



ALASKA POLLUTANT DISCHARGE ELIMINATION SYSTEM

GENERAL PERMIT FOR DISCHARGES FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES

FACT SHEET

Permit Number: AKR100000

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

Public Comment Period Start Date: [December 30, 2010](#)

Public Comment Expiration Date: [February 28, 2011](#)

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Reissuance of the Alaska Pollutant Discharge Elimination System (APDES) General Permit for Discharges from Large and Small Construction Activities within the State of Alaska

The Alaska Department of Environmental Conservation (the Department or DEC) reissued an Alaska Construction General Permit (ACGP, general permit, or permit) for discharges from large and small construction activities. The permit authorizes and sets conditions on the discharge of pollutants from construction projects to waters of the United States. In order to ensure protection of water quality and human health, the permit describes control measures that must be used to control the types and amounts of pollutants that can be discharged from construction activities.

This fact sheet explains the nature of potential discharges from construction 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 for construction activities;
- Technical material supporting the conditions in the permit; and
- Proposed inspection, monitoring, and reporting requirements in the permit.

Public Comment

The Department provided the following opportunities to learn about the permit and to comment on the permit. APDES regulations require two review periods for potential permittees and one formal public review and comment periods for all APDES permits. The Department provided a 10 day applicant review from November 24 to December 10, 2010 for potential permittees to comment on the preliminary draft permit. Thirteen set of comments were received. During the **60-day public comment period** DEC posted the draft ACGP on DEC's website from December 30, 2010 to February 28, 2011 for potential permittees and the public to review the permit and provide written comments.

Public Hearings: During the 60-day public review period DEC hosted three public hearings to receive written and/or oral comment. The Division Director appointed a designee to preside at the hearing. At the start of the public hearing there was a presentation by the Department to explain the permit and answer questions prior to taking public testimony. The public could submit written testimony in lieu of or in addition to providing oral testimony at the hearing. The hearings were tape recorded. In-person hearings were held in Fairbanks (February 8, 2011) and Anchorage (February 9, 2011) and one state-wide teleconference occurred on February 10, 2011.

By February 1, 2011 a copy of the PowerPoint presentation that was given at the start of each hearing was posted on the following website: <http://dec.alaska.gov/water/wnpssc/stormwater/index.htm>

After the close of the public comment period and after the public hearings the Department reviewed the comments received on the draft permit. The Department responded to the comments received in a Response to Comments document that is available to the public.

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.

Appeal Process

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 Departments 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://www.ADEC.state.ak.us/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://www.ADEC.state.ak.us/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://www.ADEC.state.ak.us/public_notices.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
610 University Ave.
Fairbanks, AK 99709
(907) 451-2183

Dept of Environmental Conservation
Division of Water
Wastewater Discharge Authorization Program
410 Willoughby Ave.
Juneau, AK 99811
(907) 465-5300

Dept of Environmental Conservation
Division of Water
Wastewater Discharge Authorization Program
43335 Kalifornsky Beach Rd.
Soldotna, AK 99615
(907) 262-5210

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 EXECUTIVE SUMMARY

The Alaska Department of Environmental Conservation (the Department or DEC) is proposing to reissue an Alaska Pollutant Discharge Elimination System (APDES) Program general permit that authorizes the discharge of pollutants in storm water discharges associated with construction activity (also known as the “Alaska Construction General Permit” or “ACGP” or “2011 ACGP” or “permit”). DEC’s ACGP accompanies this fact sheet.

The ACGP will replace the 2010 CGP that became effective on January 31, 2010 and will expire on June 30, 2011. The reissued permit will be effective for no more than a term of five years. The permit will authorize the discharge of pollutants in storm water discharges associated with construction activity. DEC is reissuing the ACGP to maintain permit coverage for the Construction and Development (C&D) industry, modify the CGP for Alaskan conditions, and comply with new federal requirements that state permitting authorities (DEC) have to include in any reissued permit for the C&D industry.

Maintain Permit Coverage. DEC is working to maintain permit coverage for the C&D industry because only permittees who applied for and received coverage under the general permit before it expired can continue to operate. No new authorizations can be granted under an administratively extended general permit. A permittee seeking permit coverage for a new project under an administratively extended permit (in other words any new construction project starting after June 30, 2011) would have to apply for an individual permit.

EPA Effluent Limitation Guidelines. EPA developed effluent limitations guidelines (ELGs) to control the discharge of pollutants from construction sites (40 CFR Part 450). All states are required to incorporate these new requirements into their Construction General Permits during the next reissuance of the general permit. These requirements require construction site owners and operators to implement a range of erosion and sediment control measures and pollution prevention practices to control pollutants in discharges from construction sites.

Modify Permit for Alaska Conditions. One of the reasons DEC assumed the NPDES program from EPA was to adapt permits, to the extent allowable under federal and state regulations, to fit Alaska conditions. For the ACGP this means modifying some of the definitions for the mix of urban and rural types of construction projects and operators of these projects, allowing the use of treatment chemicals, and adapting the permit to seasonal conditions as they affect construction.

The Department formatted this fact sheet to make it as a readable reference so that the more than 200 organizations that operate under the ACGP can use it to understand the rationale that supports specific permit conditions. To meet this goal, the Department has included more information than is normally provided in a fact sheet. The Department used an informal style that does not necessarily reflect verbatim the actual provisions established in the permit, especially if the provision is straightforward and easily understood. This format is intended to help the regulated community and members of the public understand the intent and basis of the actual permit language. If any discrepancy exists between the fact sheet and the actual ACGP language, the permittee must comply with the ACGP as written.

The permit and fact sheet reference various state and federal regulations. The state regulations are found in the Alaska Administrative Code (AAC), Chapter 83 “Alaska Pollutant Discharge Elimination System

Program” (18 AAC 83). The federal regulations are incorporated by reference into the state APDES regulations in 18 AAC 83.010. 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.

In developing the permit, the Department requested comments on the EPA 2008 CGP and received comments from three organizations (Appendix A). The Department used those comments to develop the permit. During the first year as the permitting authority for the storm water program the Department has received numerous calls about specific provisions of the permit and the EPA ELGs. The ACGP attempts to address these comments. Section 2.4 of the Fact Sheet identifies the additions and changes to the 2010 CGP and serves as a means to understand the basis of the changes in the permit.

The 2011 ACGP was posted for a 10-day applicant review November 24, 2010 to December 10, 2010. The Department received comments from thirteen organizations. The preliminary permit and fact sheet were revised based on these comments. No response to comments was developed. The draft permit was posted for a 60 day public review from December 30, 2010 to February 28, 2011. The Department received comments from thirteen organizations. The draft permit and fact sheet were revised based on these comments and a Response to Comments was developed.

2.0 BACKGROUND

2.1 Delegation of Authority

In October 2008 EPA approved Alaska’s application to administer the National Pollutant Discharge Elimination System (NPDES) Program. The state’s program is the Alaska Pollutant Discharge Elimination System (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.

EPA has no authority to issue a permit to a facility where jurisdiction over that facility or activity has transferred to the state. EPA retains authority, pursuant to the Clean Water Act (CWA), to review all DEC-drafted permits and to conduct inspections and pursue an enforcement action on any discharges in Alaska.

2.2 Permit History

EPA developed a general permit for storm water discharges associated with construction activity in 2003 (referred to as the 2003 CGP) and reissued the permit in 2008 (referred to as the 2008 CGP) with an expiration date of June 30, 2010. On October 19, 2009, just prior to the transfer of the storm water program permitting authority to the state, EPA issued a notice in the Federal Register (Vol. 74, No. 200, Monday October 19, 2009, page 53494-53498) proposing a modification to the NPDES general permit for storm water discharges associated with construction activity in order to extend by one year the expiration date of the permit (to June 30, 2011). The EPA 2008 CGP was on public notice at the time authority to administer the storm water program transferred to DEC.

Following the close of the public review period, DEC developed the proposed final permit. No comments were received on the proposed final permit. After the close of the proposed final permit

review, the Department prepared a final permit that became effective on January 31, 2010 with an expiration date of June 30, 2011 (referred to as the 2010 CGP).

DEC is now reissuing the 2011 ACGP for Alaska to comply with the new Construction and Development (C&D) Final Effluent Limitation Guidelines as described in Section 2.3. The permit will replace the 2010 CGP. The permit will be effective for no more than a term of five years and will authorize the discharge of pollutants in storm water discharges associated with construction activity.

2.3 New Federal Requirements

Existing national storm water regulations at 40 CFR § 122.26 require dischargers engaged in construction activity to obtain NPDES permit coverage and to implement control measures to manage discharges associated with construction activity. On December 1, 2009, EPA promulgated ELGs and new source performance standards (NSPS) for the C&D point source category. Although the C&D is the largest category of dischargers in the NPDES program prior to the ELG there were no national performance standards or monitoring requirements for this category of dischargers. In taking this action, EPA established a series of non-numeric effluent limits, as well as a numeric effluent limit for the pollutant sediment, measured as turbidity. The rule established that all permittees at construction sites would be required to meet the non-numeric effluent limitations. In addition, permittees at construction sites that disturb 10 or more acres of land at one time would be required to monitor discharges from the site and comply with a numeric effluent turbidity limit of 280 Nephelometric Turbidity Unit (NTU).

The C&D rule constitutes the nationally applicable, technology-based ELG and NSPS applicable to all dischargers currently required to obtain an NPDES permit pursuant to 40 CFR § 122.26(b)(14)(x) and §122.26(b)(15). The rule focuses on discharges composed of storm water but the ELG and NSPS requirements also apply to discharges of other pollutants from C&D sites, such as discharges from dewatering activities under CWA section 301(a). The ELG and NSPS would require storm water discharges from most C&D sites to meet effluent limits designed to reduce the amount of sediment, turbidity, total suspended solids, and other pollutants in storm water discharges from the site.

The ELG proposed to phase in the numeric effluent limit over four years to allow permitting authorities adequate time to develop monitoring requirements and to allow the regulated community time to prepare for compliance with the numeric effluent limit. The C&D ELG requires permittees at construction sites disturbing 20 or more acres at one time to conduct monitoring of discharges from the site and comply with the numeric effluent limitation beginning on August 1, 2011 or earlier. Permittees at construction sites disturbing 10 or more acres at one time would be required to conduct monitoring of discharges from the site and comply with the numeric effluent limitation beginning on February 2, 2014 or earlier. More information on the deadlines and monitoring requirements based on the ELG included in the permit can be found in Section 4.3.

The C&D ELG requires all permittees to implement a range of erosion and sediment controls and pollution prevention measures at regulated construction sites (see Appendix B for a detailed discussion). DEC has chosen to use the phrase “good housekeeping measures” in the ACGP and to replace the phrase “pollution prevention measures” that is used in the ELG. In the federal register notice announcing the final rule, EPA acknowledged that many state and local governments have existing programs for controlling storm water and wastewater discharges from construction sites. The ELG and NSPS are

intended to work in concert with existing state and local programs and not interfere with existing state and local requirements that are more stringent than this rule or with the ability of state and local governments to establish and implement more stringent requirements.

The ELG regulation establishes a numeric effluent limitation for turbidity in discharges from C&D sites that disturb ten or more acres of land at one time. Permittees would be required to sample storm water discharges from the site and report the levels of turbidity present in the discharges to the permitting authority. These effluent limitations would, for many sites, require an additional layer of management practices and/or treatment (e.g., control measures) above what most state and local programs previously required.

The Wisconsin Homebuilders Association and others petitioned the court to grant relief from the ELG requirement for meeting the numeric effluent limit of 280 NTU. EPA reviewed its administrative record and agreed to reconsider the limit during the eighteen months following promulgation of the ELG. Based on EPA's examination of the dataset underlying the 280 NTU limit, EPA has concluded that it improperly interpreted the data and, as a result, the calculations in the existing administrative record are no longer adequate to support the 280 NTU numeric limit.

In early November 2010 EPA issued a direct final rule staying (or stopping) the 280 NTU numeric limit until it is corrected. This means that §450.22(a) and (b) are stopped from being required in the ACGP until EPA issues a correction rule, anticipated in May 2011.

The permit does not include the 280 NTU numeric effluent limit but does include the requirement for monitoring for compliance with Alaska Water Quality Standards (WQS) for the sites disturbing more than 20 acres near impaired waterbodies or that have a Total Maximum Daily Load (TMDL) for sediment or turbidity.

2.4 Summary of Proposed Changes in the APDES ACGP

One of the reasons Alaska assumed the NPDES program from EPA was for DEC to adapt permits, to the extent allowable under state and federal regulations, to fit Alaskan conditions. For the ACGP this means modifying some of the definitions for the mix of urban and rural types of construction projects and operators of these projects, allowing the use of treatment chemicals, and adapting the permit to seasonal conditions as they affect construction. The permit is different from the 2010 CGP in how it is organized and the level of detail. The change in organization is to incorporate specific adaptations for Alaskan conditions, incorporate the new federal requirements, and try to make the permit more user-friendly. The permit also includes the new federal requirements and to address comments from the industry on specific aspects to clarify in the permit. The new federal requirements require construction site owners and operators to implement a range of erosion and sediment control measures and good housekeeping measures to control pollutants in discharges from construction sites.

The tables below highlight the changes between DEC's 2010 CGP and 2011 ACGP. Most of the changes are discussed in more detail in the Section 4 of the fact sheet.

Comply with New Federal Requirements: EPA developed C&D ELGs to control the discharge of pollutants from construction sites. All states are required to incorporate these new requirements into

their Construction General Permits. These requirements require construction site owners and operators to implement a range of erosion and sediment control measures and good housekeeping measures to control pollutants in discharges from construction sites. The following is a summary of the additional requirements. For more detail see <http://www.epa.gov/guide/construction/#proposed>. Table 2-1 lists the new federal requirements and gives their location in the 2011 ACGP.

Table 2-1: Summary of New Federal Requirements added to 2011 ACGP

Requirement (Section of Federal regulation)	Location of Topic/Change		
	2010 CGP	Proposed 2011 CGP	2011 ACGP Fact Sheet
Sampling for Turbidity at projects disturbing more than threshold amount (§450.22(a))	N/A	Requirement Stayed by EPA	4.3.3
Erosion and Sediment Control (§450.21(a))	3.1.8	4.1; 5.4.1	4.4.1; 4.4.2
Soil Stabilization (§450.21(b))	3.1.8	4.2; 5.4.2	4.4.4
Dewatering (§450.21(c))	N/A	4.3	4.4.3
Pollution Prevention (Good Housekeeping) (§450.21(d))	N/A	4.7; 5.3	4.4.7; 4.5.3
Prohibited Discharges (§450.21(e))	N/A	4.6	4.4.6
Surface Outlets (§450.21(f))	N/A	4.2.8.4	4.4.2
Develop Monitoring Plan & Include in SWPPP (§450.22(a)(2))	N/A	5.5; Part 7	4.5.7; 4.7.1
Discharge Monitoring Requirements (§450.22(a)(2))	N/A	7.3	4.7.3
Annual Reports (§450.22(a)(2))	N/A	9.1	4.9.1

Modify Permit for Alaska Conditions: Based on DEC’s experience administering the storm water construction general permit, the Department proposes the following changes. DEC sent a notice to the APDES list serve in August 2009 asking for comments on the EPA 2008 CGP and any changes the regulated industry would like in the permit. Three organizations submitted comments. Appendix A provides a summary of the comments received. DEC has modified some of the definitions for the mix of urban and rural types of construction projects and operators of these projects, adapted the permit to seasonal conditions as they affect construction, and added a section on the use of treatment chemicals. Table 2-2 provides DEC’s proposed changes to the permit based on DEC’s experience administering the storm water construction general permit during the 2010 construction season, as well as comments received during the past year.

