



ALASKA POLLUTANT DISCHARGE ELIMINATION SYSTEM

PERMIT FACT SHEET – PRELIMINARY DRAFT

Permit Number: AKS052426

Port of Anchorage Municipal Separate Storm Sewer System

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

Public Comment Period Start Date: Pending

Public Comment Expiration Date: Pending

[Alaska Online Public Notice System](#)

Technical Contact: Jim Rypkema
 Alaska Department of Environmental Conservation
 Division of Water
 Wastewater Discharge Authorization Program
 555 Cordova Street
 Anchorage, AK 99501
 907-334-2288
 Fax 907-269-3487
Jim.Rypkema@alaska.gov

Proposed reissuance of the Alaska Pollutant Discharge Elimination System (APDES) Permit for Storm Water Discharges from the Municipal Separate Storm Sewer System (MS4) within the

Port of Anchorage (Port)
 (hereafter “permittee”)

The Alaska Department of Environmental Conservation (the Department or DEC) proposes to reissue a MS4 Permit (permit) for discharges from a Phase I MS4. The permit authorizes and sets conditions on the discharge of pollutants from municipal activities to waters of the United States. In order to ensure protection of water quality and human health, the permit establishes conditions, prohibitions, and management practices for discharges of storm water from the MS4 owned or operated by the permittee.

This fact sheet explains the nature of potential discharges from MS4 activities and the steps in the development of the permit, including:

- information on public comment, public hearing, and appeal procedures
- a listing of proposed control measures and other conditions
- technical material supporting the conditions in the permit
- proposed inspection, monitoring, and reporting 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 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.

The Department has both an informal review process and a formal administrative appeals process for final APDES permit decisions. An informal review request must be delivered within 15 days after receiving the Department's decision to the Director of the Division of Water at the following address:

Director, Division of Water
 Alaska Department of Environmental Conservation
 555 Cordova Street
 Anchorage, AK 99501

Interested persons can review 18 AAC 15.185 for the procedures and substantive requirements regarding a request for an informal Department review. See <http://dec.alaska.gov/commish/InformalReviews.htm> for information regarding reviews of Department decisions.

An adjudicatory hearing request must be delivered to the Commissioner of the Department within 30 days of the permit decision or a decision issued under the informal review process. An adjudicatory hearing will be conducted by an administrative law judge in the Office of Administrative Hearings within the Department of Administration. A written request for an adjudicatory hearing shall be delivered to the Commissioner at the following address:

Commissioner
 Alaska Department of Environmental Conservation
 410 Willoughby Street, Suite 303
 Juneau, AK 99811-1800

Interested persons can review 18 AAC 15.200 for the procedures and substantive requirements regarding a request for an adjudicatory hearing. See <http://dec.alaska.gov/commish/ReviewGuidance.htm> for information regarding appeals of Department decisions.

Documents are Available for Review

The permit, fact sheet, and related documents can be reviewed or obtained by visiting or contacting the Department between 8:00 a.m. and 4:30 p.m., Monday through Friday at the addresses below. The permit, fact sheet, and other information can also be located on the Departments public notice website <http://dec.alaska.gov/water/wwdp/PublicNotice.htm>.

Dept of Environmental Conservation Division of Water Wastewater Discharge Authorization Program 555 Cordova Street Anchorage, AK 99501 (907) 269-6285	Dept of Environmental Conservation Division of Water Wastewater Discharge Authorization Program 1700 E. Bogard Road #B Wasilla, AK 99654 (907) 376-1850
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1.0 INTRODUCTION

The Alaska Department of Environmental Conservation (the Department or DEC) is proposing to reissue an Alaska Pollutant Discharge Elimination System (APDES) Program permit that authorizes the discharge of pollutants in storm water discharges associated with municipal separate storm sewer systems (MS4s).

The permit and fact sheet reference various federal and state regulations. The federal Clean Water Act (CWA) and the Environmental Protection Agency's (EPA) National Pollutant Discharge Elimination System (NPDES) storm water regulations establish permit requirements for discharges from certain publicly-owned separate storm sewer systems located in urban areas to control pollutants to the maximum extent practicable.

EPA defines "municipal separate storm sewer" and those considered to be "large" and "medium" as Phase I MS4's and "small" as Phase II MS4's at Title 40 Code of Federal Regulations (CFR) §122.26(b). In general, a MS4 includes any publicly-owned conveyance or system of conveyances used for collecting and conveying storm water that discharges to waters of the United States. An MS4 includes roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, and storm drains. EPA has designated large, medium, and small MS4s based on the population served; these regulated MS4s must obtain APDES permit coverage for their discharges. MS4 permits require the implementation of a storm water management program (SWMP) to describe control measures implemented to control pollutants.

State APDES regulations are found in the Alaska Administrative Code (AAC), Chapter 83 "Alaska Pollutant Discharge Elimination System Program" (18 AAC 83). The aforementioned federal regulations are generally incorporated by reference into the state APDES regulations in 18 AAC 83.010(b)(3). As an aid to readers, however, the permit and fact sheet in some areas cite the federal regulations where specific regulatory language can be found. If any discrepancy exists between the fact sheet and the actual permit language, the permittee must comply with the permit as written.

2.0 BACKGROUND

2.1 Delegation of Authority

In October 2008, EPA approved Alaska's application to administer the NPDES Program in the State of Alaska. The State's program is called the APDES Program. EPA's approval of the application included transferring authority to administer the APDES Program in phases. Authority to administer the storm water program transferred to DEC on October 31, 2009.

2.2 Permit Area and Applicant

In accordance with Section 402(p) of the CWA and federal regulations at 40 CFR §122.32, the permit is for a system-wide basis for the following MS4 permittee:

Port of Anchorage (Port)
2000 Anchorage Port Road
Anchorage, Alaska 99501

The storm sewer systems owned and operated by the applicant are located within the boundaries of the Port. See Appendix D for a map depicting the permit area.

2.3 Description of the Permittee

The Port is an enterprise zone wholly owned by the Municipality of Anchorage (MOA).

2.4 Permit History

The first MS4 permit for the Port was issued by EPA as the NPDES authority and became effective March 3, 1995. On March 3, 2000 the permit was administratively extended by EPA, and has been in administrative extension since that date. The Port MS4 permit is a Phase I permit.

2.5 Storm Water Management Program Overview

The permittee has managed storm water discharges from its MS4 in accordance with their Storm Water Management Program (SWMP) since 1995. The permittee has submitted a system-wide report each year. The permittee reports the greatest achievement of the SWMP is the public education aspect, which has increased the awareness of the importance of clean storm water and the need for pollution prevention measures to protect it. The inspection and annual interview process is another aspect of the SWMP that is important to improving storm water pollution prevention.

During the first four years of the permit, the permittee had difficulty with the wet weather monitoring program due to the storm drain design, nature and frequency of summer storm events, and tidal influence, and was subsequently suspended.

Dry weather sampling performed in 1999 indicates that the source of petroleum contamination (from past spills and 1964 earthquake) is independent of storm events. Flows during non-storm runoff periods are comprised of groundwater infiltration through perforated storm pipe, and possibly runoff from two surface water bodies (which are also fed by groundwater), one located to the east of Anchorage Fueling and Service Company (AFSC) and one located to the east of Tesoro. The installation of new storm drain infrastructure as part of the Port's ongoing expansion project will help alleviate the infiltration of contaminated groundwater into the storm drain system.

