are consistent with 18 AAC 83.480. Accordingly, no further backsliding analysis is required for this permit reissuance.

6.0 ANTIDEGRADATION

Section 303(d)(4) of the CWA states that, for waterbodies where the water quality meets or exceeds the level necessary to support the waterbody's designated uses, WQBELs may be revised as long as the revision is consistent with the State's Antidegradation policy. The State's Antidegradation policy is found in the 18 AAC 70 WQS regulations at 18 AAC 70.015. The Department's approach to implementing the Antidegradation policy is found in 18 AAC 70.016 *Antidegradation implementation methods for discharges authorized under the federal Clean Water Act.* Both the Antidegradation policy and the implementation methods are consistent with 40 CFR § 131.12 and approved by EPA. This section analyzes and provides rationale for the Department's decisions in the permit issuance with respect to the Antidegradation policy and implementation methods.

Using the policy and corresponding implementation methods, the Department determines a Tier 1 or Tier 2 classification and protection level on a parameter-by-parameter basis. A Tier 3 protection level applies to a designated water. At this time, no Tier 3 waters have been designated in Alaska.

18 AAC 70.015(a)(1) states that the existing water uses and the level of water quality necessary to protect existing uses must be maintained and protected (Tier 1 protection level).

The unnamed wetlands are not listed as impaired (Category 4 or 5) in Alaska's 2024 Integrated Water Quality Monitoring and Assessment Report (the Integrated Report helps the state prioritize waterbodies for data gathering, watershed protection, and restoration of impaired waters); therefore, this antidegradation analysis conservatively assumes that the Tier 2 protection level applies to all parameters, consistent with 18 AAC 70.016(c)(1).

18 AAC 70.015(a)(2) states that if the quality of water exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality must be maintained and protected, unless the Department authorizes a reduction in water quality (Tier 2 protection level).

The Department may allow a reduction of water quality only after the specific analysis and requirements under 18 AAC 70.016(b)(5)(A-C), 18 AAC 70.016(c), 18 AAC 70.016(c)(7)(A-F), and 18 AAC 70.016(d) are met.

The Department's findings are as follows:

18 AAC 70.016(b)(5)

(A) existing uses and the water quality necessary for protection of existing uses have been identified based on available evidence, including water quality and use related data, information submitted by the applicant, and water quality and use related data and information received during public comment;

(B) existing uses will be maintained and protected; and

(C) the discharge will not cause water quality to be lowered further where the department finds that the parameter already exceeds applicable criteria in 18 AAC 70.020(b), 18 AAC 70.030, or 18 AAC 70.236(b).

18 AAC 70.020 and 18 AAC 70.050 specify the protected water use classes for the State; therefore, the most stringent water quality criteria found in 18 AAC 70.020 and in the *Alaska Water Quality Criteria Manual for Toxic and Other Deleterious Organic and Inorganic Substances* (DEC 2022) apply and were evaluated. This will ensure existing uses and the water quality necessary for protection of existing uses of the receiving waterbody are fully maintained and protected.

The permit places limits and conditions on the discharge of pollutants. The limits and conditions are established after comparing TBELs and WQBELs and applying the more restrictive of these limits. The water quality criteria, upon which the permit effluent limits are based, serve the specific purpose of protecting the existing and designated uses of the receiving water. WQBELs are set equal to the most stringent water quality criteria available for any of the protected water use classes.

The Department concludes the terms and conditions of the permit will be adequate to fully protect and maintain the existing uses of the water and that the findings under 18 AAC 70.016(b)(5) are met.

18 AAC 70.016(c)(7)(A –F) *if, after review of available evidence, the department finds that the proposed discharge will lower water quality in the receiving water, the department will not authorize a discharge unless the department finds that*

18 AAC 70.016(c)(7)(A) *the reduction of water quality meets the applicable criteria of 18 AAC 70.020(b), 18 AAC 70.030, or 18 AAC 70.236(b), unless allowed under 18 AAC 70.200, 18 AAC 70.210, or 18 AAC 70.240;*

Permit Section 1.2.2 requires that the discharge shall not cause contamination of surface or ground waters or a violation of the WQS at 18 AAC 70 except if excursions are allowed in the permit and the excursions are authorized in accordance with applicable provisions in18 AAC 70.200 – 70.240 (e.g., variance, mixing zone).