Table 2-2: Summary of Permit Modifications to adapt 2011 ACGP to Alaska Conditions

Requirement	Location of Topic/Change		
	2010 CGP	Proposed 2011 CGP	2011 ACGP Fact Sheet
Reorganize the permit to progress step-by-step from determining eligibility, through application, requirements, planning, inspecting, monitoring, reporting and completion.		Throughout	
Treatment Chemicals	N/A	4.5	4.4.5
Winter Shutdown	N/A	4.10.1; 5.3.9	4.4.10
Winter Construction	N/A	4.10.2,	4.4.10
Late Winter Clearing	N/A	4.10.3	4.4.10
Storm Water Lead and Training of Employees	3.7	4.12	4.4.12
Inspection Frequency	4.1	6.1	4.6.1
Corrective Action Conditions	3.6	8.1	4.8.1
Deadlines for Corrective Actions	3.6	8.2	4.8.2

Table 2-2: Summary of Permit Modifications to adapt 2011 ACGP to Alaska Conditions

Requirement	Location of Topic/Change		
	2010 CGP	Proposed 2011 CGP	2011 ACGP Fact Sheet
Corrective Action Log	4.8.1.9	8.3	4.8.3
Corrective Action Report	N/A	8.4; 9.2	4.8.4
The following words or terms are added or revised: 2-yr, 24-hr storm event, Active Treatment System, Activity, Alaska Climate Regions, Applicant, Anionic Polyacrylamide, Buffer, Cationic Polyacrylamide, Coagulants, Common Plan of Development or Sale, Construction Activity, Construction and Development Rule, Discharge Point, Disturbed Area, Effluent, Electronic Notice of Intent, Equivalent Analysis Waiver, Erosion, Erosion Control Measures, Fall Freeze-up, Field Measurement, Fill-only Projects, Final Stabilization, Flocculants, Frozen Ground, Good Housekeeping Measures, Impaired Water, Linear Project, Maintenance Only Projects, Mean Annual Precipitation, Minimize, Nephelometric Turbidity Unit, New Source, New Source Performance Standards, Non-Storm Water Discharges, Notice of Intent, Notice of Termination, Operator, Outfall, Permitted Ongoing Project, Polymers, Qualified Person, Rain Gauge, Rainfall Erosivity Waiver, Reasonable, Reasonable Time(s), Receiving Water, Residential Subdivision, Rural Infrastructure Improvement Project, Rural Infrastructure Improvement Project Operator, Sampling Point, Sediment, Sedimentation, Sediment Control Measures, Sensitive Area, Sheet Flow, Site, Snowmelt, Spring Thaw, Steep Slopes, Storm Event, Storm Water Discharge Related Activities, Storm Water Pollution Prevention Plan, Support Activities, Temporary Stabilization, Treatment Chemicals, Turbidimeter, Turbidity, Water Quality Standard, Winter Construction, and Winter Shutdown.	Appendix A	Appendix C	

3.0 DESCRIPTION OF INDUSTRY AND RECEIVING WATERS

3.1 Construction and Development Industry

3.1.1 Industry Summary

Construction activity – measured by total spending, jobs, payroll, or gross product – has experienced strong growth in Alaska for more than a decade, driven largely by growing federal capital grants to the state, large federal agency capital budgets, oil and gas spending, and more recently, large state capital budgets (Goldsmith and Killorin, 2009). These large external sources of construction funds not only fuel public spending and oil patch spending but also give a general boost to the economy and add to the aggregate demand for new residential, commercial, and private infrastructure spending. Construction spending is one of the important contributors to overall economic activity in Alaska (Goldsmith and Killorin, 2009).

Construction spending generates activity in a number of industries that supply inputs to the construction process, such as sand, gravel, equipment, leasing, design, administration, construction finance, and management. The payrolls and profits from these activities support businesses in every community in the state. As this income is spent and circulates through local economies, it generates other jobs in businesses as diverse as restaurants, consumer products, appliances, and other sectors.

The total value of construction spending in Alaska in 2010 is estimated at nearly \$7 billion. Wage and salary employment in the construction industry has declined somewhat since 2006, but remains above the long-term average for the industry. See APPENDIX C for a detailed description of the construction industry. APPENDIX C, Table C-1 summarizes projected spending in the public and private sectors in Alaska during 2010.

Construction directly accounts for six percent of the total jobs in Alaska. Spin-off employment in trade, transportation, manufacturing, services, and other sectors produce jobs and related spending in these and other sectors. An assessment of the economic and/or social benefits of construction activities may consider a wide range of activities, such as:

- Linear projects – highways, pipelines, power lines, etc.
- Spatial development – residential subdivisions, commercial buildings, institutional facilities, infrastructure projects, etc.
- Urban projects – those listed above that occur within the jurisdictional area of an entity that owns a regulated MS4.
- Rural infrastructure development projects – those listed above that occur in rural Alaska.

3.1.2 Potential Industry Impact on Water Quality

C&D activity typically involves site selection and planning and land-disturbing tasks such as clearing, excavating, and grading. Disturbed soil, if not managed properly, can be easily washed off-site during storm events. Storm water discharges from construction activities may contain sediment which may cause an array of physical, chemical and biological impacts on receiving waters and potential violations of the turbidity water quality standard. In addition to sediment, a number of other pollutants (e.g., metals, organic compounds and nutrients) are preferentially absorbed or adsorbed onto mineral or organic particles found in fine sediment. These pollutants can cause an array of chemical and biological water quality impairments. The interconnected processes of erosion (e.g., detachment of soil particles by water), sediment transport, and delivery to receiving waters are the primary pathways for the addition of pollutants from C&D sites; construction sites; or sites) into aquatic systems.

A primary concern at most C&D sites is the erosion and transport process related to fine sediment because rain splash, rills (small channels typically less than one foot deep) and sheet flow or sheetwash (thin sheets of water flowing across a surface) encourage the detachment and transport of sediment to water bodies. Although streams and rivers naturally carry sediment loads, discharges associated with construction activity can elevate these loads to levels above those in undisturbed watersheds. In addition, discharges from C&D sites can increase the proportion of silt, clay and colloidal particles in receiving streams because these fine-grained particles may not be effectively managed by conventional erosion and sediment controls utilized at C&D sites that rely on simple settling. See Appendix C for a detailed

discussion of the potential impacts from construction activity on water quality and potential control measures to prevent these impacts.

3.1.3 General Alaskan Climatic Regions

Alaska has a wide range in climatic and geographic conditions that lead to streamflow and water quality in its receiving waters. This wide range in climatic and geographic conditions has an effect on the C&D industry and the potential for pollutants that may be discharged from a construction site. Because of this wide range DEC addresses storm water considerations in five broad climatic regions (ADEC, 2009) and specifically uses mean annual precipitation in the ACGP.

The climatic regions range from the moisture-laden, mountainous Gulf of Alaska coastal areas to the dry, relatively flat arctic coastal areas. Average annual precipitation ranges from more than 200 inches in southeastern Alaska to less than 10 inches in areas near the Arctic Ocean (Curran et. al., 2003). To address this climatic diversity, DEC has divided Alaska into five broad climatic regions for the purposes of the permit that loosely follow the precipitation zone classification found in the *Precipitation Frequency Atlas of the Western United States*, referred to as NOAA Technical Publication (TP)-47 (Miller 1963) and Shulski and Wendler (2007).

The **Coastal Region** contains the southeast panhandle, Gulf of Alaska, and extending west, including the Aleutian Islands and has a strong maritime influence. Consequently, it experiences high annual rainfall (60 to 150 inches), moderate to very high annual snowfall (40 to 200 inches), but a low ratio of snow to rain (2 to 20 percent).

The **Southcentral Region** includes communities around Cook Inlet, such as Anchorage, that experience moderate rainfall (15 to 25 inches), moderate to high snowfall (55 to 70 inches) and moderate split between snow to rain ratio (25 to 45 percent). The primary difference between this region and the Western Region is that winter temperatures are higher, and consequently, permafrost is largely absent from much of the region.

The **Western Region** includes the western coastal, lower Yukon and lower Kuskokwim areas that experience moderate rainfall (15 to 25 inches), moderate to high snowfall (50 to 80 inches) and a moderate split between snow to rain ratio (30 to 50 percent).

The **Interior Region** includes the a major portion of the Yukon River basin, Fairbanks and south to the Copper River Basin, and is typified by low annual rainfall (10 to 15 inches), moderate annual snowfall (40 to 70 inches) and a high ratio of snow to rain ratio (40 to 60 percent).

The **Arctic Region** includes the area north of the Brooks Range and northwest Alaska and is typified by extremely low annual rainfall (4 to 8 inches), low snowfall (20 to 30 inches) and a high snow to rain ratio (60 to 70 percent).

Other key climatic factors that affect snowmelt and storm water include the length of the growing season, the presence of permafrost, average minimum air temperatures for the coldest month, and soil drainage. Depending on the ratio of snowfall to annual rainfall, runoff will be generated at different times of year. For example, regions dominated by snowfall will have their peak runoff events in the

spring, whereas regions dominated by rainfall will experience peak runoff at other times of the year corresponding to maximum rainfall events. Each of these factors has a strong influence on the design of erosion and sediment control measures. The Department specifically tied inspection frequency to the mean annual precipitation of the nearest weather station to the site (see 4.6.1).

3.1.4 Summary of Projects Filed for Coverage under the 2010 CGP

Table 3-1 summarizes the projects permittees filed for coverage under the 2010 CGP from the time DEC assumed authority of the storm water program on November 1, 2009 through September 30, 2010. The summary is based on a review of the Notices of Intent (NOIs) submitted to DEC during this time period. The total number of projects that filed for coverage during this period is estimated at 353.

Table 3-1: Number of Projects Covered under the 2010 CGP for the Period November 1, 2009 to September 30, 2010.

Acreage	Alaskan Climatic Regions					Totals
	Coastal	South central	Interior	Western	Arctic	
> 20	4	15	19	5	3	46
10 to 19.9	2	26	12	4	--	44
5 to 9.9	5	36	23	3	--	67
1.0 to 4.9	43	80	37	14	1	175
< 1.0	6	10	3	1	1	21
Totals	60	167	94	27	5	353

Source: DEC eNOI database

The locations in Table 3-1 are based on the five climate zones described in the *Alaska Storm Water Guide* available on DEC's Storm Water website. Approximately 47% of the projects are in Southcentral with 17 % in coastal areas and 27% in the Interior. Approximately 15% of the projects are in rural Alaska off the main road system, and approximately 7% of the projects are military.

Approximately 200 operators in Alaska filed for coverage under the CGP in the period November 1, 2009 to September 30, 2010. Of the 200 operators, 15 operators filed five or more NOIs. Of these 15, the ADOT&PF filed for 40 of the projects and the U.S. Army Corps of Engineers filed for 15 of the projects. Ten private contractors filed five or more NOIs. The Alaska Native Tribal Health Consortium (ANTHC) filed nine NOIs. Four Alaska Native villages filed for coverage. Cities, boroughs, or their utilities filed for 29 projects. Approximately 180 operators filed four or fewer NOIs each.

3.2 Receiving Waters

3.2.1 Water Quality Standards

The protection of surface water occurs primarily through the development, adoption, and implementation of WQS and the use of the WQS in APDES permits. The WQS designate specific uses for which water quality must be protected. Alaska WQS designate seven uses for fresh waters (drinking

water; agriculture; aquaculture; industrial; contact recreation; non-contact recreation; and growth and propagation of fish, shellfish, other aquatic life, and wildlife) and 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).

To prevent unnecessary lowering of water quality, 40 CFR § 131.12 requires Alaska to develop and adopt an antidegradation policy, which the Department has done in 18 AAC 70.015. The general purpose of the antidegradation policy is to protect the quality of the state's waters. The Department conducts an antidegradation analysis to determine the permitted activities' potential affect on water quality and whether the permitted activities meet the antidegradation policy and Alaska's WQS. The basic purpose of the antidegradation policy is to maintain and protect existing water quality. Many waterbodies have natural water quality that is better than the criteria established by the WQS at 18 AAC 70. In such cases, a wastewater (or storm water) discharge could meet WQS but still cause some degradation of the waterbody. The following is a summary of the Antidegradation Analysis that is presented in Appendix C.

Alaska's water resources are extensive and the state is rich in water quantity, water quality, and aquatic resources – almost half of the total surface waters of the United States are located in Alaska (see APPENDIX C, Table C-4). Because of the state's size, sparse population, and remote character, the vast majority of Alaska's water resources are in pristine condition. More than 99.9% of Alaska's waters are considered unimpaired. The protection of surface water occurs primarily through the development, adoption, and implementation of WQS and the use of the WQS in APDES discharge permits. The WQS designate specific uses for which water quality must be protected.

3.2.2 Potential C&D Pollutants of the Receiving Waters

Storm water discharges can have highly variable levels of pollutants. EPA's Federal Register Notice states that turbidity levels in discharges from C&D sites may range from as low as 10-50 NTU to several thousand NTU. (Fed. Reg. Vol. 73, No. 230 p. 72572) Sediment from construction projects that discharge to the clear-water tributaries can have the greatest impact on the fisheries.

Sediment in water is generally considered in two broad categories. First, settleable solids rapidly settle out of the water and move downstream or down a ditch if rolled along the bottom or resuspended by currents. Second, suspended sediment remains in the water column due water turbulence, particle shape, and/or low specific gravity of individual particles. EPA selected turbidity as a measure of the fine-material fraction of suspended sediment for use in the C&D ELG as the pollutant to sample for at C&D sites. EPA defined turbidity as "an expression of the optical property that causes light to be scattered and absorbed rather than transmitted with no change in direction of flux level through the sample ... caused by suspended and colloidal matter such as clay, silt, finely divided organic and inorganic matter, and plankton and other microscopic organisms." One unit of measure of turbidity is the NTU. The NTU is based on the use of nephelometer, an instrument that measures the amount of light scattered by a water sample at 90° to the path of incident light. This measurement is calibrated against the scattering of light in a standard suspension of formazin polymer and is reported in NTU.

Increases in turbidity in streams and rivers from timber harvest, placer mining, or road construction reduces light penetration and are associated with decreased production of plant material (primary production), decreased abundance of fish food organisms (secondary production), and ultimately with decreased production and abundance of fish (Lloyd, 1986). The fact that turbid waters produce fewer fish may, at first glance, appear inconsistent with knowledge that large, turbid rivers such as the Copper, Susitna, Kuskokwim, Kenai, and Yukon Rivers, contain large salmon runs. The way fish use the rivers and the tributaries is an important factor in understanding the potential impact of turbid storm water runoff on fish in turbid rivers and streams. Pacific salmon and other anadromous fish migrate from the ocean to fresh water to spawn. As the fish journey up the turbid rivers they seek out the clear-water tributaries, sloughs, and areas of groundwater upwelling to deposit their eggs. Juvenile fish that hatch from these eggs generally remain in clear-water habitats for periods ranging from days to years and then descend through the turbid rivers to reach the ocean

Turbidity in Alaska's streams and rivers ranges from extremely low values of less than 1 NTU in clear-water drainages to intermediate levels of 50 NTU, to naturally high levels of 50-4,000 NTU in several major rivers (Lloyd, 1986). Sampling at 46 sites in wadeable streams in the Tanana River basin found a range in turbidity from 0.1 to 716 NTU, with a median value of 1.7 NTU. (Rinella, et.al., 2009)

Studies of sediment from placer mines in Alaska indicate that turbidity has an impact on the fishery. EPA, in developing the ELG, relied on information on treatment of sediment discharged from Alaskan placer mines. EPA did not use construction industry data specific to Alaska in the analysis to develop the ELG. No detailed studies have been conducted of the turbidity values in discharges from C&D sites in Alaska.