The permittee submits an updated SWMP and a system-wide report each year. The report includes the results of an unannounced site-wide visual surface inspection and a Port user interview at least once annually to confirm whether the Port and Port users are adhering to the SWMP. At various times throughout the year, drive-by inspections are conducted. The site-wide visual surface inspection and spot inspections focused on identifying illicit discharges, solid waste accumulation, maintenance and repair of the storm drain system, identifying on-site and off-site sources of potential pollution, and prohibited outdoor work activities. The Port user

interview focused on identifying and correcting failing Best Management Practices (BMPs), source reduction and elimination measures, and source control measures, changes in programs or standard operating procedures that have a direct effect on APDES compliance and storm water pollution prevention, identifying new spills, material and chemical handling practices, training, and disposal and recycling practices. Table 2 of the System-Wide Report (March 2014) indicates the permittee is in compliance with the permit.

3.0 DESCRIPTION OF MUNICIPALITY AND RECEIVING WATERS

3.1 Municipal Activity

3.1.1 Municipal Summary

The Port is located in an industrial portion of the MOA on an approximately 140 acre tract of land bordered on the west by Cook Inlet (Knik Arm), on the north and east by Joint Base Elmendorf-Richardson (JBER), and on the south by Alaska Railroad property. The Port initially began operations in September 1961. Thirty-eight thousand tons of marine cargo moved across its single berth during the first year. By 1997 more than 3.0 million tons of various commodities moved across the docks. By 2011, more than 4.0 million tons of various commodities moved across the docks.

The Port consists of five-berth terminals providing facilities for the movement of containerized freight, iron and steel products, wood products, bulk petroleum, and cement. The Port facilities include two petroleum, oil, and lubricant (POL) transfer terminals, three cargo ship terminals with gantry cranes, equipment and material staging yards, vehicle transit areas, cargo staging areas, administrative building and parking areas. Four underground POL pipelines and a pneumatic cement pipeline are located in utility easements. A POL pipeline valve yard is located in the South Transit Area. The Port property has been subdivided into twenty lots. Some of the lots are for common use during the course of Port operations, and others have been leased to several corporations who operate and maintain facilities at the Port.

The Port is used regularly by two major cargo carriers that bring several ships weekly from the Pacific Northwest. The Port is also used by petroleum tankers and barges that supply jet fuel for Ted Stevens Anchorage International Airport operations and petroleum products bound for western Alaska. Overseas cargo carriers from Japan and Korea use the port to import and export pipe, drilling mud, construction materials, automobiles, cement, and other freight.

The Port MS4 system consists of 21 catch basins and three outfalls to the tide lands of Cook Inlet. The system includes numerous structural controls, such as containment berms, drainage valves, catch basins, sumps, oil/water separators, grating and curbing.

There are currently two other outfalls that discharge into Cook Inlet at the Port: the Gaylor Gulch outfall and the POL Valve Yard outfall, neither of these is included in the Port's APDES permit coverage. Gaylor Gulch drains storm water from JBER to the east and is covered by the JBER APDES MS4 permit. Storm water traveling through Gaylor Gulch discharges into the Gaylor Gulch Weir at the base of Cherry Hill. The weir is drained by a buried storm drain line that

trends north along Terminal Road before turning sharply to the west and transversing Port property to empty into Cook Inlet near Trestle No 1-A. Both the weir and the buried line are the property of the Port. In its current configuration several storm drain catch basins on Port Property discharge runoff into the line. Although commingling of storm water does occur, the quality and quantity of storm water in the storm drain are the responsibility of JBER. It is roughly estimated that greater than 90% of the discharge in the storm drain originates on JBER. The Port is currently exploring alternatives with JBER to reduce or eliminate runoff from developed areas of the base that make up the vast majority of the volume of the discharge in Gaylor Gulch.

The POL Valve Yard has its own storm drain outfall which is not interconnected to the Port’s storm drain system. The valve yard is also equipped with a manual discharge valve and oil/water separator. Since the inception of the Port’s NPDES permit in 1995 the POL Valve Yard has been excluded from coverage. As a marine terminal, it was originally thought to fall under the jurisdiction of the U.S. Coast Guard. Based on further evaluation in 2011, it appears that this may not be the case. The POL Valve Yard is covered by this permit.

3.2 Precipitation

The National Oceanic and Atmospheric Administration’s (NOAA) Western Regional Climate Center maintains historical climate information for various weather stations throughout the western United States. Annual average precipitation at the airport in Anchorage is approximately 15.9 water equivalent inches per year (see Figure 1). Snow is the predominant precipitation during the winter months.

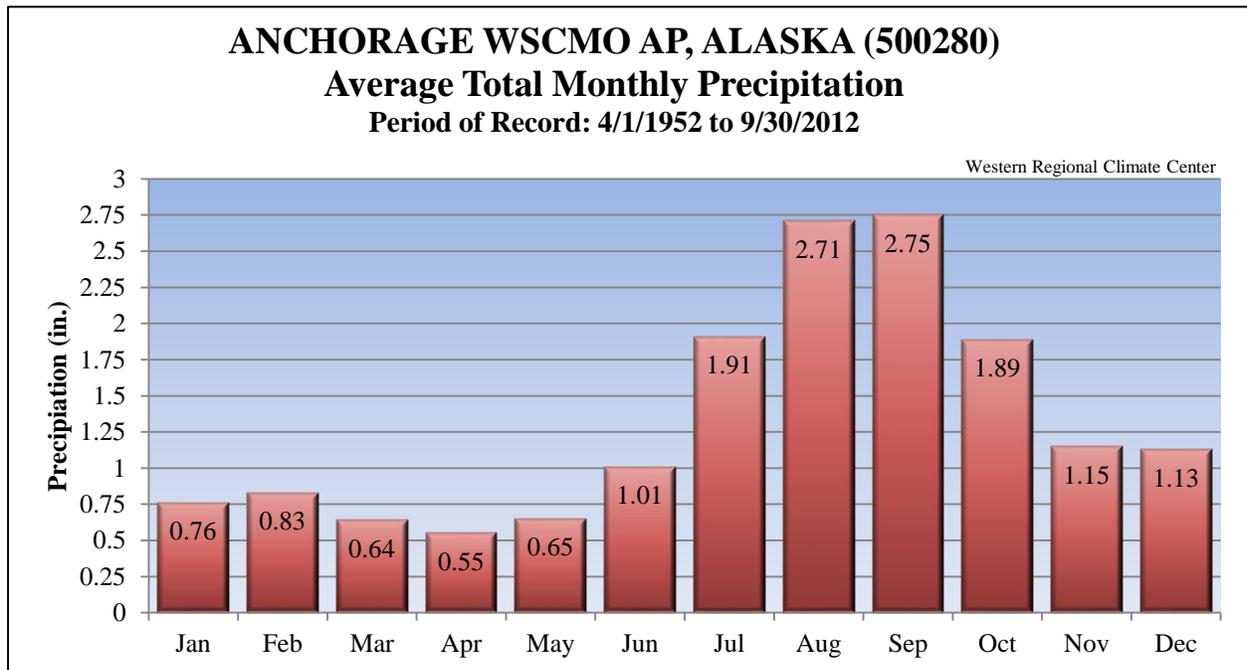


Figure 1: Average Total Monthly Precipitation (water equivalent) in Anchorage, Alaska