Furthermore, Alaska WQS at 18 AAC 70.030 requires that an effluent discharged to a waterbody may not impart chronic toxicity to aquatic organisms, expressed as 1.0 TUc, at the point of discharge, or if the Department authorizes a mixing zone in a permit, approval, or certification, at or beyond the mixing zone boundary, based on the minimum effluent dilution achieved in the mixing zone.

DEC has not authorized a mixing zone for this discharge; therefore, all water quality criteria must be met at the end of the pipe prior to discharge to the unnamed wetland.

There are no site-specific criteria associated with 18 AAC 70.236(b).The permit does not authorize short term variances or zones of deposit under 18 AAC 70.200 or 18 AAC 70.210.

DEC determined that there will not be a reduction in water quality and that the finding is met.

18 AAC 70.016(c)(7)(B) *each requirement under (b)(5) of this section for a discharge to a Tier 1 water is met;*

See 18 AAC 70.016(b)(5) analysis and findings above.

18 AAC 70.016(c)

> ***(c) Tier 2 analysis for the lowering or potential lowering of water quality not exceeding applicable criteria.*** *Tier 2 applies when the water quality for a parameter in a water of the United States within this state does not exceed the applicable criteria under 18 AAC 70.020(b), 18 AAC 70.030, or 18 AAC 70.236(b) and receives the protection under 18 AAC 70.015(a)(2).*
>
> > *(3) the department will not conduct a Tier 2 antidegradation analysis for (A) reissuance of a license or general or individual permit for a discharge that the applicant is not proposing to expand;*

18 AAC 70.016(c)(2)(A) states that when evaluating development of a license or general or individual permit for a discharge, the department will conduct a Tier 2 antidegradation analysis for a proposed new or expanded discharge. 18 AAC 70.990(75) states that new or expanded with respect to discharges means discharges that are regulated for the first time or discharges that are expanded such that they could result in an increase in a permitted parameter load or concentration or other changes in discharge characteristics that could lower water quality or have other adverse environmental impacts. Discharge is further defined in 18 AAC 83.990(22) as a discharge of a pollutant.

The discharge is neither a new nor expanded discharge. There will not be an increase in a permitted parameter load, concentration, or other change in discharge characteristics that could lower water quality of have other adverse environmental impacts.

18 AAC 70.016(c)(3)(A) states that the Department will not conduct a Tier 2 antidegradation analysis for reissuance of a license or general or individual permit for a discharge that the applicant is not proposing to expand. Therefore, consistent with 18 AAC 70.016(c)(2)(A) and 18 AAC 70.16(c)(3)(A), DEC is not conducting a Tier 2 antidegradation analysis for this permit reissuance.

18 AAC 70.016(c)(7)(F) *18 AAC 70.015 and this section have been applied consistent with 33 U.S.C. 1326 (Clean Water Act, sec. 316) with regard to potential thermal discharge impairments.*

Discharges authorized under the permit are not associated with a potential thermal discharge impairment;therefore, the finding is not applicable.

7.0 OTHER PERMIT CONDITIONS

7.1 Quality Assurance Project Plan (QAPP)

The permittee is required to develop procedures to ensure that the monitoring data submitted are accurate and to explain data anomalies if they occur. The permittee is required to review and update as necessary, the facility's QAPP within 180 days of the effective date of the final permit. The QAPP shall consist of standard operating procedures the permittee must follow for collecting, handling, storing and shipping samples; laboratory analysis; precision and accuracy requirements; data reporting, including method detection/reporting limits; and quality assurance/quality control criteria. The permittee is required to amend the QAPP whenever any procedure addressed by the QAPP is modified. The QAPP shall be retained electronically or physically at the facility's office of record and made available to the Department upon request.

7.2 Best Management Practices Plan (BMP Plan)

The permittee must review, update as necessary, and implement its BMP Plan within 180 days of the effective date of the permit. The BMP Plan shall prevent or minimize the potential for the release of pollutants to waters and lands of the State of Alaska through plant site runoff, spillage or leaks, or erosion. The permit contains certain BMP conditions that must be included in the BMP Plan. The BMP

Plan shall be retained electronically or physically at the facility's office of record and made available to the Department upon request.