4.0 PERMIT CONDITIONS

The following section of the fact sheet is written in an informal style and follows the structure of the ACGP but does not reflect verbatim the actual language used in the permit. 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 ACGP language, the permittee must comply with the ACGP as written. The number in parentheses following the fact sheet section headers refers to the Part of the permit.

4.1 Coverage under the permit (Part 1)

4.1.1 Introduction (Part 1.1)

The ACGP authorizes storm water discharges from large and small construction-related activities that result in a total land disturbance of equal to or greater than one acre, where those discharges enter waters of the U.S. or a Municipal Separate Storm Sewer System (MS4). DEC is also making the permit available, consistent with 40 CFR §122.26(b)(15)(ii), for storm water discharges from any other construction activity designated by DEC based on the potential for contribution to a violation of a WQS or for significant contribution of pollutants to waters of the U.S.

The goal of the permit is to reduce or eliminate storm water pollution from construction activity through implementation of appropriate control measures. As used in the permit and fact sheet, the term "control

measure” refers to any BMP or other method used to prevent or reduce the discharge of pollutants to waters of the U.S.

4.1.2 Person(s) Responsible for Obtaining Coverage under this permit (Part 1.2)

Any person desiring coverage under the permit as the permittee must submit an NOI to DEC in order for storm water discharges from the construction site to be authorized.

The permit describes that any person(s) who operate a “facility” or “activity” (as defined in Appendix C of the permit) that discharges storm water from large and small construction activities are subject to the conditions set forth in the permit and are required to obtain coverage. The permit uses the terms “permittee” or “operator” to identify the person(s) once coverage is authorized under the permit by the Department (see Part 2.2). In the context of storm water associated with construction activity the “operator” means any person associated with a construction project who meets either of the following two criteria:

1. The person has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or
2. The person has day-to-day operational control of those activities at a site which are necessary to ensure compliance with a SWPPP for the site or other permit conditions (e.g., the person is authorized to direct workers at a site to carry out activities required by the SWPPP or comply with other permit conditions).

Any person with operational control over either the construction plans and specifications, including the ability to make modifications to those plans and specifications (e.g., owner or developer of project), or with day-to-day operational control of those activities at a project which are necessary to ensure compliance with a storm water pollution prevention plan (SWPPP) for the site or other permit conditions (e.g., general contractor), must apply for coverage under this permit. Where your activity is part of a larger common plan of development or sale, you are only responsible for the portions of the project for which you meet the definition of “operator.”

In many instances, there may be more than one party at a site performing tasks related to “operational control” and hence, more than one operator must submit an NOI. Depending on the site and the relationship between the parties (e.g., owner, developer, general contractor), there can either be a single party acting as site operator and consequently be responsible for obtaining permit coverage, or there can be two or more operators all needing permit coverage. Exactly who is considered an operator is largely controlled by how the “owner” of the project chooses to structure the contracts with the “contractors” hired to design and/or build the project. The following are three general operator scenarios (variations on any of these three are possible, especially as the number of “owners” and contractors increases):

- “Owner” as sole permittee. The property owner designs the structures for the site, develops and implements the SWPPP, and serves as general contractor (or has an on-site representative with full authority to direct day-to-day operations). The “Owner” is the only party that needs permit coverage, in which case everyone else on the site may be considered subcontractors and not need permit coverage.
- “Contractor” as sole permittee. The property owner hires one company (i.e., a contractor) to design the project and oversee all aspects of the construction project, including preparation and

implementation of the SWPPP and compliance with the permit (e.g., a “turnkey” project). Here, the contractor would likely be the only party needing a permit. For example, that an individual having a personal residence built for his own use (e.g., not those to be sold for profit or used as rental property) generally would not be considered an operator under this permit. DEC believes that in this scenario the general contractor for the owner, being a professional in the building industry, is better equipped to meet the requirements of both applying for permit coverage and developing and properly implementing a SWPPP and therefore is the entity that must apply for the permit coverage. However, individuals that meet the definition of “operator” will also require permit coverage in those instances where they perform general contracting duties for construction of their personal residences.

- “Owner and contractor” as co-permittees. The owner retains control over any changes to site plans, SWPPPs, or storm water conveyance or control designs; but the contractor is responsible for overseeing actual earth disturbing activities and daily implementation of SWPPP and other permit conditions. In this case, which is a common scenario, both parties need to apply for coverage.

However, a person is probably not an operator and subsequently does not need permit coverage if:

- You are a subcontractor hired by, and under the supervision of, the owner or a general contractor (i.e., if the contractor directs your activities on-site, you probably are not an operator); or
- Your activities on site result in earth disturbance and you are not legally a subcontractor, but a SWPPP specifically identifies someone other than you (or your subcontractor) as the party having operational control to address the impacts your activities may have on storm water quality (i.e., another operator has assumed responsibility for the impacts of your construction activities). DEC anticipates that this will be the case for many, if not most, utility service line installations.

In addition, for purposes of this permit and determining who is an operator, “owner” refers to the party that owns the structure being built or the property where the construction activities take place. Ownership of the structure or land where construction is occurring does not necessarily imply the property owner is an operator (e.g., a landowner whose property is being disturbed by construction of a gas pipeline) for purposes of coverage under this permit. Likewise, if the erection of a structure has been contracted for, but possession of the title or lease to the land or structure is not to occur until after construction, the would-be owner may not be considered an operator (e.g., having a house built by a residential homebuilder).

Permit Area (Part 1.3)

The ACGP provides coverage within the State of Alaska, except the Indian Reservation of Metlakatla and the Denali National Park and Preserve. EPA retains authority to permit discharges in the Metlakatla Reservation and Denali National Park and Preserve. Operators in these areas must apply for permit coverage through EPA.

4.1.3 Eligibility (Part 1.4)

Part 1.4 of the permit describes those requirements that are a pre-condition to obtaining coverage under the permit. Specifically, only construction activities in the areas covered by the permit, described in Part 1.3 can be covered by the permit. As such, if an applicant is not eligible for coverage under the permit, but files an NOI requesting coverage and commences to discharge without authorization, those discharges are considered to be unpermitted and in violation of the CWA. However, once eligibility has been attained, if the permittee does not comply with the requirements of the permit, the permittee may be in violation of the permit for otherwise eligible discharges.

Allowable Storm Water Discharges (Part 1.4.1)

Part 1.4.1 of the permit lists the types of storm water discharges from large and small construction activities that are allowed under the permit. Allowable discharges include:

- Storm water discharges associated with construction activities from either large or small construction sites (including storm water discharges from permittees disturbing less than one acre but are part of a larger common plan of development or sale that, combined, disturbs one acre or more);
- Storm water discharges from sites disturbing less than one acre, but designated by DEC as needing coverage under the CGP;
- Storm water discharges from construction site support activities; and
- Any discharge authorized by a different APDES permit commingled with discharges authorized by the permit and/or a discharge that does not require APDES permit authorization.

Additionally, activities that occur in support of the construction activity are covered under the permit. Specifically, the permit authorizes discharges from construction support activities (e.g., concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, borrow areas, etc.). Local project(s) with which a permittee is currently involved (e.g., a concrete batch plant providing concrete to several different highway projects in the same city or borough) are also allowed under the permit. Authorization of this discharge is contingent upon (1) the support activity is directly related to the construction project; (2) the support activity is not a commercial operation serving multiple, unrelated construction projects by different permittees; (3) the support activity is not operating beyond the completion of the last related construction project it serves; and (4) appropriate control measures are identified in the SWPPP covering the discharges from the support activity areas. DEC clarifies that the term “commercial operation” as used above, and in Part 1.4.1 of the permit, refers to a concrete or asphalt batch plant, equipment staging yard, or material storage area that does not serve multiple unrelated construction projects and not operating beyond the completion of the last related construction project it serves, except as noted in Part 2.8.5 of the permit.

Allowable Non-Storm Water Discharges (Part 1.4.2)

The permit conditionally allows certain non-storm water discharges associated with construction activity, provided that the non-storm water component is in compliance with the SWPPP requirements

in Part 5.3.9 of the permit. Allowable non-storm water discharges include those listed in Part 1.4.2 of the permit.

DEC added new language to clarify that discharges of ground water and spring water must be uncontaminated and non-turbid for the discharge to be allowed under the permit. The use of the word uncontaminated in this context means it is not ground water from a contaminated site listed in the DEC contaminated sites database. Additionally, DEC clarifies that dewatering waters must be eligible consistent with Part 4.3 of the permit and must be treated by appropriate controls, in accordance with Part 4.3.

Limitations on Coverage (Part 1.4.3)

Part 1.4.3 of the permit lists the types of discharges that are not authorized for coverage by the permit. Unauthorized discharges include:

- a. *Post-Construction Discharges (Part 1.4.3.1)*. Post-construction storm water discharges are discharges that originate from a project after construction activities have ceased, from a site that has achieved final stabilization, or for a project where a Notice of Termination has been submitted. If there will be a discharge of storm water associated with industrial activity, or some other regulated discharge from the completed project (e.g., wastewater from a newly-constructed chemical plant), coverage under another permit(s) must be obtained for those discharges.
- b. *Discharges that will cause, have the reasonable potential to cause, or contribute to an excursion above any applicable water quality standards (Part 1.4.3.2)*. DEC may determine that the applicant's storm water discharges will cause, have reasonable potential to cause, or contribute to an excursion above any applicable water quality standard in accordance with Part 3.1. If such a determination is made, DEC may require the permittee to take actions as required in Part 2.8 of the permit.
- c. *Discharges into Receiving Waters with an Approved or Established Total Maximum Daily Load (TMDL) Analysis (Part 1.4.3.3)*. Storm water discharges into receiving waters with an approved or established TMDL are prohibited, unless the discharges are in accordance with Part 3.2.
- d. *Discharges Mixed With Non-Storm Water (Part 1.4.3.4)*. Storm water discharges that are mixed with non-storm water sources, other than those identified in and complying with the permit are not authorized for coverage under the permit. Non-storm water discharges that are authorized under a different APDES permit may be commingled with discharges authorized under the permit.
- e. *Discharges Covered by Another Permit (Part 1.4.3.5)*. Storm water discharges associated with construction activity that is covered under an individual permit or discharges required to be covered under an alternative general permit are not authorized for coverage under the permit.
- f. *Discharges from Dredged or Fill Material (Part 1.4.3.6)*. Storm water discharges from dredged or fill material into waters of the United States requiring federal authorization under a CWA Section 404 permit are not authorized for coverage under the permit. DEC added this provision to clarify that discharges from dredged or fill material conducted under a CWA Section 404 permit do not need coverage under the ACGP.

- g. *Discharges to the Land or Groundwater (Part 1.4.3.7)*. Storm water discharges to the land or ground water from a nondomestic wastewater treatment works using permanent storm water management controls are not required to obtain coverage under the ACGP, but must be authorized under a state permit for the discharge.

Additional Discussion

DEC wants to clarify the types of activities and/or projects that are exempt from obtaining permit coverage under the permit. The activities and/or projects that are exempt from permit coverage include construction sites that disturb less than one acre (unless required by DEC) and routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility. Discharges from sites that have a waiver in accordance with Part 1.5 are also exempt.

Additionally, DEC further clarifies that storm water discharges associated with routine maintenance including activities to maintain original line and grade, hydraulic capacity, or original purpose of the facility do not need permit coverage. DEC notes that if a construction activity involves the disturbance of less than five acres of land and is only performed to maintain its original purpose, then an APDES permit is not required to discharge storm water from the construction activity. Such activities include replacing structures that are due for and require maintenance (e.g., replacing a road without adding any lanes, replacing a bridge without widening it, or replacing a culvert with the same size and composition). In order to qualify as a routine maintenance activity, the land disturbance should not go beyond the footprint of the previous structure. Re-paving a road surface with new asphalt is not considered a construction activity unless the activity exposes soil outside the original road prism to storm water. DEC also clarifies that permit coverage is not required for ice roads.

DEC wants to clarify that construction of ice roads over frozen tundra during the winter in areas of the state dominated by permafrost are excluded from permit coverage. Cutting of trees and brush while the ground is frozen, without disturbing the vegetative mat, for the purpose clearing prior to the U.S. Fish & Wildlife Service “Recommended Time Periods for Avoiding Vegetation Clearing” for a project that otherwise would not need coverage under this permit. (see Part 4.10.3)

DEC wants to clarify that individuals who buy lots in subdivisions in Alaska where the developer sells lots to individuals who then build houses over a period of time that is spread out relative to the initial platting and initial road building for the subdivision is not considered part of the “common plan of development” of the initial subdivision. This means an owner of an individual lot in a residential subdivision where the initial developer of the subdivision sought and received coverage under an NOI, completed all permit requirements, and filed an NOI for the subdivision is not required to obtain coverage under this permit for the individual lot. This is the case where at least one calendar year has passed since the initial developer filed the NOI, the lot owner intends to reside in a house on the lot, and the lot owner is not a developer or contractor building the house for speculative resale within two years. These individual homeowners do not have to develop a SWPPP or file an NOI if they do not disturb more than one acre of land.

Emergency Repairs or Reconstruction of a Facility (Part 1.4.4)

DEC added a part for projects that are to repair facilities affected by disasters (such as floods, fires, earthquakes) that need to make repairs in an emergency time frame. In the event of a disaster that causes the need for emergency repairs to a facility (e.g. roads, airports, harbors, etc.), a person may commence repairs without filing for coverage under this permit. A person planning reconstruction of a facility must file for coverage within thirty (30) calendar days following the commencement of construction activities. During the thirty (30) days the operator must comply with the terms and conditions of this permit to the extent practicable, depending on the disaster.

4.1.4 Waivers for Certain Small Construction Activities (Part 1.5)

Part 1.5 recognizes that, for small construction activities, the Phase II storm water regulations established a waiver for permit coverage under several circumstances. The Phase II rule enables DEC to waive small construction sites that do not have adverse water quality impacts. To receive a waiver, the applicant of a small construction activity must certify to a low predicted rainfall erosivity or lack of water quality impacts.

A small construction activity can qualify for the rainfall erosivity waiver when, for the period of construction activity, the value of the rainfall erosivity factor (R-Factor) is less than 5. If the construction activity extends past the dates specified in the waiver certification, the applicant must recalculate the waiver using the original start date and a new ending date. If the R-Factor is still under 5, a new waiver certification form must be submitted. If the recalculated R-Factor is greater than 5, an NOI must be submitted prior to the end of the waiver period for the applicant to be covered by the permit. Details of procedures for determining eligibility for the rainfall erosivity waiver are provided in Appendix D of the permit and Section 4.12 of this fact sheet.

A determination that storm water controls are not necessary may also be based on a total maximum daily load (TMDL) approved or established by EPA that addresses the pollutant(s) of concern or, for non-impaired waters that do not require TMDLs, an equivalent analysis that determines allocations for small construction sites for the pollutant(s) of concern, or that determines that such allocations are not needed to protect water quality based on consideration of existing in-stream concentrations, expected growth in pollutant contributions from all sources, and a margin of safety. The applicant must certify that the construction activity and the drainage area are addressed by the TMDL or equivalent analysis. Details of procedures for determining eligibility for these waivers are provided in Appendix D of the permit and Section 4.12 of this fact sheet.

4.2 Authorizations under this General Permit (Part 2.0)

4.2.1 Submittal Requirements Prior to Construction (Part 2.1)

Depending on the type and location of the project, the operator may be required to submit information to the Department and/or an MS4 operator for review prior to filing the NOI or the commencement of construction activities. The following is a summary of the information to be submitted to each agency by project type and area of jurisdiction.

Permanent Storm Water Management Controls (Part 2.1.1)

An operator proposing Permanent Storm Water Management Controls in accordance with Part 4.9 where the project is located outside the area of an APDES permitted MS4 must submit information required by the Department at least thirty (30) calendar days prior to filing the NOI and must receive the Department's written reply prior to the commencement of construction.