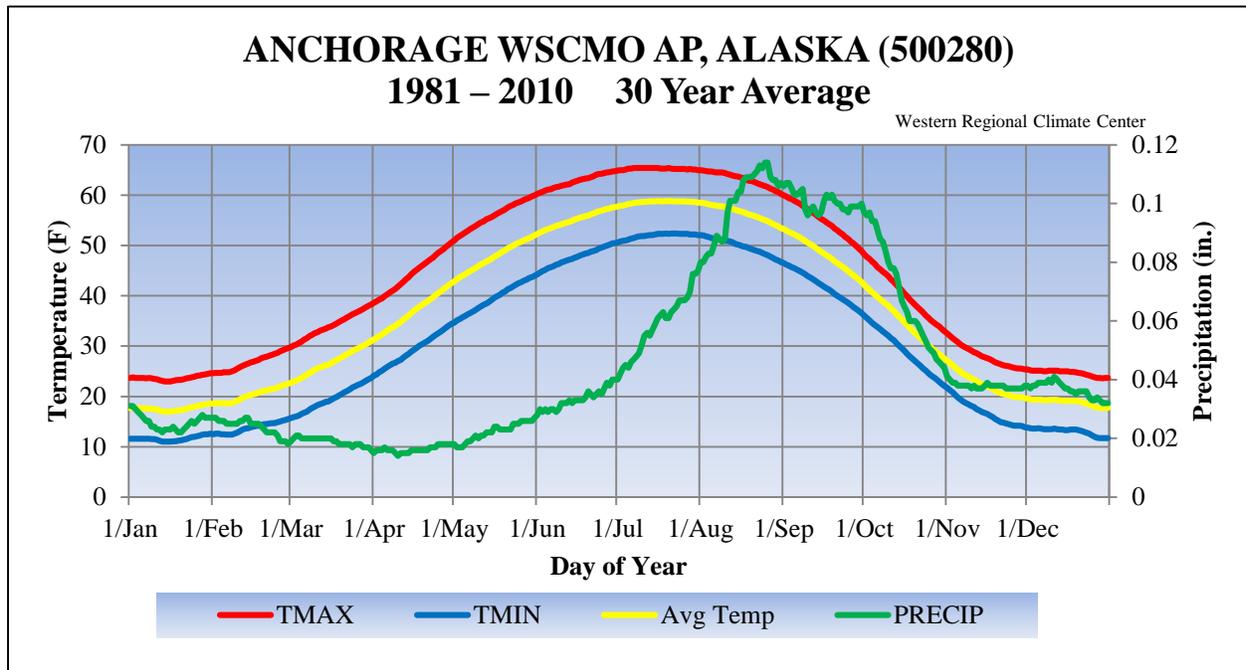


Figure 2: Temperature Record for Anchorage

DEC’s analysis of average rainfall depth in the Anchorage area, based on 45 years of 24-hour precipitation data obtained from NOAA and collected at Anchorage International Airport, demonstrates that approximately 95% of all storms in the Anchorage area result in a rainfall volume of 0.68 inches or less.

3.3 Receiving Waters

3.3.1 Water Quality Standards

Regulations in 18 AAC 70 require that the conditions in permits ensure compliance with the Alaska Water Quality Standards (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 designates the beneficial uses that each water body is expected to achieve. The numeric and/or narrative water quality criteria are the criteria deemed necessary by the state to support the beneficial use classification of each water body. The antidegradation policy ensures that the beneficial uses and existing water quality are maintained.

Water bodies 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 water bodies 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). Knik Arm of Cook Inlet has not been reclassified, nor have site-specific water quality criteria been established in the vicinity of the discharges.

Alaska WQS designate seven uses for marine waters (aquaculture; seafood processing; industrial; contact recreation; non-contact recreation; growth and propagation of fish, shellfish, other aquatic life, and wildlife; and harvesting raw mollusks or other raw aquatic life for human

consumption). Because Knik Arm has not been reclassified, Knik Arm must be protected for all marine designated use classes as listed above.

3.3.2 Water Quality Status of Receiving Water

Any part of a water body that the water quality does not or is not expected to meeting WQS is defined as a “water quality limited segment” and placed on the state’s impaired water body list. Knik Arm is not included on the *Alaska’s Final 2010 Integrated Water Quality Monitoring and Assessment Report*, July 15, 2010, nor has a total maximum daily load been developed.

3.3.3 Potential Municipal Pollutants of the Receiving Waters

In urban areas, storm water runoff can change natural hydrologic patterns, accelerate stream flows, destroy aquatic habitats, and elevate pollutant concentrations and loadings. Development substantially increases impervious surfaces thereby increasing runoff from city streets, driveways, parking lots, and sidewalks, on which pollutants from human activities settle. Common pollutants in runoff include pesticides, fertilizers, oils, metals, pathogens, salt, sediment, litter and other debris are transported via storm water and discharged - untreated - to water resources through storm sewer systems.

Urban development has significantly altered the natural infiltration capability of the land, and often generates a host of pollutants that are associated with the activities of dense populations. Developed area in turn causes an increase in storm water runoff volumes and pollutant loadings in the storm water discharged to receiving waters. Urban development increases the amount of impervious surface in a watershed, as naturally vegetated areas are replaced with parking lots, roadways, and commercial, industrial, and residential structures. These surfaces inhibit rainfall infiltration into the soil and reduce evaporation and transpiration, thereby increasing the amount of precipitation that is converted to runoff. Storm water and snow melt runoff washes over impervious surfaces, picking up pollutants while gaining speed and volume because of the inability to disperse and filter into the ground. ¹

4.0 PERMIT CONDITIONS

This section is intended to help the regulated community and members of the public understand the intent and basis of the actual permit language. If any confusion or conflicts exist between this summary and the actual permit language, the permittee must comply with the permit as written.

The conditions established by the permit are based on Section 402(p)(3)(B) of the CWA, 33 U.S.C. §1342(p)(3)(B) and 40 CFR 122.30-37 adopted by reference in 18 AAC 83.010(b)(5). This section requires that permits for MS4s must effectively prohibit non-storm water discharges from entering the MS4 and requires controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the permitting authority

¹64 FR 68725-27 (December 8, 1999)

determines appropriate for the control of such pollutants. The conditions established in the permit a) effectively prohibits the discharge of non-storm water to the separate storm sewer system and b) requires the permittee to reduce pollutants in discharges from the MS4 to the maximum extent practicable. As authorized by 40 CFR §122.44(k), the permit will be utilizing BMPs, in the form of required pollution prevention measures and a comprehensive SWMP, as the mechanism to implement the statutory requirements. While Section 402(p)(3)(B)(iii) of the CWA clearly includes structural controls as a component of maximum extent practicable, the Department encourages municipalities to first explore opportunities for pollution prevention measures, reserving more costly structural controls for where source controls are infeasible or ineffective.

The permit uses BMPs to control the sources of pollution in storm water discharges. DEC has determined that BMPs implemented and enforced through a comprehensive local SWMP are the most effective mechanism for reducing the discharge of pollutants to the maximum extent practicable and for complying with the water quality provisions of the CWA. EPA considers maximum extent practicable to be an iterative process in which an initial storm water management plan is proposed and then periodically upgraded as new BMPs are developed or new information becomes available concerning the effectiveness of existing BMPs.² DEC agrees with EPA's iterative process approach for MS4 improvement. The NPDES regulations at 40 CFR §122.44(k) allow for use of BMPs when numeric limits are infeasible. EPA's *Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits Policy* (August 1996) addresses the use of BMPs in storm water permits to provide for attainment of water quality standards. This policy is available on-line at <http://www.epa.gov/npdes/pubs/swpol.pdf>.

MS4 operators are required to develop, implement, and enforce a SWMP designed to reduce the discharge of pollutants from their MS4 to the maximum extent practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the CWA. 40 CFR §122.26 (d)(2)(iv) outlines control measures the SWMP must include. Permit writers then determine the specific permit conditions necessary to reduce the discharge of pollutants to the maximum extent practicable. DEC carefully considered the program information submitted by the permittee in their APDES application to develop the SWMP requirements in the permit as well as information contained in Annual Reports from the previous permit term to develop permit conditions. The permit application and associated amendment are included in the administrative record supporting this permitting decision.