7.3 Electronic Discharge Monitoring Report (DMR)

The permittee must submit DMR data electronically through NetDMR per Phase I of the E-Reporting Rule (40 CFR pt. 127) upon the effective date of the permit. Authorized persons may access permit information by logging into the NetDMR Portal https://cdx.epa.gov/). DMRs submitted in compliance with the E-Reporting Rule are not required to be submitted as described in permit Appendix A – Standard Conditions unless requested or approved by the Department. Any DMR data required by the Permit that cannot be reported in a NetDMR field (e.g. mixing zone receiving water data), shall be included as an attachment to the NetDMR submittal. DEC has established an e-Reporting Information website at https://dec.alaska.gov/water/compliance/electronic-reporting-rule that contains general information about this new reporting format. Training materials and webinars for NetDMR can be found at https://usepa.servicenowservices.com/oeca_icis?id=netdmr_homepage.

Phase II of the E-Reporting rule integrates electronic reporting for all other reports required by the Permit (e.g., Annual Reports and Certifications). All wastewater permit required submissions (e.g., Notices of Intent (NOI's), Notice of Terminations (NOT), Annual Reports, Noncompliance Notification, and Corrective Action reports are to be submitted electronically through DEC's Environmental Data Management System (EDMS, accessible via https://dec.alaska.gov/water/edms), unless prior approval has been obtained from DEC for an alternative means.

7.4 Standard Conditions

Appendix A of the permit contains standard regulatory language that must be included in all APDES permits. These requirements are based on the regulations and cannot be challenged in the context of an individual APDES permit action. The standard regulatory language covers requirements such as monitoring, recording, reporting requirements, compliance responsibilities, and other general requirements.

8.0 OTHER LEGAL REQUIREMENTS

8.1 Endangered Species Act (ESA)

The ESA requires federal agencies to consult with the United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) to determine whether their authorized actions could beneficially or adversely affect any threatened and endangered species or habitats. NMFS is responsible for administration of the ESA for listed cetaceans, seals, sea lions, sea turtles, anadromous fish, marine fish, marine plants, and corals. All other species (including polar bears, walrus, and sea otters) are administered by the USFWS.

As a state agency, DEC is not required to consult with these federal agencies regarding permitting actions; however, DEC voluntarily contacts the agencies to notify them of the proposed permit issuance.

DEC accessed the IPaC: Home database to identify any endangered or threatened species that are under the jurisdiction of USFWS that may be present near the KIB Landfill outfall. The IPaC database indicated that the North American breeding population of the Steller's eider (*Polysticta stelleri*), a species listed as threatened, may occur within the project area.

This permit and fact sheet will be provided to the agencies for review during the public notice period. Any comments received from these agencies will be considered prior to issuance of the permit.

8.2 Essential Fish Habitat (EFH)

EFH includes the waters and substrate (sediments, etc.) necessary for fish from commercially fished species to spawn, breed, feed, or grow to maturity. The Magnuson-Stevens Fishery Conservation and Management Act (January 21, 1999) requires federal agencies to consult with National Oceanic Atmospheric Administration (NOAA) Fisheries (NMFS) when a proposed discharge has the potential to adversely affect (reduce quality and/or quantity of) EFH. As a State agency, DEC is not required to consult with NMFS regarding permitting actions but voluntarily contacts NMFS to notify them of the proposed permit issuance.

DEC accessed NOAA Fisheries Alaska EFH https Mapper at ://www.fisheries.noaa.gov/national/habitat-conservation/essential-fish-habitat#essential-fish-habitat-mapper and the Alaska Department of Fish and Game's Fish Resource Monitor at Interactive Maps - Anadromous Waters Catalog - Sport Fish to determine that Leachate Creek, which is hydraulically connected to the wetland discharge area, is important for coho salmon rearing and that Dolly Varden are both present and spawn in the creek.

DEC will provide NMFS with copies of the permit and fact sheet during the public notice period. Any comments received from NMFS regarding EFH will be considered prior to issuance of the permit.

8.3 Permit Expiration

The permit will expire five years from the effective date of the permit.

9.0 REFERENCES

Alaska Department of Environmental Conservation (ADEC). https://dec.alaska.gov/water/water-quality/integrated-report, accessed December 16, 2025.

ADEC, 2025. 18 AAC 83, Alaska Pollutant Discharge Elimination System, as amended through August 13, 2025.

ADEC, 2022. 18 AAC 70, Water Quality Standards, as amended through November 13, 2023.

ADEC, 2022. Alaska Water Quality Criteria Manual for Toxic and Other Deleterious Organic and Inorganic Substances, as amended through September 8, 2022.