Permanent Storm Water Management Controls (Part 2.1.2)

An operator proposing Permanent Storm Water Management Controls in accordance with Part 4.9 where the project is located inside the area of an APDES permitted MS4 must submit information required by the MS4 operator prior to filing the NOI for the project and must receive the MS4 operator's approval prior to the commencement of construction. Addresses are provided for the respective APDES permitted MS4 operator in effect at the date this permit went into effect. Check with the respective MS4 operator for their particular submittal requirements.

SWPPP Submittal to DEC (Part 2.1.3)

An operator developing a project that disturbs five or more acres of land where the project is located outside the area of an APDES permitted MS4 must submit a copy of the SWPPP to the Department at the time the NOI is filed (electronic attachments to the eNOI is preferred) or within seven (7) calendar days of filing the NOI paper form.

SWPPP Submittal to MS4 (Part 2.1.4)

An operator developing a project that is located inside the area of an APDES permitted MS4 must submit a copy of the SWPPP to the respective local government at the addresses listed in Part 2.1.2 prior to the time the NOI is filed with the Department. Check with the respective MS4 operator for their specific submittal requirements.

Site-Specific Antidegradation Analysis (Part 2.1.5)

An operator for a construction activity, that may discharge to a high quality water that constitutes an outstanding national resource, such as a water of a national or state park or wildlife refuge, or a water of exceptional recreational or ecological significance (as described in Appendix C), must contact the Department at the address in Part 2.3 thirty (30) calendar days prior to the planned start of construction activities to discuss additional submittal requirements. These additional submittal requirements may include the following:

1. Develop a site-specific antidegradation analysis using the DEC Policy *Interim Antidegradation Implementation Methods* dated July 14, 2010 or a subsequent version;
2. Submit the antidegradation analysis and the storm water pollution prevention plan to the Department at least fourteen (14) calendar days prior to filing the NOI for the project; and
3. Receive the Department's written reply according to Part 2.5 prior to commencement of construction.

Active Treatment System (Part 2.1.6)

A permittee proposing to use an active treatment system in accordance with Part 4.5.4.3 must submit information required by the Department at the address given in Part 2.3 at least fourteen (14) days prior to use of the active treatment system at the site.

4.2.2 How to Obtain Authorization (Part 2.2)

Part 2.2 of the permit specifies that to be covered under the CGP as a permittee, the operator must meet the requirements in Part 2.2.1, and submit to DEC a complete and accurate Notice of Intent (NOI) prior to commencing construction (see 18 AAC 83.210). Submission of a complete and accurate NOI eliminates the need to apply for an individual permit for a regulated discharge, unless DEC specifically notifies the applicant that an individual permit application must be submitted. DEC also clarifies that authorization is not valid if the NOI upon which authorization is based is incomplete or inaccurate, or if the discharge is not eligible for permit coverage. DEC has included these provisions in the ACGP to establish the fundamental principle that discharges of storm water are not authorized until permit coverage is obtained, and that permit coverage is obtained for the ACGP through the submission of a complete and accurate NOI.

A complete NOI shall include the following information. If the information is incorrect or is missing the NOI will be deemed incomplete and permit authorization will not be granted. The operator information includes: organization name, contact person, complete mailing address, telephone number and fax and email address if available. The billing contact information includes: organization name, contact person, complete mailing address, telephone number and fax and email address if available. If the billing contact information is the same as the operator information, check the box on the NOI indicating that it is the same. The project/site information includes: project/site name, a physical location, the city and zip code, the borough, latitude and longitude, how the latitude and longitude were determined, and estimated project start date and completion date, and an estimate of the area to be disturbed. The SWPPP information includes: acknowledgement of whether a SWPPP has been prepared in advance of filing the NOI, the location of the SWPPP- either with the operator, the project/site, or other location the name of SWPPP contact if different than the operator contact. The discharge information includes: the name(s) of the waterbodies to which the project discharges, does the project/site discharge to a waterbody that is impaired or have a TMDL, if it does then is the discharge consistent with the assumptions and requirements of the TMDL. The treatment chemical information for those projects that use treatments includes: the name(s) of the polymers, flocculants, or other treatment chemicals used. The signatory information in compliance with Appendix A, Part 1.12.

4.2.3 How to Submit an NOI (Part 2.3)

Part 2.2 requires operators to either use DEC's electronic NOI system (accessible at <http://www.ADEC.state.ak.us/water/wnpssc/stormwater/stormwater.htm>) or use a paper form (included at this website) and then submit that paper form to the appropriate address.

DEC encourages operators to submit an NOI via the electronic filing system and emphasizes that filing via the electronic filing system will be the quickest way to obtain permit coverage because the system

will automatically process the information, disallow incomplete submissions, and flag certain entries as possibly incorrect.

4.2.4 Submission Deadlines (Part 2.4)

Part 2.4 specifies the deadline for submitting a NOI for permit coverage. These deadlines vary depending on whether the construction project can be classified as a new project, a permitted ongoing project, or an unpermitted ongoing project.

New Projects (Part 2.4.1). A “new project” is a construction project that commences after the effective date of the permit. The operator of a new project must submit an NOI form prior to commencement of construction activities. The operator can submit either a paper copy to the Department or file the NOI electronically. In accordance with 40 CFR § 450.11(a), a new project is considered a “new source.”

Permitted Ongoing Projects (Part 2.4.2). A “permitted ongoing project” is a construction project that commenced prior to the effective date of the permit and which received permit coverage under a previous effective permit, such as the EPA 2008 CGP or the DEC 2010 CGP. A permittee of an ongoing project, who received authorization under a previous general permit, is eligible for coverage under the 2011 ACGP and must continue to comply with the terms and conditions of the previous permit until the permittee has been granted coverage under the 2011 ACGP or an alternative APDES permit. To obtain coverage under the 2011 ACGP, the permittee must update their SWPPP as necessary to comply with the requirements in Part 5.0 of the 2011 ACGP and submit a new NOI within one hundred fifty (150) days after the effective date of the permit.

The 2011 ACGP is the fifth construction general permit for Alaska in the past eight years. Table 4-1 provides a summary of the CGP that have been in effect since 2003. The following examples are to illustrate the information in Table 4-1.

1. A permittee of a project with a start date of May 2009 and a completion date of August 2010 would have submitted an NOI in the June 30, 2008 to October 30, 2009 time period. The NOI would have been filed with EPA, because EPA was the permitting authority at that time. The CGP in effect was the EPA 2008 CGP. In November 2009 the permitting authority switched to DEC. The NOT for this example project would have been submitted to DEC.
2. A permittee of a project with a start date of May 2010 and a completion date of August 2011 would have submitted an NOI in the January 31, 2010 to June 30, 2010 time period. The NOI would have been filed with DEC, because DEC was the permitting authority at that time. The CGP in effect was the DEC 2010 CGP. The project would be considered a “permitted ongoing project” under the DEC 2011 ACGP. Because the permittee would file an NOT within 150 days of the DEC 2011 ACGP going into effect they would not have to file a new NOI or update the SWPPP. The NOT for this example project would be submitted to DEC.

Table 4-1: Summary of CGP Effective Dates and NPDES Permitting Authority

Time period in which Permit was/is in Effect	July 1, 2003 to June 29, 2008	June 30, 2008 to October 30, 2009	October 31, 2009 to January 30, 2010	January 31, 2010 to June 30, 2011	Spring 2011 to Spring 2016
Short Name of Permit	EPA 2003 CGP	EPA 2008 CGP	DEC 2009 CGP	DEC 2010 CGP	DEC 2011 ACGP
CGP in effect (Permit that should be included in the SWPPP)	EPA 2003	EPA 2008	EPA 2008 w/ DEC Cover Page	DEC 2010	DEC 2011
The Permitting Authority during the time period	EPA	EPA	DEC	DEC	DEC
The NOI was/should be submitted to	EPA	EPA	DEC	DEC	DEC
Current permitting Authority the NOT should be submitted to	DEC	DEC	DEC	DEC	DEC
Revised expiration date of working under an NOI filed under the original permit	June 30, 2011	June 30, 2011	June 30, 2011	June 30, 2011	To Be Determined
Must file New NOI under the DEC 2011 ACGP	Yes	Yes	Yes	Yes	Yes
Must Update SWPPP to meet the requirements of the DEC 2011 ACGP	Yes	Yes	Yes	Yes	Yes

If the permittee is eligible to submit an NOI (e.g., the construction activities are completed and the site is finally stabilized) within one hundred fifty (150) days after the effective date of the permit, a new NOI is not required to be submitted provided that the NOI is submitted consistent with the requirements of the previous permit.

Change of Permittee for a Permitted Ongoing Project (Part 2.4.3). For permitted ongoing projects, or a portion of the permitted ongoing project, where the permittee will change due to a transfer of ownership (e.g., a construction company is purchased by another company during the course of an ongoing project), or projects where a secondary permittee is added after the initial NOI submittal and SWPPP development, the new applicant must submit either a paper or an electronic NOI. DEC's acknowledgement of receipt of the permittees complete and paid for NOI is posted on DEC's APDES storm water website for coverage to be considered in effect. This will include a seven-day waiting period before assuming operational control of the project or portion thereof.

Unpermitted Ongoing Project (Part 2.4.4). An "unpermitted ongoing project" is a construction project that commenced without properly obtaining permit coverage. DEC is requiring construction projects that commenced operation prior to the effective date of the permit, but that did not receive authorization to discharge under the EPA or DEC CGP, to immediately submit an NOI for permit coverage,

immediately. In addition, the permit requires the applicant to develop and/or update the SWPPP prior to the submission of the NOI such that the SWPPP is consistent with the permit at the time of NOI submission. DEC added this deadline to minimize the time discharges from the project will continue to be unauthorized.

Late Notification (Part 2.4.5). If an operator submits an NOI after construction activity has begun, the applicant is authorized for discharges consistent with the authorization to discharge date in Part 2.5, but in no case fewer than seven (7) days after submission of an NOI. DEC reserves the right to seek enforcement action for any unpermitted discharges or permit non-compliance that occurs between the time construction begins and the discharge authorization is issued.

4.2.5 Date of Authorization to Begin Discharge (Part 2.5)

The permit is considered to be issued seven calendar days after DEC's acknowledgement of receipt of the permittees complete and paid for NOI is posted on DEC's APDES website. The permit will remain in effect until midnight on the day the permit expires. A permittee is authorized to discharge storm water from construction activities under the terms and conditions of the permit seven days after DEC's acknowledgement of receipt that a complete NOI is posted on DEC's website <http://www.ADEC.state.ak.us/water/wnpssc/stormwater/stormwater.htm>, unless DEC notifies the applicant that authorization has been delayed.

The seven-day waiting period provides DEC an opportunity to evaluate NOIs and possibly delay authorization for potential permit eligibility concerns (see Part 1.4) as part of a commitment to increase oversight of permittees. During the seven-day NOI review period, DEC may notify the operator that additional action must be taken before discharge authorization is obtained, based on concerns regarding eligibility as described in Part 1.4. All notifications of delays will be posted on DEC's website by the seventh day and followed by a mailed notification. For non-eNOI submissions, DEC cannot guarantee the NOI will be processed as quickly as the eNOI. This lag time may be on the order of several weeks. DEC strongly encourages applicants to use the eNOI systems to speed processing. DEC will attempt to contact the NOI submitter directly with information about delays as soon as possible (by telephone, fax, or email), in addition to the database posting, but it is the applicant's responsibility to ensure that authorization has been granted.

4.2.6 Continuation of the Expired General Permit (Part 2.6)

Actions to be taken depend on the nature of the eligibility concerns (e.g. water quality or impaired receiving waters). Additional actions may include a request to review the SWPPP; a requirement to revise the SWPPP; or required to submit an application for an individual permit or coverage under an alternative APDES general permit, as per Part 2.8. For sake of expediency in obtaining coverage, any requests should be complied with as soon as possible. When an applicant is notified that additional actions must be taken, a discharge is not authorized until notified of such by DEC.

If the permit is not reissued or replaced (or revoked or terminated) prior to its expiration date, then an existing permittee will be covered under an administrative continuance, in accordance with 18 AAC 83.155. If coverage is provided to a permittee prior to the expiration date of the permit, the permittee is authorized to discharge under the permit until the earliest of the following occurs: (1) the authorization

for coverage under a reissuance or replacement of the permit, following timely and appropriate submittal of a complete NOI; (2) submittal of a Notice of Termination; (3) issuance or denial of an individual permit for the permittee's discharge; or (4) a formal permit decision by DEC not to reissue the general permit, at which time DEC will identify a reasonable time period for covered permittees to seek coverage under an alternative general permit or an individual permit.

However, should the permit expire prior to a replacement permit being issued, the existing permit will only cover those permittees authorized to discharge under the administratively extended general permit. DEC does not have the authority to provide coverage to new construction projects after the expiration date of the permit.

4.2.7 Submittal of a Modification to Original NOI (Part 2.7)

A permittee must file an NOI modification form with DEC to update or correct information on the original NOI (e.g. start or end dates, small changes in number of acres to be disturbed or location of storm water pollution prevention plan(SWPPP) using a paper form available on DEC's website <http://dec.alaska.gov/water/wnpspc/stormwater/index.htm>. The permittee must submit a Notice of Termination and then file a new NOI instead of submitting a modification form when the operator has changed, the original NOI indicated that the disturbed area was between one and five acres and the project will now disturb more than five acres, or the original project disturbed more than five acres and the size of the project area has increased by more than 50%. No general permit authorization fee is required when submitting an NOI modification. Submit the paper form to the department at the address in the permit.

4.2.8 Requiring Coverage Under an Individual Permit or an Alternative General Permit (Part 2.8)

Part 2.8.1 clarifies that DEC may require any permittee covered under this general permit to apply for and/or obtain coverage under an APDES individual permit, or coverage under an alternative APDES general permit, based upon a number of different situations (e.g., applicable numeric effluent limitations resulting from a TMDL, or a determination that the permittee has the potential to cause or contribute to a water quality standard excursion). If DEC determines that APDES individual permit coverage or an alternative APDES general permit coverage is necessary, written notification of this required change in permit coverage, including the reason for this decision, an application form, and a deadline for filing the application, will be provided to the permittee. DEC may grant additional time to submit the application upon request. If the permittee is covered under the permit and fails to submit in a timely manner an individual or alternative general permit application as required by DEC, then the coverage under the permit is automatically terminated at the end of the day specified by DEC as the deadline for application submittal.

Additionally, Part 2.8.2 clarifies that any large or small construction activity may apply for an APDES individual permit or alternative APDES general permit rather than apply for coverage under this general permit, in accordance with 18 AAC 83.215. An individual or alternative general permit application must be submitted for coverage under such a permit with reasoning supporting the request within 90 days of the effective date of this general permit. If such reasoning is considered adequate by DEC, the request

will be granted and an APDES individual permit will be issued or authorization to discharge under an alternative APDES general permit will be provided.

If an APDES individual permit is issued to a large or small construction activity (as an entity that is otherwise subject to the permit), or is authorized to discharge under an alternative APDES general permit, the applicability of the general permit is automatically terminated on the effective date of the individual permit or the date of authorization of coverage under the alternative general permit, whichever the case may be. If a large or small construction activity (as an entity that is otherwise subject to the permit) is denied an APDES individual permit or an alternative APDES general permit, the applicability of the general permit is automatically terminated on the date of such denial, unless otherwise specified by DEC.

Part 2.8.4 addresses the fact that the NOI and SWPPP submittal requirements for hardrock mines are now included in the “Multi-Sector General Permit for Storm Water Discharges Associated with Industrial Activity (MSGP).” Therefore, operators of a hardrock mine cannot file for coverage under the ACGP and must file for coverage under the MSGP.