4.1 Applicability

4.1.1 Permit Area

The permit covers all areas within the corporate boundaries of the Port which is served by the municipal separate storm sewer systems (MS4s) owned or operated by the permittee.

² 64 FR 68754 (December 8, 1999)

4.1.2 Discharges Authorized Under this Permit

The permit authorizes the discharge of storm water to waters of the United States from all portions of the MS4s owned and operated by the permittee.

The permit also authorizes the following to discharges to the MS4:

1. Storm runoff that is commingled with flows from process wastewater, non-process wastewater, and storm water associated with industrial or construction activity (as defined in 40 CFR §122.26(b)(14) and (15)) or other discharge flows are allowed, provided the commingled flows are already authorized by a separate individual or general APDES permit.
2. Certain types of non-precipitation related run off (referred to as non-storm water) listed in 40 CFR §122.26(d)(2)(iv)(B)(1) are also allowed to enter the municipal storm sewer system as long as the discharges are not considered to be sources of pollution to the waters of the United States. However, the permittee is responsible for the quality of the combined discharge and therefore have an interest in locating any uncontrolled or unpermitted discharges to the storm drain system. In Part 3.3, the permit requires the permittee to prohibit, through ordinance or other enforceable means, all other types of non-storm water discharges into the MS4s.
3. Discharges from the MS4s must not cause violations of state WQS, nor violate the Alaska antidegradation policy included in the WQS.
4. Snow disposal directly into waters of the United States or directly to the MS4 is prohibited due to concerns that the accumulated snow and melt water may contain elevated levels of pollutants.

4.1.3 Limitations on Permit Coverage

4.1.3.1 Non-Storm Water Discharges

The permit authorizes the discharge of non-storm water if it meets one of three conditions: (1) the discharge is in compliance with a separate APDES permit, (2) the discharge is the result of a spill due to unusual and severe weather event or consists of an emergency discharge, where reasonable and prudent measures have been taken to prevent and minimize the impact of such discharge, or (3) consists of uncontaminated water from a list of approved sources, and the discharge is not a source of pollution to waters of the U.S.

4.1.3.2 Discharges Threatening Water Quality

The permit does not authorize the discharge of storm water that the Department determines will cause, or have the reasonable potential to cause or contribute to, violations of WQS.

4.1.3.3 Snow Disposal to Receiving Waters

Disposal of snow directly into waters of the United States, or directly to the MS4, is prohibited, due to concerns that the accumulated snow and melt water may contain elevated levels of chloride and other salts, suspended sediment, turbidity, and metals associated with sediment and turbidity. Discharges of snow melt resulting from, or associated with, the permittees' snow

management practices (such as street plowing, and application of traction material) are conditionally authorized, provided such activities are conducted in accordance with BMPs and a manner that minimizes adverse water quality impacts. DEC recognizes the permittee's use of the snow management practice of using ditches for snow storage as an acceptable management practice. The primary function of using the ditches during the winter months is for snow storage and as is part of the permittee's snow disposal and management practices. The ditches are maintained by the permittee and are lined with gravel, soil, and vegetation that allows melting of snow and rainwater to infiltrate into the ground to help filter pollutants from directly entering surface receiving waters. As stated in the permit, discharges from the permittee's snow disposal and snow management practices are authorized under the permit when such practices are operated using appropriate BMPs required in Permit Part 3.6 Pollution Prevention and Good Housekeeping. BMPs may include detention basins, dikes, berms, ditches, and vegetative buffers. BMPs shall be designed, operated, and maintained to prevent and reduce pollutants in the discharges to the maximum extent practicable so as to avoid excursions above WQS.

4.2 Storm Water Management Program Requirements

4.2.1 Storm Water Management Document

The permit requires the permittee to update, implement, and enforce a SWMP designed to reduce pollutants to the maximum extent practicable and to protect water quality.

4.2.2 General Requirements

The permit application submitted by the permittee contains the various elements of the MS4 operators initial SWMP. The permit incorporates those BMPs, and includes the specific activities put forth by the permittee. Milestones and compliance dates are also contained in Table 1: Schedule of Submissions of the permit. Annual reports are required to document program accomplishments. DEC may review and approve any plans or plan modifications required by the permit.

4.2.3 Legal Authority

The permittee has to ensure they have legal authority to control discharges to and from the portions of the MS4 over which they have jurisdiction. This legal authority may be a combination of statute, ordinance, permit, contract, order or inter-jurisdictional agreements with Port lessees.

4.2.4 Reviewing and Updating the Storm Water Management Program

The SWMP is intended to be a functioning mechanism for the permittee to use. Therefore, minor changes and adjustments to the various SWMP elements are expected and may be necessary to more successfully adhere to the goals of the permit. DEC has determined that minor changes to the SWMP shall not constitute the need for permit modifications as defined in the regulations at 40 CFR §122.6. Part 2.4. of the permit describes procedures to be used to perform additions and minor changes to the SWMP. The permit does not allow the permittee to remove elements in the SWMP that are required through permit conditions or regulatory requirements. Any changes requested by the permittee will be reviewed by DEC.

4.2.5 Transfer of Ownership, Operational Authority, or Responsibility for SWMP Implementation

DEC does not intend to mandate a permit modification should the permittee annex additional lands or accept the transfer of operational authority over portions of the MS4. Implementation of appropriate SWMP elements for these additions (annexed land or transferred authority) is required. The permittee must notify DEC of any such additions or transfers in the Annual Report. DEC may require a modification to the permit based on such new information.

4.2.6 Storm Water Management Program Resources

Part 2.6 of the permit requires permittee to provide adequate support to implement their activities under the SWMP. Compliance with Part 2.6 will be demonstrated by the permittee's ability to fully implement the SWMP and other permit requirements as scheduled. The permit does not require specific funding or staffing levels, thus providing the permittee the ability and incentive to adopt the most efficient methods to comply with permit requirements.

4.3 Minimum Control Measures

The permittee is a Phase I MS4 (see requirements at 40 CFR 122.26(d)(2)(iv), listed in Table 1). The Phase I Rule defines a storm water management program for a MS4 as a program composed of several elements that, when implemented together, are expected to reduce pollutants discharged into receiving waterbodies to the maximum extent practicable. The MS4 program elements, or minimum control measures, are organized into the following categories

- Public Education and Outreach ;
- Public Involvement/Participation;
- Illicit Discharge Detection and Elimination;
- Construction Site Runoff Control;
- Post-Construction Storm Water Management in New Development and Redevelopment;
- Pollution Prevention/Good Housekeeping for Municipal Operations.

The permit requires the permittee to comply with non-numeric technology-based standards (Part 3 of the permit) by implementing minimum control measures. The achievement of these non-numeric standards will result in the reduction or elimination of pollutants from the permittees' storm water discharge.

(Table 1: Storm Water Management Program Elements located on following page.)