Alaska Department of Fish and Game. Interactive Maps - Anadromous Waters Catalog - Sport Fish. Accessed December 17, 2025.

ADEC, 2014. Alaska Pollutant Discharge Elimination System Permits Reasonable Potential Analysis and Effluent Limits Development Guide.

NOAA. https://www.fisheries.noaa.gov/national/habitat-conservation/essential-fish-habitat#essential-fish-habitat-mapper. Accessed December 16, 2025.

USEPA, 1991. Technical Support Document for Water Quality-Based Toxics Control, EPA/505/2-90-001, USEPA Office of Water, Washington D.C., March 1991.

U.S. Fish and Wildlife Service iPac Information for Planning and Consultation https://ecos.fws.gov/ipac/. Accessed December 16, 2025.

Appendix A – BASIS FOR EFFLUENT LIMITATIONS

18 AAC 70.010 prohibits conduct that causes or contributes to a violation of the Water Quality Standards (WQS). 18 Alaska Administrative Code (AAC)15.090 requires that permits include terms and conditions to ensure criteria are met, including operating, monitoring, and reporting requirements.

The regulations require the permitting authority to make this evaluation using procedures that account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant in the effluent, species sensitivity (for toxicity), and where appropriate, dilution in the receiving waterbody. The limits must be stringent enough to ensure that WQS are met and must be consistent with any available waste load allocation.

The Clean Water Act (CWA) requires that the effluent limit for a particular pollutant be the more stringent of either technology-based effluent limits (TBELs) or water quality-based effluent limits (WQBELs). TBELs are established by the Environmental Protection Agency (EPA) for many industries in the form of Effluent Limitation Guidelines (ELG) and are based on available pollution control technology. The Alaska Department of Environmental Conservation (DEC or the Department) adopts the subject ELGs by reference in 18 AAC 83.010. TBELs are national in scope and establish performance standards for all facilities within an industrial category or subcategory. The Department may find, by analyzing the effect of an effluent discharge on the receiving waterbody, that TBELs are not sufficiently stringent to meet WQS. In such cases, the Department is required to develop more stringent WQBELs, which are designed to ensure that the WQS of the receiving waterbody are met.

When TBELs do not exist for a particular pollutant expected to be in the effluent, the Department must determine if the pollutant may cause or contribute to an exceedance of a WQS for the waterbody. If a pollutant causes or contributes to an exceedance of a WQS, a WQBEL for the pollutant must be established in the permit.

Landfill leachate varies from site to site based on a number of factors, including: the types of waste accepted, operating practices, depth of fill, compaction of wastes, annual precipitation, and landfill age. The main contaminants in the leachate wastewater are derived from the materials deposited as the fill. Accordingly, leachate may contain metals and other toxic pollutants.

TBELs have been developed for five-day biochemical oxygen demand (BOD_5), total suspended solids (TSS), pH, total ammonia as nitrogen (ammonia), alpha-terpineol, benzoic acid, p-cresol, phenol, and zinc based on the promulgated ELGs. When TBELs do not exist for a particular pollutant expected to be in the effluent, the Department must determine if the pollutant may cause or contribute to an exceedance of a WQS for the waterbody. If a pollutant may cause or contribute to an exceedance of a WQS, a WQBEL for the pollutant must be established in the permit.

A.1 Effluent Limitation Guidelines

Section 301(b) of the CWA requires industrial dischargers to meet applicable TBELs established by the EPA. These are enforceable through their incorporation into an Alaska Pollutant Discharge Elimination System (APDES) permit. EPA promulgated ELGs for landfills point source categories at 40 Code of Federal Regulations (CFR) pt. 445 in January 2000. The ELGs applicable to a new source are sources that have commenced construction after EPA promulgated the ELGs. The Kodiak Island Borough (KIB) Landfill is considered a new source. The ELG states that the New Source Performance Standards (NSPS) are the same as those specified at 40 CFR § 445.21 as Best Practicable Control Technology Currently Available (BPT). EPA has not identified any other demonstrated technologies or combinations of technologies for new sources that are different from those used to establish BPT, Best Conventional Pollutant Control Technology (BCT), and Best Available Technology Economically Achievable (BAT) for existing sources. Therefore, EPA established NSPS at 40 CFR § 445.21 that are identical to those promulgated in both subcategories for BPT, BCT, and BAT. Table A-1 lists the Non-Hazardous Waste Landfill effluent limitations that are applicable to the KIB Landfill as a new source.