4.3 Compliance with Standards and Limits (Part 3.0)

4.3.1 Requirements for all Projects (Part 3.1)

APDES regulations at 18 AAC 83.435 state that permits must contain conditions to achieve Water Quality Standards (WQS). Unlike an individual permit that includes requirements tailored to site-specific considerations, a general permit, while tailored to specific industrial processes or types of discharges (e.g., offshore oil and gas or storm water), does not contain site-specific requirements that address the water quality conditions of the waters receiving the discharge. Therefore, a general permit relies on permittees to certify that they meet the eligibility conditions and implement requirements that will ensure compliance with the conditions of the permit. The permit requirements in Part 3.1.1 are intended to ensure that those seeking coverage under this general permit select, install, implement, and maintain control measures at their construction site that will be adequate and sufficient to meet WQS for all pollutants of concern.

DEC does not typically review information and data about a specific discharge prior to authorization under the CGP. Instead, a permittee determines whether its discharges are eligible for authorization under the general permit and, if so, certifies to that determination and implements control measures to achieve the protections described in Part 4.0 of the permit. The permit language is included to ensure that those seeking coverage under the permit select, install, implement, and maintain control measures at their construction site that will be adequate and sufficient to meet WQS for all pollutants of concern. Based on EPA’s 1996 Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits (EPA 833-D-96-001), DEC determined that control measures, when properly selected, installed, implemented, and maintained do provide effluent quality that can meet WQS. However, because proper selection, installation, implementation, and maintenance are so critical to the success of control measures the effectiveness of simply “installing control measures” at a construction site will often not provide adequate water quality protection. Unless notified otherwise by DEC, compliance with the permit requirement will be assumed to be as stringent as necessary to ensure that discharges do not cause or contribute to an excursion above any applicable WQS.

Part 3.1.2 of the permit specifies that DEC may determine that the permittee's discharge will cause, have reasonable potential to cause, or contribute to an excursion above WQS, including failure to protect and maintain existing designated uses of receiving water. Where such a determination is made, DEC may require the permittee to take one of three actions (Part 3.1.3):

- Take corrective actions and modify storm water controls to adequately address the identified water quality concerns;
- Submit to DEC valid and verifiable data and information that are representative of ambient conditions and indicate that the receiving water is attaining WQS; or
- Cease discharges from the construction activity and apply for an individual permit.

If additional control measures are required, DEC expects the permittee to follow in-good-faith and document the process for control measure selection, installation, implementation and maintenance, and cooperate to eliminate the identified problem within a time frame stipulated by DEC.

4.3.2 Discharges to Impaired Water Body (Part 3.2)

Part 3.2 of the permit requires a permittee to determine whether an approved or established TMDL exists that specifically addresses its discharge and if so, implement measures consistent with the assumptions and requirements of that approved TMDL, including any specific wasteload allocation that has been established that would apply to the discharge. To make such a determination, a permittee can access DEC's TMDL website at http://www.DEC.state.ak.us/water/tmdl/tmdl_index.htm. See Table 4-2 for the 2010 list. Part 3.2 of the permit requires the permittee to implement control measures necessary to be consistent with the assumptions and requirements of such TMDLs. In certain instances, the TMDL may specifically identify each discharger contributing (or that will be contributing) pollutants to the receiving stream and the controls that are necessary for each discharger to meet the established waste load allocation. More likely for construction activities, the TMDL will identify a category of dischargers (e.g., construction activity or new development) and will identify the types of controls necessary to meet the cumulative waste load allocation for the group of dischargers. If the TMDL specifically identifies measures or controls, the permittee must implement these. If specific measures or controls are not required in the TMDL, the permittee should continue to apply the control measures in Part 4.0. If necessary, DEC may notify the permittee that additional requirements are necessary to be consistent with the assumptions and requirements of the TMDL, or that an individual permit is required.

DEC is incorporating this language to emphasize the importance of implementing control measures required to be consistent with the assumptions and requirements of the TMDL, where applicable. DEC considers it to be inherent in a requirement to document measures taken to ensure that the discharge is consistent with the assumptions and requirements of a TMDL that such measures actually be implemented.

The Clean Water Act (CWA) mandates that states monitor and report on the quality of their waters. Section 305(b) requires that the quality of all waterbodies be characterized and Section 303(d) requires that states list any waterbodies that do not meet WQS. DEC develops and publishes an integrated water quality assessment report every two years as required by the CWA. The most recent report is the

Alaska's Final 2010 Integrated Water Quality Monitoring and Assessment Report (ADEC, 2010). For a detailed description of Alaska's waters see Appendix C of the Fact Sheet.

Waters that do not meet the numeric/narrative criteria for their use designation(s) are listed as impaired, in compliance with the federal CWA and state rules. DEC currently lists approximately 65 waters as impaired, with about 30 listed as candidates for development of a total maximum daily load (TMDL) (ADEC, 2010). TMDLs are a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet WQS and an allocation of that amount of pollutant to the source of the pollutant. Section 303(d) of the federal CWA requires states to identify waters that do not meet applicable WQS applying technology-based controls alone. The Department identifies and prioritizes the water quality-limited waters and then develops TMDLs at a level necessary to achieve the applicable WQS. Table 4-2 summarizes the water bodies in Alaska listed as impaired for sediment or turbidity.

Table 4-2: Waterbodies Impaired for Sediment or Turbidity – 2010

Pollutant Source	Waterbody	Location	Category
Urban Runoff	Duck Creek	Juneau	4a
Urban Runoff	Jordan Creek	Juneau	4a
Urban Runoff	Lemon Creek	Juneau	4a
Urban Runoff	Vanderbilt Creek	Juneau	4a
Urban Runoff	Chena River	Fairbanks	5
Urban Runoff	Chena Slough	Fairbanks	5
Urban Runoff	Noyes Slough	Fairbanks	5
Gravel Mining	Granite Creek	Sitka	4a
Placer Mining	Birch Creek drainage, Upper Birch Creek, Eagle Creek, Golddust Creek	North of Fairbanks	4a
Placer Mining	Crooked Creek, Bonanza, Crooked, Deadwood, Ketchem, Mammoth, Mastodon, Porcupine	North of Fairbanks	5
Placer Mining	Goldstream Creek	Fairbanks	5
Mining	Slate Creek	Denali National Park	5
Timber Harvest	Fubar Creek	Prince of Wales Island	4b
Timber Harvest	Katlian River	North of Sitka, Baranof Island	5
Source: <i>Alaska's Final 2010 Integrated Water Quality Monitoring and Assessment Report</i> (July 2010)			
Note: Category 4a – Impaired water with a final/approved TMDL			
Category 4b – Impaired water with other pollution controls			
Category 5 – Impaired water, Section 303(d) list, require TMDL			

Discharging to CWA Sec 301(d) Listed Water Body (Turbidity and Sediment) (Part 3.2.1), and Discharging into Receiving Water Body With an Approved or Established TMDL Analysis (Part 3.2.2).

A permittee who disturbs twenty (20) acres or more of land at one time, including non-contiguous land disturbances that take place at the same time and are part of a larger common plan of development or sale, and discharges to a water body listed on the CWA §303(d) list for turbidity or sediment must conduct turbidity sampling of the discharge at the following locations to evaluate compliance with the

water quality standard for turbidity. A permittee must develop, implement, and modify as necessary a monitoring plan consistent with Part 7.0.

A permittee is responsible for determining whether specific conditions, over and above other requirements of the permit, have been identified by the TMDL authority as necessary to ensure consistency with the assumptions and requirements of approved or established TMDLs. There may be documents accompanying the TMDL (e.g., an implementation plan) or other documents that indicate the TMDL writer's intent to allocate a load for an individual discharger or for a class of dischargers. To the extent that such documents are available, the eligible permittee should consider these materials when determining whether the discharge will be consistent with the TMDL. DEC encourages the operator to contact the Department to seek clarification if significant concerns exist over whether its activity will be consistent with a TMDL.

The permit requires that the permittee determine whether an approved or established TMDL exists that specifically addresses its discharge and if so, take necessary actions to be consistent with the assumptions and requirements of that approved TMDL. To make this determination, the eligible permittee will need to (1) determine the waterbody into which it discharges, (2) identify if there is an approved or established TMDL for that waterbody, (3) determine if that TMDL includes specific requirements (e.g., wasteload allocation or load allocation) applicable to its construction site, and (4) if so, implement necessary steps to comply with them.

DEC generally agrees that construction activities should not be delayed because the TMDL authority failed to specify all sources of loading in the TMDL. DEC is not requiring that construction activities be delayed until such time as a TMDL can be revised. DEC has utilized a framework that allows the eligible permittee to obtain clarification from the TMDL authority on discharge provisions that would allow authorization under the permit. DEC established a website at http://www.ADEC.state.ak.us/water/tmdl/tmdl_index.htm that includes links to state TMDL information and contacts. DEC expects that applicants can access that Web site and identify either (1) the steps needed to be consistent with the assumptions and requirements of the TMDL, or (2) a state or regional contact for making this determination.

DEC recognizes that TMDLs vary in the complexity of their assumptions and quantification. In the process of determining whether or not a discharge is consistent with the TMDL, the state TMDL contact may request additional information. The TMDL may include details regarding recommended implementation activities that include certain narrative provisions such as implementation of specific control measures; specified inspection, discharge monitoring or characterization, education, tracking or reporting requirements; or some combination of these or other conditions. Therefore, any implementation activities that apply to discharges from construction activity in the TMDL should be implemented at the construction site. Further, DEC is clarifying that if the TMDL includes load allocations that the Department later determines is for a discharge subject to the permit, then the load allocation is considered to be a wasteload allocation, and the permittee needs to implement control measures that are consistent with any specific requirements implementing this load allocation.

As described in the permit, DEC will begin with the general assumption that where an approved TMDL does not include a specific allocation for storm water discharges, or where the TMDL authority clarifies that it did not include a specific allocation for storm water or for construction activities that meet the

requirements in Parts 3.0 and 4.0 of the permit will be consistent with the assumptions and requirements of such TMDL. Inferring that the TMDL authority did not intend to make it impossible to permit storm water discharges in the absence of any discussion on this topic in the TMDL is reasonable because both construction activity and rainfall are so ubiquitous that it is unlikely that a policymaker would make such a significant decision consciously through silence. DEC will generally assume that such discharges were accounted for by the author of the TMDL, even if such discharges are not addressed specifically. Therefore, in the situation where an approved or established TMDL has not specified a wasteload allocation for construction storm water discharges, but has not specifically excluded these discharges, compliance with the standards in Parts 3.0 and 4.0 of the permit will generally be assumed to be consistent with the approved TMDL. Similarly, where an EPA approved or established TMDL has specified a general wasteload allocation for construction storm water discharges, but no specific requirements for individual construction sites have been identified, either in the TMDL, a watershed plan, or other similar document, then compliance with the requirements in Parts 3.0 and 4.0 will generally be assumed to be consistent with the approved TMDL. If the approved or established TMDL specifically precludes such discharges, the applicant is not eligible for coverage under the ACGP. In selecting this approach, DEC is trying to balance the need to include permit conditions consistent with TMDLs with the need to clearly define permittee responsibilities.

4.3.3 Protection of Endangered Species (Part 3.3)

A permittee must protect federally-listed endangered or threatened species and federally-designated critical habitat. Coverage under this permit is available only if the storm water discharges, allowable non-storm water discharges, and storm water discharge-related activities, as defined in Appendix C of the permit, are not likely to jeopardize the continued existence of any species that are federally-listed as endangered or threatened (“listed”) under the Endangered Species Act (ESA) or result in the adverse modification or destruction of habitat that is federally-designated as critical under the ESA (“critical habitat”). The permittee is not eligible to discharge if the storm water discharges, allowable non-storm water discharges, and storm water discharge-related activities, as defined in Appendix C of the permit, would cause a prohibited “take” of federally-listed endangered or threatened species (as defined under section 3 of the ESA and 50 CFR §17.3), unless such takes are authorized under sections 7 or 10 of the ESA. Part 7.2 of the Fact Sheet provides more description of how a permittee may evaluate their ESA responsibilities.

4.4 Control Measures (Part 4.0)

The permit requires the permittee to comply with non-numeric technology-based standards (found in Part 4.0 of the permit) by implementing control measures. The achievement of these non-numeric standards will result in the reduction or elimination of pollutants from the permittee’s storm water discharge. Such standards constitute the permit’s technology-based standards, expressed narratively and are based on the ELG and NSPS that apply to the C&D point source category found at 40 CFR Part 450.

DEC notes that the permit uses the term “control measures” more often than “best management practices” and “BMPs”. This change was adopted to better describe the range of pollutant reduction practices that may be employed, whether they are structural, non-structural or procedural. In addition, the definition of “control measures” in Appendix C of the permit includes both BMPs and “other methods” used to prevent or reduce the discharge of pollutants to receiving waters. The greater breadth

of meaning for control measures vis-à-vis BMPs is why DEC uses this term in Part 4.0, and throughout the permit.

The permit is a significant change from the 2010 CGP. Most of the additional control measures are included to comply with the new requirements of 40 CFR Part 450. Table 4-3 provides a summary of control measures in the permit and their source from 40 CFR Part 450 or the 2010 CGP.

Table 4-3: Summary of the Federal Requirement for the Control Measures in Part 4.0

Section of 40 CFR § 450.21	Part in 2010 CGP	Part in the 2011 ACGP
Not/Included (N/I)	Not Included (N/I)	4.1.1
(a)(3) & (a)(7)	N/I	4.1.2
(a)(6)	N/I	4.1.3
(a)(2)	3.1.3 & 3.1.4	4.1.4
(a)(2)	N/I	4.1.5
(a)(5)	N/I	4.2.1
(a)(5)	N/I	4.2.2
(a)	N/I	4.2.3
(a)	3.1.2	4.2.4
(a)	3.1.2	4.2.5
(a)(3)	N/I	4.2.6
N/I	3.2	4.2.7
N/I	3.1.1	4.2.8
(c)	N/I	4.3
(b)	3.1.8.1	4.4.1
(b)	3.1.8.2	4.4.2
(b)	N/I	4.4.3
N/I	N/I	4.5
e(1)	N/I	4.6.1
e(2)	N/I	4.6.2
e(3)	N/I	4.6.3
e(4)	N/I	4.6.4
d(1) & e(4)	N/I	4.7.1
d(2) & e(3)	N/I	4.7.2
d(2)	N/I	4.7.3
d(1), e(1), & e(2)	N/I	4.7.4
d(2)	N/I	4.7.5
d(2)	3.1.6.1	4.7.6
N/I	3.1.9	4.8
N/I	3.1.5	4.9
N/I	N/I	4.10
N/I	3.6	4.11
N/I	3.7	4.12
N/I	3.8	4.13

A permittee covered under the permit is required to comply with the control measure requirements in Part 4.0, as determined by the site-specific conditions at the location of the construction activity. The specific control measures are based on the requirements of the ELGs that apply to the C&D industry (40 CFR Part 450). The Department developed the [Alaska Storm Water Guide](#) to assist permittees with

selecting, installing and maintaining the majority of control measures they may use for projects in Alaska. The selection, design, installation, maintenance, and removal of control measures must address site-specific conditions such as: precipitation - including the amount, frequency, intensity and duration; the nature of resulting storm water runoff (e.g. does the runoff last for a few hours or several days); site topography - such as flat, sloped, hilly, or mountainous; soil characteristics - including the soil types, range of soil particle sizes, and thermal conditions; and growing season - such as start, end, and length of growing season.

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 construction general permit 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.