Table 1: Storm Water Management Program Elements

Required Program Element	Regulatory Reference (40 CFR)	Permit Citation
Operation and maintenance of structural controls	122.26(d)(2)(iv)(A)(1)	Part 3.6.8
Control of discharges from areas of new development and significant redevelopment	122.26(d)(2)(iv)(A)(2)	Part 3.5.1- 3.5.3
Operation and maintenance of public streets, roads, and highways	122.26(d)(2)(iv)(A)(3)	Part 3.6.9
Ensuring flood control projects consider water quality impacts	122.26(d)(2)(iv)(A)(4)	Part 3.6.10
Control of pollutants related to application of pesticides, herbicides, and fertilizers	122.26(d)(2)(iv)(A)(6)	Part 3.6.11
Detection and removal of illicit discharges and prevention of improper disposal into the storm sewer	122.26(d)(2)(iv)(B)(1) 122.26(d)(2)(iv)(B)(7)	Part 3.3.1 – 3.3.7.
Procedures to conduct on-going field screening activities	122.26(d)(2)(iv)(B)(2)	Part 4.1- 4.3
Procedures to be followed to investigate portions of the MS4 that indicate a reasonable potential to contain illicit discharges	122.26(d)(2)(iv)(B)(3)	Part 3.3.1 – 3.3.7
Prevention, containment, and response to spills that may discharge into the MS4	122.26(d)(2)(iv)(B)(4)	Part 3.6.6
Identification, Monitoring, and control of discharges from municipal landfills; hazardous waste treatment, storage, disposal and recovery facilities and facilities that are subject to EPCRA Title III, Section 313; and any other industrial or commercial discharge the permittee determines are contributing a substantial pollutant loading to the MS4	122.26(d)(2)(iv)(C)	Part 3.6.7
Control of pollutants in construction site runoff	122.26(d)(2)(iv)(D)	Part 3.4.1 – 3.4.5.
Public and industry education	122.26(d)(2)(iv)(A)(6) 122.26(d)(2)(iv)(B)(5) 122.26(d)(2)(iv)(B)(6) 122.26(d)(2)(iv)(D)(4)	Part 3.1.1 – 3.1.3 Part 3.4.6 Part 3.6.8

4.3.1 Public Education and Outreach

The permittee must implement a public education program to distribute educational materials to the lessees or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and steps the public can take to reduce pollutants in storm water runoff.

Informed and knowledgeable lessees is crucial to the success of a SWMP, since there is greater support for the program as the lessee gains a better understanding of the reasons why the

program is necessary and important. Lessee support is particularly beneficial when operators of MS4s attempt to institute new funding initiatives for the program or seek volunteers to help implement aspects of the program. Education can lead to greater compliance with the program, as the lessees become aware of the personal responsibilities expected of them, including individual actions they can take to protect or improve the quality of receiving waters.

Three activities are identified to accomplish this control measure, which include: distribution of storm water education materials throughout the port area, educating lessees, and posting informational signs. DEC encourages the permittee to coordinate their efforts to educate lessees about storm water pollution.

4.3.2 Public Involvement and Participation

This measure complements the Public Education control measure. If given the opportunity to participate, members of the public generally will become more supportive of a program. The permit requires that the public participation efforts comply with the public notice requirements of the state and local law. DEC encourages the Port to provide more opportunities for lessee and user participation, and to attempt to engage all groups serviced by the storm sewer system.

DEC believes that the Port personnel can provide valuable input and assistance to the development of a municipal SWMP. The Port personnel are given opportunities to play an active role in both the development and implementation of the program. Broad Port-wide support is crucial to the success of a SWMP; lessees who participate in the development and decision making process are partially responsible for the program and, therefore are more likely to take an active role in its implementation. In addition, the community is a valuable, and free, intellectual resource providing a broader base of expertise and economic benefit.

The permittee has identified an active public involvement component to their program, including the activity of developing a storm drain stenciling program. In addition, the permittee meets regularly through the Storm Water Pollution Prevention Team, which serves as a coordinating forum and provides an opportunity for the lessees to be involved in the ongoing development and implementation of the storm water program. DEC encourages the permittee to invite members representing all lessees to participate in the Team. The permittee should also work and meet cooperatively with the MOA to discuss mutual efforts to engage in the discussion of storm water management in the area.

4.3.3 Illicit Discharge Detection and Elimination

An illicit discharge, typically, is any discharge to a MS4 that is not storm water. There are some exceptions, such as fire fighting activities and otherwise permitted discharges; Part 1.4.1.3.1. of the permit lists the types of non-storm water which can be discharged, provided they are not significant contributors of pollutants to the system. This minimum measure requires the Port to detect and eliminate illicit discharges from their system.

Illicit discharges enter the system through either direct connections (e.g., wastewater piping either mistakenly or deliberately connected to the storm drains) or indirect connections (e.g., infiltration into the MS4 from cracked sanitary systems, spills collected by drain outlets, or paint

or used oil dumped directly into a drain). Examples of other sources include, but are not limited to: domestic wastewater effluent from septic tanks; car wash wastewater; radiator flushing disposal; laundry wastewater; and improper disposal of auto and household toxic waste. The result is the discharge of untreated wastewater that may contribute high levels of pollutants, including heavy metals, toxics, oil and grease, solvents, nutrients, viruses, and bacteria to receiving water bodies. Pollutant levels from these illicit discharges have been shown in EPA studies to be high enough to significantly degrade receiving water quality and threaten aquatic, wildlife, and human health.

Eight activities are identified to accomplish this control measure, including: conducting wet and dry weather outfall inspections; development of a specific plan to detect and address illicit discharges; adoption of ordinances or other regulatory mechanism to prevent illicit discharges; and completion of a comprehensive storm sewer map for the areas served by the MS4.

4.3.4 Construction Site Storm Water Runoff Control

MS4 operators are required to develop, implement, and enforce a program to reduce pollutants in storm water runoff from construction activities that result in a land disturbance. Polluted storm water runoff from construction sites often flows to MS4s and ultimately is discharged into local rivers and streams. Sediment is usually the main pollutant of concern, as it has been demonstrated that sediment runoff rates from construction sites are typically 10 to 20 times greater than those of agricultural lands, and 1,000 to 2,000 times greater than those of forest lands. During a short period of time, construction sites can contribute more sediment to streams than can be deposited naturally during several decades. The resulting siltation, and the contribution of other pollutants from construction sites, can cause physical, chemical, and biological harm to our nation's waters.

Construction activities at the Port must comply with APDES construction storm water permitting requirements. When a construction storm water permit is needed, DEC's Construction General Permit (CGP, AKR100000) is the typical permitting route (as opposed to applying for an individual permit). As construction activities occur within the MS4 boundaries of the Port, the installation is required to ensure that construction site and post-construction measures for erosion and sediment control measures are met. Since facilities, including the Port, are not municipalities, they cannot issue an ordinance to ensure compliance with these requirements. This presents a challenge to installations in enforcing a SWMP in cases where they do not have direct management control over a project. To address this issue the Port has developed and implemented a Tenant Policy letter specifically addressing storm water management. The purpose of the Tenant Policy is to enforce the Port's SWMP that is used to reduce the discharge of pollutants from its MS4 to the maximum extent practicable and to identify enforcement actions the installation will apply against violator(s).

Even though discharges from all Alaskan construction sites disturbing more than one acre in Alaska are independently required to be authorized by an APDES storm water discharge permit (specifically, the APDES General Permit for Storm Water Discharges from Construction Activity, AKR100000, i.e., CGP); this control measure with the MS4 is reduced to a 10,000

square foot requirement and is necessary to enable the local MS4 operators to effectively and directly control construction site discharges into their storm sewer systems.

The Port can and should review what existing procedures are already in place in their jurisdiction for these activities. MS4 operators (the Municipality of Anchorage, Alaska Department of Transportation and Public Facilities and the Port of Anchorage) must work to optimize coordination between different governmental offices.

The permit allows MS4 operators to exempt from local regulation those sites which qualify for the low rainfall erosivity waiver from the APDES General Permit for Storm water Discharges from Construction Activity. This waiver, allowed by EPA regulation at 40 CFR §122.26(b)(15)(i)(A), is based on the “R” factor from the Revised Universal Soil Loss Equation (RUSLE) and applies to projects when (and where) negligible rainfall/runoff is expected.

Six activities are identified to fulfill the requirements of this control measure, including; to adopt and implement a construction activity storm water control regulatory mechanism; adopt or develop procedures for reviewing all site plans; adopt or develop requirements for construction site operators; and to conduct at least one educational workshop for the local construction/design engineering audience.