Table A-1: Non-Hazardous Waste Landfill Effluent Limitations

Parameter	Units	Monthly Average	Daily Maximum
Ammonia	milligrams per liter (mg/L)	4.9	10
BOD_5	mg/L	27	88
TSS	mg/L	37	140
Alpha-Terpineol	micrograms per liter (µg/L)	16	33
Benzoic Acid	µg/L	71	120
p-Cresol	µg/L	14	25
Phenol	µg/L	15	26
Zinc	µg/L	110	200
pH	Standard Units (S.U).	6.0 (instantaneous minimum)	9.0

A.2 Water Quality – Based Effluent Limitations

WQBELs included in APDES permits are derived from WQS. APDES regulation 18 AAC 83.435(a)(2) requires that permits include WQBELs that can achieve WQS established under CWA Section 303, including state narrative criteria for water quality. The State's WQS are composed of use classifications, numeric and/or narrative water quality criteria, and an antidegradation policy (See Section 6.0Antidegradation). The use classification system identifies the designated uses that each waterbody is expected to achieve. The numeric and/or narrative water quality criteria are the criteria deemed necessary by the state to support the designated use classification of each waterbody. Designated uses are those uses specified in WQS for each waterbody or segment whether or not they are being attained

[40 CFR § 131.3(f)]. Existing uses are those uses actually attained in a waterbody on or after November 28, 1975, whether or not they are included in the WQS [40 CFR § 131.3]. Waterbodies in Alaska are designated for all uses unless the water has been reclassified under 18 AAC 70.230 as listed under 18 AAC 70.230(e). Some waterbodies in Alaska can also have site–specific water quality criteria per 18 AAC 70.235, such as those listed under 18 AAC 70.236(b).

The receiving water for the discharge, an unnamed wetland, has not been reclassified, nor have site specific water quality criteria been established. Therefore, the wetland must be protected for all freshwater use classes listed in 18 AAC 70.020(a)(1). These freshwater designated use classes consist of the following: water supply for drinking, culinary, and food processing, agriculture, aquaculture, and industrial; contact and secondary recreation; and growth and propagation of fish, shellfish, other aquatic life, and wildlife.

Table A-2 lists the water quality criteria for parameters regulated under the permit. Unless otherwise specified, the criteria apply to freshwater aquatic life.

(Table A-2 is located on the following page.)

Table A-2: Water-Quality Criteria

Parameter	Units	Chronic	Acute
Ammonia	mg/L	8.8	51
Total Residual Chlorine	µg/L	11	19
Copper	µg/L	2.5	3.2
Lead	µg/L	0.4	11
Mercury	µg/L	0.012	2.4
Nickel	µg/L	14	125
Selenium	µg/L	5.0	20
Zinc	µg/L	32	32
Phenol	µg/L	21,000 (human health for consumption of water and aquatic organisms)	4,600,000 (human health for consumption of aquatic organisms only)
Nitrate, as Nitrogen (N)	mg/L	10,000 (drinking water)	
Total Nitrate and Nitrite as N	mg/L	10,000 (drinking water)	
pH	S.U.	6.0 (instantaneous minimum)	9.0

A.3 Selection of Most Stringent Limits

If DEC does not authorize a mixing zone, WQS must be met at the end of the pipe. In such cases, TBELs are applied to parameters that are regulated solely by technology-based standards.

DEC has not authorized a mixing zone for the KIB discharge. The permit includes parameters subject to both TBELs and WQBELs. Under the CWA the more stringent of the two limits must be applied. Therefore, DEC selected the more protective effluent limits for inclusion in the permit.

A.4 Mass-Based Limits

APDES regulations at 18 AAC 83.540 require that effluent limits be expressed in terms of mass unless they cannot appropriately be expressed by mass, if it is infeasible, or if the limits can be expressed in terms of other units of measurement. The mass-based limits are expressed in pounds per day and are calculated as follows:

mass-based limit (pounds (lbs)/day) = concentration limit (milligrams per liter) × design flow (million gallons per day (mgd)) × 8.34 (lbs/gallon)

A.5 Flow

Flow is based on the hydraulic design capacity of the treatment plant (flow rate as gallons or mgd) and is determined by a professional engineer and approved by the Department during the engineering plan review process conducted per 18 AAC 72. A flow limit based on the design capacity ensures that the treatment plant operates within its capabilities to receive and properly treat sustained average flow quantities and specific pollutants.