4.4.1 Erosion Control Measures (Part 4.1)

A permittee is required to contain runoff from exposed areas to minimize on-site erosion and sediment creation, and the accompanying discharge of pollutants (other pollutants can bind to soil and other particles and be discharged along with the sediment).

There may be exposed areas of construction sites, such as steep slopes, sandy soils or other factors that are prone to soil erosion. Construction activities typically remove grass and other protective ground covers resulting in the exposure of underlying soil to wind and rain. Similarly, steep slopes or sandy soils may not be able to hold plant life so that soils are exposed. Because the soil surface is unprotected, dirt and sand particles are easily picked up by wind or washed away by rain. This erosion process can be controlled or prevented through the use of control measures in this Part.

To meet the standards in Part 4.1, permittees must select, design, install and implement control measures to address the on-site exposed areas prone to soil erosion.

Delineation of Site (Part 4.1.1)

Since little soil erosion occurs on areas covered with undisturbed natural vegetation, permittees must delineate and clearly mark off areas of disturbance, areas of no-disturbance and natural vegetation to be preserved so that soils and vegetation outside of the immediate area of construction activity are protected. In addition, wetlands, steep slopes, trees, boundaries of sensitive areas, and buffers that are intended to be preserved must be clearly marked so that they are not damaged inadvertently during construction activity. In addition, the duff layer, native topsoil, and natural vegetation must be retained in an undisturbed state, where applicable. Permittees can use flags, stakes, signs, stakes or wire or fabric fencing material to mark these specific areas at construction sites.

Minimize the Amount of Soil Exposed during Construction Activity (Part 4.1.2)

A permittee is required to preserve native topsoil and minimize the period of time the disturbed area is exposed without implementation of temporary or final stabilization practices. If the construction project will take place over a wide area, the permittee should sequence or phase the construction activities so that only a small portion of the site will be disturbed at any one time. For example, if the permittee is developing a 30-acre parcel, rather than clear the entire 30 acres at the start of construction, the permittee could clear only a 10-acre parcel and complete all construction in that area, before moving on to the next 10-acre parcel.

Maintain Natural Buffer Areas (Part 4.1.3)

A permittee must maintain natural buffer areas at stream crossings and around the edge of any waters of the U.S. that are located within or immediately adjacent to the site where the construction activity will take place, unless it is infeasible, in accordance with the following:

- A permittee must maintain or establish a vegetated buffer around the edge of any waters of the U.S. that are located within or immediately adjacent to the site where the construction activity will take place.
- The buffer must be a minimum of twenty-five (25) feet wide or the width as required by local ordinance.
- Exceptions are allowed for water dependent activities, specific water access activities, or necessary water crossings.
- A permittee should direct storm water sheet flow to buffer areas to increase sediment removal and maximize storm water infiltration, unless it is infeasible.

If the buffer zone between any disturbance and the edge of the receiving water on all edges of the water body cannot be maintained, an adequately protective alternate practice may be employed. The SWPPP must explain any alternate practices and how these practices are adequately protective. Such cases include but are not limited to water dependent activities, water access and water crossings. The Department of Commerce, Community and Economic Development, Division of Community and Regional Affairs has collected all the local ordinances from communities in Alaska that address nonpoint source pollution. See <http://www.commerce.state.ak.us/dca/nonpoint/ordinances.cfm?type=Hy>

Scientists at the University of California, Davis reviewed and analyzed more than 300 papers and developed statistical models describing the mitigation efficacies of vegetated buffers. Specifically they established the relationships between buffer pollutant removal efficacy and buffer width, slope with the buffer, and soil and vegetation types. Based on the analysis, a 100-foot buffer with slope conditions at 10 % or less removes more than 85 % of all the studied pollutants. Buffers with trees have higher nitrogen and phosphorus removal efficacy than buffers with grasses or mixtures of grasses and trees. Soil drainage type did not show a significant effect on pollutant removal. The Department chose the minimum buffer width of 25 feet and relies on local ordinances to expand the buffer width based on individual municipal conditions.

The Department recognizes the difficulty of implementing the buffer requirement during the 2011 construction season because these projects were designed prior to the requirement. For this reason DEC is allowing a phased implementation of this subpart.

Control Storm Water Discharges and Flow Rates (Part 4.1.4)

A permittee is required to control storm water discharges and flow rates from the construction site. Construction activity may involve clearing vegetation, removing or compacting native soils, modifying slopes and drainage patterns, and installing impervious surfaces such as rooftops or roads. Any of these activities may increase the volume, velocity, and peak flow rate of storm water discharges from the site. These hydrologic changes can cause erosion, scouring, and down-cutting in channels located downstream of the construction site, ultimately increasing turbidity and suspended solids in affected water bodies and damaging aquatic habitat.

Structural controls may be necessary to contain concentrated flows of storm water running onto the site and within the site, because vegetative controls cannot be employed where soil is continually disturbed, and because of the lag time before vegetation becomes effective. Options for such controls include silt fences, earth dikes, drainage swales, check dams, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, sediment traps, gabions, and temporary or permanent sediment basins. Placement of structural controls in flood plains should be avoided.

In addition, land development can significantly increase storm water runoff volume and peak velocity if appropriate control measures are not implemented and increased discharge velocities can greatly accelerate erosion near the outlet of structural measures. To mitigate these effects, velocity dissipation devices should be placed at discharge points and along the length of a runoff conveyance, as necessary, to provide a non-erosive flow. Velocity dissipation devices help protect a water body's natural, pre-construction physical and biological uses and characteristics (e.g., hydrologic conditions such as the hydro period and hydrodynamics).

Properly designed flow control facilities, such as retention or detention structures that discharge at pre-disturbance peak flow rates and durations, can protect downstream waterways from increased bank erosion, channel instability, and water quality degradation. These structures must be constructed as one of the first steps in the construction sequence so that all runoff from construction activity is treated and controlled. If permanent infiltration facilities are used for flow control during construction, these facilities must be protected from siltation during the construction phase through the use of sediment traps/basins and/or other appropriate control measures.

Protect Steep Slopes (Part 4.1.5)

Steep slopes are especially susceptible to erosion and, where steep slopes will be disturbed on the construction site, a permittee is required to design and construct cut-and-fill slopes in a manner that will minimize erosion, divert concentrated flows of storm water away from and around the disturbed portion of the slope, and stabilize exposed areas of the slope in accordance with Part 4.4 of the permit. Applicable practices to minimize erosion from steep slopes include, but are not limited to, reducing continuous length of slope with terracing and diversions, reducing slope steepness, roughening slope surfaces (e.g., track walking), and temporary or permanent stabilization. Additionally, permittees can

use interceptor dikes and swales, grass-lined channels, pipe slope drains, subsurface drains, and/or check dams to divert concentrated flows of storm water away from disturbed portions of the slope. These measures will minimize the amount of runoff flowing across the face of the slope and decrease the erosion of that slope.

4.4.2 Sediment Control Measures (Part 4.2)

Sediment control measures are used to keep sediment from leaving a construction site. A sediment control measure is any mechanism that removes sediment from water by filtration, gravity or other means. Unlike erosion controls, sediment controls treat the soil as a waste product that must be continually removed and disposed of properly. Sediment control is the least cost-effective means to meet erosion and sediment control (ESC) objectives, because removing sediment from runoff is more costly and less effective than keeping soil in place.

Storm Drain Inlet Protection Measures (Part 4.2.1)

Appropriate sediment control measures must be installed and maintained at all operational storm drain inlets located on-site or immediately downstream of the site that discharge or may discharge to waters of the U.S. either directly or via an MS4. The control measures are to be provided at all times until all sources discharging to that inlet are stabilized.

Water Body Protection Measures (Part 4.2.2)

Appropriate sediment control measures must be installed and maintained at all discharge points located on-site or immediately downstream of the site that discharge or may discharge to waters of the U.S. either directly or via an MS4. The control measures are to be provided at all times until all sources discharging to that discharge point are stabilized.

Down Slope Sediment Controls (Part 4.2.3)

At a minimum, the permittee shall design, install, and maintain in effective working order, sediment control measures on all down-slope and side-slope perimeters where storm water will be discharged from disturbed areas. Examples of these control measures include vegetative buffer strips and silt fences; however, it is the responsibility of the permittee to design, install and maintain BMPs that are appropriate to site conditions.

Stabilized Construction Access and Exit Points (Part 4.2.4)

The location(s) where construction vehicles and equipment enter and exit the project site inherently receive a lot of traffic. A common issue with vehicles and equipment exiting the project site onto public streets is the tracking of sediment and debris from the site onto these streets. The permit requires a permittee to minimize tracking of sediment and debris onto the roadway to the extent possible using control measures such as a stabilized drive constructed of rock to remove dirt and mud from tires. Another option may be a vehicle wash-down area, which may also be used in concert with a stabilized drive. Any wash-down area should be designed and constructed to capture wash down waters, sediments, debris, and other pollutants in accordance with Part 4.7.1.

Dust Generation and Track-Out from Vehicles (Part 4.2.5)

Dust control practices can reduce the activities and air movement that cause dust to be generated. Airborne particles pose a dual threat to the environment and human health. Dust carried off-site increases the likelihood of water pollution. Control measures to minimize the generation of dust include but are not limited to vegetative cover, mulch, application of water, wind breaks, stone, or spray-on chemical soil treatments.

Sediment and debris that is tracked onto roadways must be cleaned up as soon as possible (e.g., sweeper truck) to prevent it from getting into storm sewers and waters of the U.S. and from becoming a physical hazard to vehicular traffic.

Soil Stockpiles (Part 4.2.6)

The permittee must install erosion and sediment control measures around soil stockpiles and effectively manage the control measures. Soil stockpiles must be located away from storm drain inlets, surface waters, or storm water conveyances (including streets) that discharge or may discharge to waters of the U.S. either directly or via a MS4. Soil stockpiles are considered a pollutant source and increase the surface area of exposed soils, as well as increase the potential for erosion. Therefore, when the soil stockpile is not being actively worked, erosion and sediment control measures and stabilization practices are necessary to reduce potential increases in pollutant discharge.

Authorized Non-Storm Water Discharges (Part 4.2.7)

The permittee must identify appropriate control measures to be used where any of the authorized non-storm water discharge activities are to take place. The permittee must direct flows from these activities to sediment controls to prevent pollution of the storm water discharges associated with the construction activities when mixing may occur.

Sediment Basins (Part 4.2.8)

A site disturbing 10 acres or more at a time, all of which are served by a common drainage location, must have installed a sediment basin where attainable that provides a minimum of 3,600 cubic feet of storage per acre drained. The sediment basin must be maintained until final stabilization of the site is completed. In lieu of the default 3,600 cubic feet/acre, the permittee can calculate the basin size based on the expected runoff volume from the local two-year, 24-hour rain event and local runoff coefficient. In this case, the SWPPP must include the calculations to demonstrate the basin is adequately sized. Flows from off-site or on-site areas that are undisturbed or have undergone final stabilization may be diverted around both the sediment basin and the disturbed area. The permit does not require that the diverted flows be included when designing the size of the sediment basin. However, flows from these areas must be included when they are not diverted and will contribute flow to the basin.

‘Attainable’ in this context of basin installation means that there is room at the site, and the soils and the terrain allow construction. Basins are to be installed where attainable unless such installation would prove a safety hazard. The permittee is to document in the SWPPP why a required sediment basin is not being installed either due to non-attainability or safety concerns. For the drainage locations which serve

10 or more disturbed acres at a time and where the sediment basin design is unattainable, smaller sediment basins or traps should be used, with diversion structures installed on upland boundaries of disturbed areas to prevent run-on from impacting disturbed areas.

For linear projects and drainage locations serving less than 10 acres, smaller sediment basins or sediment traps are to be used and, at a minimum, silt fences or equivalent sediment controls are required for all down slope and appropriate mid-slope boundaries of the construction area. Alternatively, the permittee may install a sediment basin providing storage for 3,600 cubic feet (or the alternative calculated volume) of storage per acre drained.

In addition, where the permittee will discharge from basins or impoundments, the permittee must use outlet structures that withdraw water from the surface, unless infeasible.

4.4.3 Dewatering (Part 4.3)

Untreated water from construction dewatering operations may contain pollutants that, if discharged to a storm water conveyance system or water of the U.S, would violate WQS in the receiving water. A permittee must determine eligibility under the permit for the wastewater discharged from a dewatering activity, which includes the following criteria:

- The dewatering effluent must not be contaminated. One criterion for determining the probability of the discharge being contaminated is if the dewatering project being more than a mile from a contaminated site. DEC, Division of Water (907-269-6285) can help determine the proximity of the dewatering project to any known contaminated sites;
- The discharge is to a surface waterbody;
- For a construction project authorized by the permit, the total area of disturbance is equal to or greater than one acre;
- The intended receiving waterbody must not be included in the CWA §303(d) impaired waterbody list as being noncompliant because of an exceedance of a contaminant of the same kind as is suspected to be in the dewatering effluent; and
- The intended receiving water is already designated as a mixing zone for another wastewater contaminate of the same kind as is suspected to be in the dewatering effluent.

If the permittee is not eligible to discharge wastewater from a dewatering activity, based on the criteria above, then the permittee must obtain coverage under the Alaska Excavation Dewatering General Permit (2009DB0003). A permittee that meets the criteria above is prohibited from discharging wastewater from a dewatering activity, unless treated by appropriate control measures. To meet this requirement, a permittee can use, but is not limited to, sediment basins or traps, dewatering tanks, weir tanks, or filtration systems designed to remove sediment.

4.4.4 Soil Stabilization (Part 4.4)

Minimum Requirements for Soil Stabilization (Part 4.4.1)

The permit requires a permittee to stabilize disturbed portions of the site and to initiate such measures within required timeframes. Stabilization practices are critical to preventing erosion. The permittee must ensure that existing vegetation is preserved wherever possible and that disturbed portions of the site are stabilized as quickly as practicable. Stabilization practices include seeding of temporary vegetation, seeding of permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, preservation of trees and mature vegetative buffer strips, and other appropriate measures. Temporary stabilization can be the single most important factor in reducing erosion at construction sites.

Stabilization also involves preserving and protecting selected trees on the site prior to development. Mature trees have extensive canopy and root systems, which help to hold soil in place. Shade trees also keep soil from drying rapidly and becoming susceptible to erosion. Measures taken to protect trees can vary significantly, from simple ones such as installing tree armoring and fencing around the drip line, to more complex measures such as building retaining walls and tree wells.

Temporary Stabilization (Part 4.4.2)

The permit sets two different time periods within which temporary stabilization must be initiated based on mean annual precipitation. The permit requires that, except in three situations, stabilization measures must be instituted on disturbed areas immediately, where clearing, grading, excavating, or other earth disturbing activities have permanently ceased on any portion of the site, or temporarily ceased on any portion of the site, and will not resume for a period exceeding 7 or 14 calendar days. The three exceptions to this requirement are the following:

- Where stabilization by the 7th or 14th calendar day is precluded by snow cover or frozen ground conditions, stabilization measures must be initiated as soon as practicable. Frozen ground is not considered an acceptable control measure for stabilization.
- In arid, semiarid, and drought-stricken areas where initiating perennial vegetative stabilization measures is not possible within 14 calendar days after construction activity has temporarily or permanently ceased, final vegetative or non-vegetative stabilization measures must be initiated as soon as practicable.
- Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within 14 calendar days, temporary stabilization measures do not have to be initiated on that portion of the site.

Final Stabilization (Part 4.4.3)

The permit sets two different time periods within which final stabilization must be initiated based on mean annual precipitation. The permit requires that final stabilization measures must be instituted on disturbed areas immediately, where clearing, grading, excavating or other earth disturbing activities have permanently ceased on any portion of the site, or temporarily ceased on any portion of the site and will not resume for a period exceeding 7 or 14 calendar days. The exceptions to this requirement are the

is in arid or semiarid areas where initiating perennial vegetative stabilization measures is not possible within 7 days after construction activity has temporarily or permanently ceased, final vegetative or non-vegetative stabilization measures must be initiated as soon as practicable.