4.3.5 Post-Construction Storm Water Management for Areas of New and Redevelopment

Post-construction runoff can cause an increase in the type and quantity of pollutants in storm water runoff. As runoff flows over areas altered by development, it can pick up harmful sediment and chemicals such as oil and grease, pesticides, heavy metals, and nutrients (e.g., nitrogen and phosphorus). These pollutants often become suspended in runoff and are carried to receiving waters, such as lakes, ponds, and streams. Post-construction runoff also increases the quantity of water delivered to the water body during storms. Increased impervious surfaces interrupt the natural cycle of gradual percolation of water through vegetation and soil. Instead, water is collected from surfaces such as asphalt and concrete, and routed to drainage systems where large volumes of runoff quickly flow to the nearest receiving water. The effects of this process include stream bank scouring and downstream flooding, which often lead to a loss of aquatic life and damage to property

This minimum measure requires municipal operators to develop, implement, and enforce a program to reduce pollutants in post-construction runoff from areas of new development and redevelopment. This measure applies at minimum to projects which are greater than or equal to 10,000 square feet in size.

Three activities are identified to accomplish this control measure: develop a strategy for evaluating Green Infrastructure projects; adopt a program to address post-construction storm water runoff from new development and redevelopment projects; and adopt an ordinance or other regulatory mechanism to require post-construction storm water controls at new and re-developed sites.

4.3.6 Pollution Prevention and Good Housekeeping

This control measure requires the permittee to implement an operation and maintenance program to prevent or reduce pollutant runoff from activities conducted by the Port and its lessees. The MS4 operator must examine and subsequently alter their own actions to reduce the amount and type of pollution that: (1) collects on streets, parking lots, open spaces, storage and vehicle maintenance areas, which may be discharged into the storm sewer system; and (2) results from actions such as environmentally damaging land development and flood management practices or poor maintenance of storm sewer systems. Activities associated with maintenance of cargo storage and open spaces, as well as fleet and building maintenance, must also be considered for possible water quality impacts. While this measure is meant primarily to improve or protect receiving water quality by improving municipal or facility operations, it also can result in a cost savings for the MS4 operator, since proper and timely maintenance of storm sewer systems can help avoid repair costs from damage caused by age and neglect.

The permittee must examine their maintenance activities and schedules, and inspection procedures for controls to reduce floating debris and other pollutants. By evaluating existing practices, the permittee can improve operations to reduce or eliminate discharges from roads, parking lots, maintenance and storage yards, waste transfer stations, salt/sand storage locations, and snow storage/disposal areas.

Snow storage and disposal practices are specifically identified in the permit as deserving particular attention by the permittee, given the annual accumulation of snow in the Anchorage area and the increased potential for accumulated pollutants to be discharged from snowmelt during the spring season. Snow plowed from paved working areas and parking lots often contains the variety of materials which have accumulated on the snowpack and other cleared surfaces. Studies of urban snow disposal sites in northern climates demonstrate that snow meltwater can be a potential source of significant pollutant loadings to surface water, and commonly contains pollutants such as debris, sediment, chlorides, and oil and grease. Part 3.6. of the permit requires the permittee to implement controls at snow disposal sites to reduce the discharge of pollutants in meltwater. Snow disposal site design criteria created by MOA and/or snow management practices already developed by Alaska Department of Transportation and Public Facilities, may assist the permittee to collectively address conditions for appropriate snow disposal practices in the arctic environment. DEC encourages the permittee to work with the MOA and lessees to identify appropriate management measures.

Thirteen activities are identified to accomplish this control measure, including: conduct storm water pollution prevention inspections; develop and implement an operation and maintenance program; provide an area for washing Port vehicles; allow access for lessees to Port vehicle washing facility; implement a program to prevent, contain, and respond to spills; monitor storm water discharges from industrial facilities; and conduct appropriate training for personnel.

4.4 Monitoring, Recordkeeping and Reporting Requirements

4.4.1 Monitoring Program Plan

MS4 operators must evaluate program compliance, the appropriateness of Control Measures in their SWMP, and progress towards meeting their measurable goals. These requirements have been included in Part 4 of the permit.

Two types of monitoring are required by the permit: 1) Storm event monitoring of representative sampling points and screening of the system for areas needing additional controls; and 2) dry weather screening to locate illicit connections and areas of improper disposal of non-storm water.

The permittee proposed to EPA to eliminate the wet weather monitoring program in 1999 and the wet weather monitoring was suspended. DEC has determined it appropriate to reinstate the wet weather monitoring program. The monitoring of the quality of representative outfalls during actual storm events will provide information on the quality of runoff from the MS4, a basis for estimating annual pollutant loads, and a mechanism to evaluate reductions in pollutants discharged from the MS4. The representative outfall monitoring frequencies were determined from the 1995 permit.

The dry weather screening program is a continuation of efforts to locate and eliminate illicit connections to the MS4. This program is intended to support the permit requirement to effectively prohibit non-storm water discharges to the MS4. All portions of the MS4 must be screened at least once during the permit term.

The monitoring program plan must be submitted to DEC in the Annual Report described below. For chemical, biological, or physical storm water monitoring conducted by the permittee, Part 4.1.2. of the permit includes requirements related to representative monitoring, test procedures, and recording results. All chemical, physical, or analytical monitoring must be conducted according to a Quality Assurance Project Plan (QAPP). The permit requires the permittee to submit a written notice affirming that its QAPP is up to date after which monitoring activities may begin.

4.4.2 Evaluation of Overall Program Effectiveness

The permittee must evaluate their compliance with the permit conditions, the appropriateness of identified BMPs, and progress toward achieving identified measurable goals for each minimum control measures at least once annually.

4.4.3 Annual Reports

Monitoring must be performed by a qualified person; either the permittee's own personnel or a third party hired to perform the monitoring. The person collecting the samples and analyzing them must be knowledgeable and possess the skills to assess conditions at the facility that could impact storm water quality and assess the effectiveness of sedimentation and erosion control measure chosen to control the quality of the storm water discharges.

The permittee must submit Annual Reports during the five-year permit term. Components for the Annual Report as outlined in Permit Part 4.3 requires the permittee to evaluate their program for

compliance with the terms of the permit, the appropriateness of the identified control measures, and progress towards achieving their measurable goals. The permittee may need to change their SWMP based on this evaluation process. The permittee may also need to change their SWMP based on the need to address water quality impacts, to include more stringent requirements to comply with federal law, or to include conditions necessary to comply with the goals of the CWA. Requirements for the minimum control measures in Permit Part 3.0 detail specific information to be reported for each control measure. The Annual Report must also contain a summary of any information that has been collected and analyzed, including any and all types of data. The permittee must indicate what activities are planned for the next reporting cycle, and discuss any changes to either control measures or measurable goals. Appendix E of the permit contains a suggested format for the Annual Report. In the interest of conserving resources, DEC will accept the Annual Report document in a readily accessible electronic format such as Adobe Acrobat, or other commonly available word processing program, and the documents may be sent to DEC on CD-ROM. However, the signed certification statement required for all reports submitted to DEC must be created and submitted in hard copy. Any documents comprising the Annual Report may accompany the certification and be submitted on a disk or CD-ROM.

For each part of the permit where data collection or action has taken place:

- Develop and state criteria for evaluation of success;
- Present data in appropriate tables and/or graphical representations;
- Explain that data was or was not adequate for findings;
- Identify trends and patterns;
- Explain what corrective action or program changes were made during the reporting year relevant to each part of the permit;
- Explain how well program goals were met for each part of the permit;
- Explain what measures may be warranted in the future for improving effectiveness of reporting parts of the permit; and
- Include references to data in appendices and to appropriate documents outside of the annual report.

Thus, part by part, the programs under the permit need to be evaluated by the permittee, and such narrative report shall stand within the Annual Report but also may be referenced as a stand-alone document for both clarifying effectiveness of permit programs to the public, the Department, and any concerned agencies.

4.4.4 Recordkeeping

Part 4.4 of the permit requires permittee to keep all records required by this permit for a period of at least three years past the end of the permit term. Records need to be submitted only when requested by DEC. The permittee's SWMP must be available to the public; the permittee may charge a reasonable fee for copies, and may require a member of the public to provide advance notice of their request. DEC encourages the permittee to make their program materials available to the public electronically via a website or other viable means.

4.4.5 Address

Submittals required by the permit must be made to the following address specified in the Permit, Appendix A, Part 1.1.2 Compliance and Enforcement Program.

4.5 Appendices

Standard Conditions (Appendix A)

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, and reporting requirements; compliance responsibilities; and other general requirements.

Acronyms (Appendix B)

Appendix B is a list of acronyms found in the permit and fact sheet which aids in the understanding of the permit and its requirements.

Definitions (Appendix C)

Appendix C contains definitions of statutory, regulatory, and other terms important for understanding the permit and its requirements.

Annual Report Form (Appendix D)

Appendix D contains an annual report form for summarizing the annual results of storm water activities.

Map of Port of Anchorage (Appendix E)

5.0 ANTIDegradATION

Section 303(d)(4) of the CWA states that, for water bodies where the water quality meets or exceeds the level necessary to support the water body's designated uses, WQBELs may be revised as long as the revision is consistent with the State's antidegradation policy.

The Antidegradation Policy of the WQS (18 AAC 70.015) states that the existing water uses and the level of water quality necessary to protect existing uses must be maintained and protected. This section analyzes and provides rationale for the Department's decisions in the permit issuance with respect to the Antidegradation Policy.

The Department's approach to implementing the Antidegradation Policy, found in 18 AAC 70.015, is based on the requirements in 18 AAC 70 and the Department's *Policy and Procedure Guidance for Interim Antidegradation Implementation Methods*, dated July 14, 2010. Using these requirements and policies, the Department determines whether a water body, or portion of a water body, is classified as Tier 1, Tier 2, or Tier 3, where a higher numbered tier indicates a greater level of water quality protection. At this time, no Tier 3 waters have been designated in

Alaska. This antidegradation analysis conservatively assumes that Knik Arm of Cook Inlet is a Tier 2 water.

The State's Antidegradation Policy in 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 (i.e., Tier 2 waters), that quality must be maintained and protected. The Department may allow a reduction of water quality only after making five specific regulatory findings (18 AAC 70.015(a)(2)(A-E)). The Department's findings are as follows:

1. *18 AAC 70.015(a)(2)(A) Lowering water quality is necessary to accommodate important economic or social development in the area where the water is located.*

In order to conduct their important ongoing civic functions, the permittee requires that infrastructure be constructed and maintained to accommodate important economic and social development in the area. Without road construction and maintenance as well as storm water collection systems with discharge points, successful operations of the permittees important functions (and the population they serve) would be severely hampered. Storm water discharges associated with the permittees activities will be controlled via the requirements of applicable SWMPs and Storm Water Pollution Prevention Plans, which implement the most effective and reasonable practices. Accordingly, in order to provide important services and employment opportunities to the resident and visiting population, the lowering of water quality is necessary.

The Port initially began operations in September 1961. Thirty-eight thousand tons of marine cargo moved across its single berth during the first year. By 1997 more than 3.0 million tons of various commodities moved across the docks. By 2011 more than 4.0 million tons of various commodities moved across the docks. Statistically, 90% of the consumer goods for 85% of Alaska come through the Port. In addition, the Port also is home to occasional cruise ship calls throughout the summer, bringing in tourists that provide revenue to local businesses.

Approximately 2,400 full or part-time workers are employed by Port businesses. .

The Department has determined that the lowering of water quality is necessary to accommodate important economic and social development in the area where the waters are located and that the finding is satisfied.

2. *18 AAC 70.015(a)(2)(B) Reducing water quality will not violate the applicable criteria of 18 AAC 70.020 or 18 AAC 70.235 or the whole effluent toxicity limit in 18 AAC 70.030.*

The adaptive management approach (from permit cycle to permit cycle) is used in MS4 permits (unlike other types of NPDES permits) to ensure that discharges are controlled to the maximum extent practicable and comply with such other provisions as the NPDES authority determines to be appropriate (See *Defenders of Wildlife v. Browner*, 191 F3d 1159 (9th Cir., 1999)). The maximum extent practicable provision of the CWA allows the NPDES authority the broad discretion whether to require strict compliance with state WQS.

DEC has determined that antidegradation reviews for MS4 permits will be based on the adaptive management approach. This approach may include routine monitoring of storm water quality at representative outfalls to adequately characterize storm water discharges. The MS4 will then

evaluate, through effective monitoring, whether storm water quality is being maintained, improving, or degrading and whether BMPs identified in the MS4's SWMP are effective at controlling the discharge of pollutants. Through this type of analysis, the applicable criteria found in 18 AAC 70.020 will be maintained and protected.

With respect to 18 AAC 70.235 and 18 AAC 70.030, no site-specific criteria has been designated for any of the subject water bodies and permit conditions are designed to control potentially toxic discharges.

The Department has determined that reducing water quality will not violate the applicable criteria of 18 AAC 70.020 or 18 AAC 70.235 or the whole effluent toxicity limit in 18 AAC 70.030 and that the finding is satisfied.

3. *18 AAC 70.015 (a)(2)(C) The resulting water quality will be adequate to fully protect existing uses of the water.*

The CWA and the APDES storm water regulations establish permit requirements for discharges from certain publicly-owned separate storm sewer systems located in urban areas to control pollutants to the maximum extent practicable. The permit conditions (e.g., control measures) are developed to maintain and protect existing and designated uses of the receiving water. Cook Inlet is protected for all designated uses and can be found in this fact sheet, Section 3.3.1, Water Quality Standards.

The Department has determined that the resulting water quality will be adequate to fully protect existing uses of the water and that the finding is satisfied.

4. *18 AAC 70.015(a)(2)(D) The methods of pollution prevention, control, and treatment found by the Department to be the most effective and reasonable will be applied to all wastes and other substances to be discharged.*

DEC generally implements permit conditions that specify that a municipality implement controls, BMPs or control measures, and other activities to reduce pollutants as identified in a SWMP. The SWMP may address control measures such as: public education and outreach, public participation/involvement, illicit discharge detection and elimination, construction site runoff control, post construction runoff control, and pollution prevention/good housekeeping. The SWMP must also include measureable goals to evaluate the effectiveness of individual control measures and the SWMP as a whole, requirements for industrial storm water discharges to the MS4, and reporting requirements.

The site-specific, activity-specific process of developing, implementing, and adjusting the pollution control practices contained in the SWMP constitutes the type of alternatives analysis and use of "the most effective and reasonable" . . . "methods of pollution, prevention, control, and treatment" cited as requirements under Alaska's Antidegradation Policy for activities that would degrade water quality.

Control measures that prevent or minimize water quality impacts from municipal activities and construction activities are described in Part 3.0 of the MS4 permit and in Chapters 4 and 5 of the *Alaska Storm Water Guide* (DEC, 2009). The *Alaska Storm Water Guide* provides detailed

information on temporary storm water controls for active construction sites. The storm water management process outlined in that chapter consists of the development of a SWMP which provides the basis for all pollutant discharge prevention/minimization activities. As noted below, development of the SWMP requires a comprehensive evaluation of the community, the proposed construction activities, and possible pollutant discharges. This information is used to create the SWMP, which contains structural and non-structural management practices; specifications for selecting, sizing, siting, operating, and maintaining them; and procedures for inspecting the management practices and repairing or replacing them as needed.