DEC added additional language to this provision to clarify that within seven days of initiating stabilization, the permittee is required to have completed: (1) for vegetative cover, all soil conditioning, seeding, watering, mulching, and any other required activities for the establishment of vegetation; and/or (2) for non-vegetative cover, the installation or application of all such measures.

Stabilization Requirements for Terminating Permit Coverage (Part 4.4.4)

A permittee may terminate coverage under the permit if construction activity has been completed and all portions of the site have achieved final stabilization, as defined in Appendix C. Final stabilization of portions of the site that have been disturbed is generally accomplished by installing the final landscaping (e.g., trees, grass, gardens, or permanent storm water controls). Once the entire site has achieved final stabilization, the permittee can then submit an NOT to terminate permit coverage.

4.4.5 Treatment Chemicals (Part 4.5)

The permit allows the use of chemicals in manufactured products (such as mulches, tackifiers, or soil binders) that include anionic polyacrylamides (PAM). Specifically, a permittee can enhance sediment basin and trap performance by using chemically-enhanced settling (e.g., polymer or flocculant addition). Typical chemicals used on construction sites include PAM, chitosan, alum, polyaluminum chloride and gypsum. Polymers or flocculants are available in either liquid or solid form and can be introduced at several points in the treatment train in order to increase sediment removal.

The term PAM is a generic term that refers to a broad class of compounds. There are hundreds of specific PAM formulations, and all have unique properties that depend on polymer chain length and number and kinds of functional group substitutions along the chain. PAMs are classified according to their molecular weight and ionic charge and are available in solid, granular, liquid, or emulsion forms.

The effectiveness of PAMs to prevent or reduce erosion is due to its affinity for soil particles. Such surface attractions enhance particle cohesion, stabilizing soil structure against shear-induced detachment and transport in runoff. In a soil application, PAM aggregates soil particles, increasing pore space and infiltration capacity and resulting in reduced runoff. The larger particle aggregates are less susceptible to raindrop and scour erosion, thus reducing the potential to mobilize sediments.

If the Department finds, after inspection, the permittee exceeds the manufacturer and/or supplier specifications and/or instructions in the use of treatment chemicals the Department may prohibit the permittee (under permit condition Part 3.1 or 8.1) from further use of treatment chemicals at the construction activity.

Treatment Chemicals (Part 4.5.1)

The permit allows the use of products that have a Material Safety Data Sheet (MSDS) developed in accordance with the Occupational Safety and Health Standards. The manufacturer and/or supplier has

developed specifications or instructions for the transport, handling, proper storage, application rates for different types of soils and slopes, and how to properly dispose of any residual product. The product has been approved for use by EPA or another state environmental agency in California, Minnesota, Oregon, Washington, or Wisconsin and has a track record of use in erosion and sediment control at construction sites. The manufacturer and/or supplier has results of tests conducted by themselves or a third party (such as a university or environmental agency) that demonstrate the product is non-toxic to aquatic organisms and fish when applied correctly and at specified dose rates. A permittee is prohibited from using cationic polymers, except for the use of chitosan as part of an Active Treatment System in compliance with Part 4.5.4.3.

Treatment Chemical Use (Part 4.5.2)

A permittee must train employees who handle treatment chemicals to comply with the information required by Part 4.5.1. A permittee must handle, store and dispose of treatment chemicals, waste chemicals, or flocculants in appropriate sealed containers under a storm-resistant cover or surrounded by secondary containment structures so as to prevent their discharge to the waters of the U.S.

Project Site Conditions (Part 4.5.3)

Treatment chemicals are typically developed, tested, and approved in regions of the country with different site conditions and aquatic organisms and fisheries than Alaska. The permittee must consider the differences between site conditions where the product has been used and whether the product will have similar effectiveness in Alaska. The permittee must ensure that the selected chemical is appropriate for soils at the project site through the use of project-specific tests of the product with local soils or ensure that the product has been used on projects with similar soils. The permittee must ensure the product is appropriate for the site topography, precipitation intensity, and type of use.

Application of Treatment Chemicals (Part 4.5.4)

The application of treatment chemicals shall be in combination with appropriate physical control measures. For example, these include mulches, tackifiers, rolled erosion control products, fiber or rock ditch check dams, sediment basins or bags, or filtration systems. The use of the treatment chemical is not a substitute for appropriate physical control measures. There are three primary ways treatment chemicals may be applied: solid form, such as floc blocks or gel logs; granular form; or liquid form through a feed system in an active treatment system. The application must always be a sufficient distance upgradient or upstream to allow adequate mixing and reaction prior to reaching a pre-constructed sediment trap, basin inflow structure, or filtering device of sufficient width to ensure adequate removal of sediments laden with treatment chemicals before discharges reach waters of the U.S.

Passive uses of treatment chemicals include the following: use in conventional erosion and sediment controls, polymer addition to sediment basins, fiber check dams with polymer addition, and various other treatment approaches that provide chemically-enhanced settling or enhanced sediment trapping.

Land Application (Part 4.5.4.1)

The permittee shall follow the manufacturer and/or supplier's written recommended application rate, including site-specific considerations. The permittee shall use an application method that provides uniform coverage of the target area and avoids drift to non-target areas. The application must always be upstream from a pre-constructed sediment trap, basin inflow structure, filtering device, or a vegetated buffer of sufficient width to ensure adequate removal of sediments laden with treatment chemicals. The reason for the Department's conservative approach to the use of polymers in passive treatment systems is because EPA's analysis for developing the ELG is based on for soil and aquatic conditions that are significantly different from Alaskan soils and fisheries.

Water Application (Part 4.5.4.2)

Passive uses of treatment chemicals include conventional erosion and sediment controls, polymer addition to sediment basins, fiber check dams with polymer addition, and various other treatment approaches that provide chemically-enhanced settling or enhanced sediment trapping. Treatment chemicals shall not be applied directly to a water of the U.S. Application through the use of manufactured products (e.g. gel bars, gel logs, floc blocks, etc.) must be used in combination with ditch check dams or other physical control measures and provide at least 100 feet of ditch length without the use of a manufactured product prior to reaching a water of the U.S.

Active Treatment Systems (Part 4.5.4.3)

There are instances on construction sites where traditional erosion and sediment controls do not effectively control accelerated erosion. Under such circumstances, or under circumstances where storm water discharges leaving the site may cause or contribute to an exceedance of a WQS, the use of an Active Treatment System (ATS) may be necessary. Additionally, it may be appropriate to use an ATS when site constraints inhibit the ability to construct a correctly sized sediment basin, when clay and/or highly erosive soils are present, or when the site has very steep or long slope lengths.

The effective design of an ATS requires a detailed survey and analysis of site conditions. With proper planning, ATS performance can provide exceptional water quality discharge and prevent significant impacts to surface water quality, even under extreme environmental conditions.

The primary treatment process in an ATS is coagulation/flocculation. An ATS operates on the principle that the added coagulant is bound to suspended sediment, forming floc, which is gravitationally settled in tanks or a basin or removed by sand filters. A typical installation utilizes an injection pump upstream from the clarifier tank, basin, or sand filters, which is electronically metered to both flow rate and suspended solids level of the influent to assure a constant dose. The coagulant mixes and reacts with the influent, forming a dense floc. The floc may be removed by gravitational setting in a clarifier tank or basin or by filtration. Water from the clarifier tank, basin, or sand filters may be routed through cartridge(s) and/or bag filters for final polishing. Vendor-specific systems use various methods of dose control, sediment/floc removal, filtration, etc., that are detailed in project-specific documentation. The particular coagulant/flocculant to be used for a given project is determined based on the water chemistry of the site because the coagulants are specific in their reactions with various types of sediments. Appropriate selection of dosage must be carefully matched to the characteristics of each site. ATS can

also use electrocoagulation as a treatment process, where an electrical charge is used to destabilize particles, allowing removal by settling or filtration.

ATS's are operated in two differing modes, either Batch or Flow-Through. Batch treatment can be defined as Pump-Treat-Hold-Test-Release. In Batch treatment, water is held in a basin or tank and is not discharged until treatment is complete. Batch treatment involves holding or recirculating the treated water in a holding basin or tank(s) until treatment is complete or the basin or storage tank(s) is full. In Flow-Through treatment, water is pumped into the ATS directly from the runoff collection system or storm water holding pond where it is treated and filtered as it flows through the system and is then directly discharged. "Flow-Through treatment" is also referred to as "Continuous Treatment."

A permittee who uses an Active Treatment System as a control measure must submit information required by the Department for review at least fourteen (14) days prior to start of operation of the active treatment system at the project. At a minimum, the information must provide details on the following: engineering plans, description of treatment process, site conditions (including soil types), treatment chemicals, dose rates, monitoring to be conducted, expected residual chemical, proper operator training, methods for storage, procedures for spill prevention and containment, operation, and maintenance, and record keeping and reporting. Specific submittal requirements can be found at the DEC storm water website at http://www.ADEC.state.ak.us/water/wnpssc/stormwater/sw_construction.htm.

4.4.6 Prohibited Discharge (Part 4.6)

As described in section 2.3 of this fact sheet, the C&D ELGs require an NPDES permit for storm water discharges from construction activity to prohibit certain discharges. A permittee covered under the permit is prohibited from discharging the following from the construction site:

- Wastewater from washout of concrete, unless managed by an appropriate control;
- Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;
- Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;
- Soaps or solvents used in vehicle and equipment washing; and

4.4.7 Good Housekeeping Measures (Part 4.7)

Part 4.7 is a new permit requirement that establishes a set of non-numeric effluent limitations requiring permittees to provide and maintain effective good housekeeping measures to minimize, control or prevent the discharge of pollutants (e.g., construction waste, solid waste, trash, and other pollutants) in storm water and other wastewater for activities that occur on-site or at an off-site location. These provisions are based on 40 CFR § 450.22(d). DEC provides a greater level of specificity in this Part in order to better inform permittees of the types of activities on construction sites they should be concerned about. This requirement will also provide a permittee with a better understanding of the type of good housekeeping measure that should occur at the site, which will help them to plan for the types of good housekeeping measures (referred to as 'pollution prevention measures' in the ELG) necessary to meet the effluent limitations.

A permittee is required to comply with the good housekeeping requirements for any of the following activities that occur at the site or at an off-site location. If a construction site does not have any of the following activities then this section does not apply to the project. For each of these construction activities, the primary good housekeeping concepts are to designate an area for the activity, locate the designated area away from a location where storm water collects, and use pollution prevention concepts to avoid creating polluted storm water. The six construction support activities covered by the permit are:

- Washing of Equipment and Vehicles and Wheel Wash-Down (Part 4.7.1)
- Fueling and Maintenance Areas (Part 4.7.2)
- Staging and Material Storage Areas (Part 4.7.3)
- Washout of Applicators/Containers used for Paint, Concrete, and Other Materials (Part 4.7.4)
- Fertilizer or Pesticide Use (Part 4.7.5)
- Storage, Handling, and Disposal of Construction Waste (Part 4.7.6)

4.4.8 Spill Notification (Part 4.8)

A permittee is prohibited from discharging hazardous substances or oil resulting from a spill or other release, consistent with Part 4.3 of the permit. Furthermore, where a leak, spill, or other release contains a toxic or hazardous substance in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302 during a 24-hour period, the permittee is subject to federal reporting requirements of 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302 relating to spills or other releases of oils or hazardous substances. The construction site must have the capacity to control, contain, and remove such spills if they are to occur. Spills in excess of reportable quantities must be reported. Also Section 311 of the CWA and certain provisions of Sections 301 and 402 of the CWA are also applicable.

4.4.9 Permanent Storm Water Management Control (Part 4.9)

A permittee is required to comply with applicable federal, state, tribal, or local requirements regarding the design and installation of permanent storm water management controls. The permit addresses only the installation of these measures; not the ongoing operation and maintenance of them after cessation of construction activities and final stabilization. A permittee is responsible only for the installation and maintenance of storm water management measures until final stabilization of the site. When selecting permanent storm water management controls, the permittee should consider the amount of required maintenance and whether there will be adequate resources for maintaining them over the longer term. Some discharges of pollutants from permanent storm water management controls may need to be authorized under another APDES permit (e.g., the construction project was an industrial facility in a sector covered by the APDES multi-sector general permit). The permittee of such discharges may ask DEC if this requirement applies to them.

Permanent storm water management controls installed during the construction process can control the volume and velocity of runoff, as well as reduce the quantity of pollutants discharged post-construction. Reductions in peak discharge velocity and volume can reduce pollutant loads, as well as diminish

physical impacts such as stream bank erosion and stream bed scour. Permanent storm water management controls that mitigate changes to pre-development runoff characteristics assist in protecting and maintaining the physical and biological characteristics of receiving streams and wetlands.

Structural measures should be installed on upland areas to the extent feasible. The installation of such measures may be subject to section 404 of the CWA if they will be located in wetlands or other waters of the U.S.

- Options for storm water management measures include,
- On-site infiltration of precipitation,
- Flow attenuation by use of open vegetated swales and natural depressions,
- Storm water retention/detention structures (including wet ponds), and
- Sequential systems using multiple methods.

The SWPPP must include an explanation of the technical basis used to select permanent storm water management controls, where flows exceed pre-development levels. This explanation should address how a number of factors were evaluated, including the pollutant removal efficiencies of the measures, costs of the measures, site-specific factors that will affect the utility of the measures, whether the measures are economically achievable at a particular site, and any other relevant factors.

Permanent storm water management controls should be designed in accordance with any requirements established by the appropriate local, state, or tribal authority. DEC also strongly encourages permittees to use low impact development or green infrastructure practices that promote infiltration and reduce storm water volumes after development. Additional information on green infrastructure practices can be found at www.epa.gov/npdes/greeninfrastructure.

In selecting permanent storm water management controls, the permittee should consider the impacts of each method on other water resources, such as ground water. Although SWPPPs focus primarily on storm water management of construction activity flow, DEC encourages activities at sites that avoid creating groundwater pollution problems. For example, if the water table is high in an area or soils are especially porous, an infiltration pond may contaminate the groundwater unless special preventive measures are taken. In fact, certain storm water control practices may meet EPA's definition of underground injection, triggering responsibilities under the Safe Drinking Water Act, as codified in 40 CFR Parts 144-146. Storm water controls, such as wet ponds, should also be designed to have minimal safety risks, especially to children. Specific requirements for submitting engineering plans for nondomestic wastewater treatment systems can found in 18 AAC 72.600.

4.4.10 Winter Considerations (Part 4.10)

The permit includes a section on winter considerations to specifically address Alaska conditions. Given the short growing season, relatively milder winters, and adoption of new building techniques in Alaska, construction may now extend or even be initiated in the winter season. Even when construction ceases in the winter, soils may be exposed until building conditions improve in the spring. Given frozen soils, it may be difficult or impossible to stabilize soils with sprays, mulch or vegetative cover. In addition,

many common erosion and sediment control practices that work well during the growing season perform much worse during winter conditions, which often means that soils and slopes are left bare throughout the winter only to be exposed to the erosive forces of melt-water and spring runoff when little protection is in place. Consequently, sediment delivery from construction sites can become extremely high, unless aggressive measures are made before, during, and after winter to keep soil in its place. DEC included the following provisions in the permit for winter shutdown and winter construction to prevent pollutants from leaving the construction site during the winter season and spring thaw.