The permittee is required to implement erosion, sediment, and other storm water management practices to avoid or minimize pollutant discharges, as detailed in Part 3.0 of the permit. Alternative control measures that may provide equal or better water quality protection are also allowable, and encouraged, especially where those alternatives would provide better water quality and environmental protection at a lesser cost.

The Department uses an integrated approach in the permit for developing and implementing “methods of pollution, prevention, control, and treatment” required by Alaska’s Antidegradation Policy. This integrated approach includes requirements for:

- Erosion and sediment control, pollution prevention measures and prohibiting certain discharges (Part 3.4),
- Revised and expanded training requirements for the construction and post-construction (Part 3.4 and 3.5), and
- Monitoring of storm water discharges for illicit discharges (Part 3.3).

Most pollution controls at construction sites are not installed in isolation, but instead are part of a suite of control measures that are all designed to work together. Designers use the treatment train approach to design a series of practices that minimize storm water pollution and achieve compliance with Alaska Construction General Permit (ACGP, AKR100000) requirements. For example, a designer may use as a series of control measures to prevent sediment discharges from a site – a diversion ditch at the top of a disturbed slope (to minimize storm water flowing down the slope), mulching on the slope (to minimize erosion), and silt fence at the bottom of the slope (to capture sediment). This treatment train would help protect the slope better than relying on a single control measure, such as silt fence.

The site-specific nature of the SWMP, the requirement that it be implemented in a manner that addresses storm water impacts to the maximum extent practicable, and provisions that the approach be adjusted to ensure ongoing storm water management effectiveness provide the implementation methods needed to appropriately support the Antidegradation Policy.

The Department has determined the methods of pollution prevention, control, and treatment in the permit to be the most effective and reasonable, which will be applied to all wastes and other substances to be discharged, and the finding is satisfied.

5. *18 AAC 70.015(a)(2)(E) All wastes and other substances discharged will be treated and controlled to achieve*
- (i) for new and existing point sources, the highest statutory and regulatory requirements; and*
 - (ii) for nonpoint sources, all cost-effective and reasonable best management practices.*

The recent *MS4 Permit Improvement Guide* (USEPA, 2010), in conjunction with the six minimum control measures, constitutes the highest regulatory requirements for municipal storm water management. This permit, as part of the iterative process of improvement of MS4 permits, includes incremental changes in the permit requirements.

Green infrastructure is an approach that communities can choose to maintain healthy waters, provide multiple environmental benefits and support sustainable communities. Green infrastructure can treat storm water that is not retained.³ Green infrastructure uses vegetation, soils, and natural processes to manage water and create healthier urban environments. At the scale of a city or county, green infrastructure refers to the patchwork of natural areas that provides habitat, flood protection, cleaner air, and cleaner water. At the scale of a neighborhood or site, green infrastructure refers to stormwater management systems that mimic nature by soaking up and storing water.

Low Impact Development (LID) is an approach to land development (or re-development) that works with nature to manage stormwater as close to its source as possible. By preserving and recreating natural landscape features, LID minimizes effective imperviousness, creating functional and appealing site drainage that treats stormwater as a resource rather than a waste product. Bioretention facilities, rain gardens, vegetated rooftops, rain barrels, and permeable pavements are some of the LID practices used to adhere to these principles. By implementing LID principles and practices, water can be managed in a way that reduces the impact of built areas and promotes the natural movement of water within an ecosystem or watershed. Applied on a broad scale, LID can maintain or restore a watershed's hydrologic and ecological functions.

The requirements contained in the ACGP, the SWPPP development process (Part 5 of the ACGP permit), development and implementation of the SWMP to include construction site storm water runoff control and post-construction storm water management control measures and good housekeeping measures (Part 3 of this permit), and BMP's provided in the *Alaska Storm Water Guide* (Chapter 4) comprise a comprehensive, integrated approach for developing and implementing "methods of pollution, prevention, control, and treatment" required by Alaska's Antidegradation Policy.

The Department has determined that the permit complies with the highest statutory and regulatory requirements for the industry and types of pollutants expected from this industry. The department concludes that this finding is satisfied.

³ Center for Watershed Protection, September 2007. *National Pollutant Removal Performance Database*, Version 3 (<http://www.stormwaterok.net/CWP Documents/CWP-07 Natl Pollutant Removal Perform Database.pdf>)

6.0 OTHER REQUIREMENTS

6.1 Endangered Species Act

The Endangered Species Act (ESA) requires federal agencies (commonly known as the “Services”) to consult with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) to determine if the permitted actions could beneficially or adversely affect any threatened or endangered species. As a state agency, DEC is not required to consult with these federal agencies regarding permitting actions; however DEC voluntarily contacted the agencies to notify them of the development of the permit and to obtain listings of threatened and endangered species near the proposed discharges. There is one listed species for Cook Inlet, the Beluga Whale. However, the Port of Anchorage is excluded from critical habitat designation for national security reasons. The Services will be provided the draft permit and fact sheet during public review. Any comments received from the Services regarding the listing of threatened or endangered species will be considered prior to reissuance of this permit.

6.2 Essential Fish Habitat

Essential fish habitat (EFH) includes the waters and substrate (sediment, 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 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 federal agencies regarding permitting actions; however, DEC will contact NMFS and USFWS to notify them of the development of the permit and in attempt to obtain listings of EFH near the proposed discharges.

Most pollution controls at construction sites are not installed in isolation, but instead are part of a suite of control measures that are all designed to work together. Designers use the treatment train approach to design a series of practices that minimize storm water pollution and achieve compliance with APDES ACGP requirements. Because the permit encourages the treatment train approach DEC maintains the permit addresses EFH considerations.

Discharges of municipal storm water from the MS4 in the Port of Anchorage has occurred for many years prior to the promulgation of EPA regulations to permit such discharges, and as with the first issuance of this permit in 1995, this permit restricts the discharge of pollutants through source control. NMFS and USFWS will be provided with a draft permit and fact sheet during the review period. Any comments received from NMFS and USFWS regarding EFH will be considered prior to reissuance of the permit.

6.3 Permit Expiration

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

7.0 REFERENCES

- AAC. 2009. Alaska Administrative Code, Revised 2009. State of Alaska, Juneau, AK.
- ADEC. 2008. *Public Participation in APDES Permitting Process*. Alaska Department of Environmental Conservation, Wastewater Discharge Authorization Program, Juneau, AK.
- ADEC. 2011. *Alaska Storm Water Guide*. Alaska Department of Environmental Conservation, Division of Water. Anchorage, AK.
- ADEC. 2011. *Alaska Pollutant Discharge Elimination System Permit for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems. Permit number AKS-052426*. Alaska Department of Environmental Conservation, Wastewater Discharge Authorization Program, Anchorage, AK.
- ADEC. 2010. *Alaska's Final 2010 Integrated Water Quality Monitoring and Assessment Report*, July 15, 2010. Alaska Department of Environmental Conservation, Wastewater Discharge Authorization Program, Juneau, AK.
- NMFS, 2005. Appendix G: Non-fishing Impacts to Essential Fish Habitat and Recommended Conservation Measures. Prepared by the National Marine Fisheries Service, April 2005.
- USEPA. (U.S. Environmental Protection Agency). 2010. *MS4 Permit Improvement Guide*. EPA-833-R-10-001. U. S. Environmental Protection Agency, Washington, DC.