Winter Shutdown (Part 4.10.1)

The permit requires the permittee to provide temporary and permanent stabilization to ditches and channels, disturbed slopes, disturbed soils, and soil stockpiles, and implement erosion or sediment control measures in anticipation of spring thaw. DEC is providing greater clarity on the requirements for winter shutdown to help the permittee prepare the site for winter shutdown, to consider how to maintain erosion and sediment controls during the winter, and how to restore the ability to handle sediment discharges when construction resumes at the onset of spring. For the purpose of planning ahead frozen ground by itself is not considered an acceptable control measure for stabilization. In addition, the permittee should consider the following prior to, during, and at the conclusion of winter shutdown:

- Stop land disturbing activities until warm weather returns. Sequence work so land disturbing activities occur prior to freeze up.
- Stabilize all exposed soil surfaces with vegetation, mulch, blankets or other BMPs before the ground freezes.
- Maintain construction entrance control measures to limit tracking during snow melts,
- If new land disturbing activities occur, proper control measures must be installed.
- Inlet protections may be removed after freeze up, as appropriate, because they can pose problems in the winter (flooding, damaged by plows). These control measures must be installed in the spring appropriately to weather conditions and/or resuming work.
- Perimeter control devices may need to be moved or enhanced to avoid winter damage.

Winter Construction (Part 4.10.2)

DEC realizes that in several areas of Alaska winter construction provides opportunities for construction not available during summer months. Construction projects that are specifically planned for winter construction must use appropriate control measures to minimize sediment runoff during spring thaw.

A series of recommended erosion and sediment control practices to apply to winter construction sites can be found in the *Alaska Storm Water Guide*. These Fall-Winter-Spring practices are particularly important for all climatic regions other than the Coastal Region. For example, construction projects occurring during the winter season should consider the following:

- Site access points should be enlarged and stabilized to enable snow stockpiling;

- Modify the limits of disturbance to reflect the smaller boundary of the winter work, if applicable;
- Where practicable, provide a minimum 15-foot wide buffer around all perimeter controls to prevent damage from snow clearing or a 25-foot wide buffer from snow storage areas;
- Sediment barriers that are installed during frozen conditions should consist of erosion control mix berms, continuous contained berms, or sand bag berms; and
- Installation of erosion control blankets on frozen ground. If more than one inch of snow is present, erosion control blankets are not recommended.

DEC also clarifies in the permit that coverage is not required for ice roads or the placement of sand or gravel on frozen tundra with no excavation.

Late Winter Clearing (Part 4.10.3)

DEC recognizes that some projects need to clear brush, but not the root mass, early in the spring time to meet certain agency requirements for birds (refer to website http://alaska.fws.gov/fisheries/fieldoffice/anchorage/pdf/vegetation_clearing.pdf). Cutting of trees and brush while the ground is frozen, without disturbing the underlying root mat, for the purpose of clearing in accordance with the U.S. Fish & Wildlife Service “Recommended Time Periods for Avoiding Vegetation Clearing” is allowed prior to the submittal of a project NOI. If the cutting occurs during periods of above freezing temperatures that causes melting of snow then the permittee must develop a SWPPP and file an NOI.

4.4.11 Maintenance of Control Measures (Part 4.11)

Erosion and sediment controls can become ineffective if they are damaged or not properly maintained. The permit requires all erosion and sediment controls to be maintained in effective operating condition. If site inspections identify control measures that are not operating effectively, the permittee must document the problem pursuant to Part 8.3 of the permit and initiate maintenance in accordance with Part 8.2 of the permit. The permit also requires that the permittee remove sediment from sediment traps or sedimentation ponds when design capacity of that device has been reduced by 50 % or more. In addition, the permittee is required to remove trapped sediment from a silt fence before the deposit reaches 50 % of the above-ground fence height (or before it reaches a lower height based on manufacturer's specifications).

4.4.12 Storm Water Lead and Training of Employees (Part 4.12)

A permittee is required to train employees and subcontractors as necessary to make them aware of the applicable control measures implemented at the site so that they follow applicable procedures. This provision also clarifies that it is the permittee’s responsibility to inform such subcontractors of their responsibilities while operating at a permitted site.

Employee training programs should thoroughly educate the storm water lead, as well as employees and subcontractors, on their roles in implementing the control measures employed to meet the requirements in the permit. Training should address the processes and materials on the construction site, pollution

prevention measures for preventing discharges, and procedures for responding properly and rapidly to spills or other incidents. The training program should also address other requirements in the permit such as inspections, record-keeping and where applicable, monitoring.

Given the range in size and types of projects in Alaska the following is a description of the experience and skills of a “qualified person” for the different roles typically required at a site to ensure compliance with the permit. The recommended experience or educational requirements for each of these “roles” is described below. The required training is described in Table 4-4. Projects that disturb 1 to less than 5 acres may have one person carry out all the roles described below. Larger projects may need to have one person responsible for each role (this is a project-specific choice by the permittee).

Storm Water Lead

- A. The storm water lead is a person knowledgeable in the principles and practice of erosion and sediment controls who possesses the skills to assess conditions at the construction site that could impact storm water quality, and to assess the effectiveness of any erosion and sediment control measures selected to control the quality of storm water discharges from the construction activity.
- B. Such person shall have the authority to prepare the SWPPP, stop and/or modify construction activities as necessary to comply with the SWPPP and the terms and conditions of the permit, and modify the SWPPP.
- C. Such a person shall be responsible for inspections and record keeping.
- D. Such a person shall have the authority to supervise or initiate corrective actions identified by inspections, monitoring, or observation to fix control measures and minimize the discharge of pollutants.

SWPPP Preparer

The SWPPP preparer is a person knowledgeable in the principles and practice of erosion and sediment controls who possesses the skills to assess conditions at the construction site that could impact storm water quality, the effectiveness of any erosion and sediment control measures selected to control the quality of storm water discharges from the construction activity, and is familiar with Part 5.0 of the ACGP as a means to implement the permit.

Storm Water Inspector

The inspector is a person knowledgeable in the principles and practice of erosion and sediment controls who possesses the skills to assess conditions at the construction site that could impact storm water quality, the effectiveness of any erosion and sediment control measures selected to control the quality of storm water discharges from the construction activity, and is familiar with Part 6.0 of the ACGP as a means to ensure compliance with the permit. The person is familiar with the project specific inspection forms and how to fill them out, responsible for conducting and signing inspection reports, and responsible for reporting the need for followup corrective action to the Storm Water Lead or site supervisor.

Monitoring Person

The monitoring person is a person knowledgeable in the principles and practices of water quality monitoring who is familiar with Part 7.0 of the ACGP and the monitoring plan for the site and how to conduct water quality sampling, testing, and reporting.

Active Treatment System Operator

The Active Treatment System Operator is a person knowledgeable in the principles and practices of treatment systems that employs chemical coagulation, chemical flocculation, or electrocoagulation to aid in the treatment of storm water runoff who is familiar with Part 4.5 of the ACGP as a means to implement and comply with the permit.

Table 4-4: Recommended Experience or Required Training for Specific Roles for Projects Covered by the 2011 ACGP

Storm Water Role	Total Project Disturbed Acreage		
	1 to < 5 acres	5 acres to <20 Acres	> 20 Acres
<i>Storm Water Lead</i>	Recommend AK-CESCL training, but not required	Be AK-CESCL trained by May 1, 2013	Be AK-CECSL trained by May 1, 2012
<i>SWPPP Preparer</i>	Familiar with permit.	Recommend to take a course in SWPPP preparation.	Visited the site prior to writing the SWPPP or soon after project start and revised the SWPPP based on site conditions. Taken a course in SWPPP preparation.
<i>Inspector</i>	Familiar with permit and SWPPP.	Be AK-CESCL trained by May 1, 2013	Be AK-CECSL trained by May 1, 2012
<i>Monitoring</i>	Not Required	Not Required	Be AK-CECSL trained by May 1, 2012
<i>Active Treatment System Operator</i>	Be AK-CECSL trained by May 1, 2012 and have general experience and knowledge of storm water control measures. Have operational experience with the specific equipment used on-site.	Be AK-CECSL trained by May 1, 2012 and have general experience and knowledge of storm water control measures. Have operational experience with the specific equipment used on-site.	Be AK-CECSL trained by May 1, 2012 and have general experience and knowledge of storm water control measures. Have operational experience with the specific equipment used on-site.

Note: The following courses may substitute for AK-CESCL training: CPESC, CESSWI, CISEC, or CPSWQ.

4.4.13 Applicable Federal, State, Tribal, or Local Requirements (Part 4.13)

Many municipalities and boroughs and some tribes have developed control measure requirements for construction activities. A significant number have also developed storm water management requirements. The permit requires that storm water controls for sites that discharge storm water from construction activities be consistent with procedures and requirements of state/tribal and local control measure plans and storm water management plans. The construction site's storm water control practices may incorporate portions of a state, tribe, or local program's requirements if these requirements are at

least as strict as the permit. If a construction site is located in an area covered by such a local program, then compliance with various aspects of the local program would constitute compliance with these aspects of the permit.

The SWPPP must be updated as necessary to reflect any revisions to applicable federal, state, tribal, or local requirements that affect the storm water controls implemented at the site. The ability to reference other programs in the SWPPP is intended to reduce confusion between overlapping and similar requirements, while still providing for both local and state regulatory coverage of the construction site.

4.5 Storm Water Pollution Prevention Plan (Part 5.0)

Part 5.0 of the permit requires a SWPPP to be developed for each construction project covered by the permit to document the specific control measures that will be used to meet the requirements contained in Parts 3.0 and 4.0 of the permit, as well as documenting compliance with other permit requirements (e.g., recordkeeping and reporting). The SWPPP itself does not contain effluent limits; rather it constitutes a tool to assist both the permittee and inspector in ensuring and documenting that effluent limits are met. This documentation must be kept up-to-date. Where control measures are modified or replaced, for instance in response to a Part 8.1 triggering condition, such changes must be documented in the SWPPP (see Part 8.0 of the permit). Failure to develop and maintain an up-to-date SWPPP is a violation of the permit. This recordkeeping violation is separate and distinct from a violation of any of the other substantive requirements in the permit (e.g., control measures, corrective action, and inspection requirements).

Generally, the permittee must document the following: (1) the storm water lead person, (2) a description of the site, (3) summary of the nature of the construction activity, (4) site map, (5) description of control measures, and (6) and inspection procedures (including schedules).

4.5.1 Storm Water Pollution Prevention Plan (Part 5.1)

The permit requires the permittee to develop a SWPPP that documents how storm water control measures will be implemented to comply with the standards in the permit. The SWPPP must contain: (1) a site description that identifies sources of pollutants to storm water discharges associated with construction activity on site, and (2) a description of storm water control measures used at the site to reduce pollutants in storm water discharges to ensure compliance with the standards in Part 3.0 and the control measures in Part 4.0.

The permit clarifies that the SWPPP does not contain effluent limitations; the water quality-based and technology-based effluent limitations are contained in Parts 3.0 and 4.0, respectively. DEC emphasizes in Part 5.1 that the SWPPP is intended to document the selection, design, installation, and implementation of control measures that are being used to comply with the standards set forth in Part 3.0 and the control measures in Part 4.0. In addition, the permittee may choose to reference other documents in the SWPPP rather than recreating the same text in the SWPPP; however, when referencing other documents, the permittee is responsible for ensuring that the SWPPP and other documents together contain all the necessary elements for a complete SWPPP, as specified in Part 5.3. In addition, the permittee must ensure that copies of the referenced documents are located on site consistent with the requirement in Part 5.9.3 of the permit.

To ensure that the preparation, implementation and oversight of the SWPPP is sufficient for effective pollution prevention, DEC requires that the SWPPP be developed by a qualified person, as defined in Appendix C of the permit, and be implemented as written, including any modifications for changes in design or field conditions until submittal of the Notice of Termination.

4.5.2 Deadlines for SWPPP Preparation (Part 5.2)

To be covered under the permit, the SWPPP must be completed by the permittee prior to submitting an NOI for permit coverage. Doing so helps to ensure that the permittee has (1) taken steps to identify all sources of pollutant discharges in storm water and (2) implemented appropriate control measures to control these discharges in advance of permit coverage. Part 5.3 of the permit contains the required elements to be documented in the SWPPP.

A permittees covered under a previous permit must review and modify the existing SWPPP as necessary, prior to submitting a new NOI.

Additionally, a permittee must provide a copy of the applicable portions of the SWPPP or site –specific training to each subcontractor who engages in ground-disturbing activities prior to the subcontractor conducting any ground-disturbing activity. Any significant revisions to the SWPPP that affect the subcontractor’s ground-disturbing activities must be provided to the subcontractor in a timely manner.

4.5.3 SWPPP Contents (Part 5.3)

Permittee (Part 5.3.1)

The SWPPP must identify the permittee of the project site, any subcontractors, and those areas of the site over which the permittee has operational control. DEC clarifies that the purpose of requiring identification in the SWPPP of the permittee and any subcontractors on the site is to provide both staff members and DEC notice of any other parties that are responsible for specific areas of the site and other parties that are responsible for permit compliance.

Storm Water Contact(s) (Part 5.3.2)

The SWPPP must identify an individual who will serve as the storm water lead or team of individuals responsible for updating or revising the facility’s SWPPP. The permittee must assign a storm water lead to oversee the SWPPP and to ensure compliance with the permit, such as installing and maintaining control measures, conducting inspections or monitoring. The storm water lead should be chosen based on expertise in the relevant construction storm water management activities required to be documented in the SWPPP to ensure that all aspects are considered in developing the plan. The SWPPP must identify the employees or subcontractors that will be working on the site and clearly describe their individual responsibilities. Each person identified must have ready access to a copy of the SWPPP as well as other documents or information that must be kept with the SWPPP. The storm water lead may be responsible for every activity related to storm water at a small construction site.

Project Site-Specific Conditions (Part 5.3.3)

The SWPPP must generally describe the existing site-specific conditions of the project, including (1) the amount, frequency, duration, and seasonal occurrence of rainfall; (2) site conditions such as soils, topography, drainage patterns, and vegetation; and (3) receiving waters, such as impaired waters or waters listed in the ADF&G Anadromous Waters Catalog. DEC believes that this provision will provide permittees with an understanding of the areas impacted by construction within their project and will also assist permittees with selecting and designing the control measures necessary to meet requirements in Part 4.0 of the permit.

Nature of Construction Activity (Part 5.3.4)

The SWPPP must be based on an accurate assessment of the potential for generating and discharging pollutants from the site. Hence, the permit requires a description of the site and intended construction activities in the SWPPP (to provide a better understanding of site runoff characteristics). At a minimum, the SWPPP must describe the nature of the construction activity, including:

- The function of the project (e.g., low-density residential, shopping mall, highway, etc.);
- The intended significant activities, presented sequentially, that disturb soil over major portions of the site (e.g., grubbing, excavation, grading);
- Estimates of the total area of the site and the total area of the site that is expected to be disturbed by excavation, grading or other activities, including off-site borrow/fill areas. It may be preferable to separately describe portions of the site as they are disturbed at different stages of the construction process;
- A general location map able to identify the location of the activity and the waters of the U. S. within one mile of the project; and
- Identification of all potential sources of pollutants that may reasonably be expected to affect the quality of storm water discharges from the construction site.

The purpose of requiring a description of the nature of the construction activities taking place on the construction site to be documented in the SWPPP is to provide general information about the construction project, which can be readily understood by a DEC inspector or other third party who may be unfamiliar with the purpose and general layout of the project. Identification of the type of development and the size of the property and area of land expected to be disturbed assists permittees with the identification of the specific types of control measures that may be necessary. Estimating the total area expected to be disturbed by construction activities provides, among other things, information for determining the applicability of the monitoring requirement in Part 3.2. Identification of the general location of the site and any waters of the U.S. within one mile (as shown on a USGS map of the area) provides the permittee with information to support permit compliance, such as the establishment of a buffer or potentially compliance with requirements pertaining to nearby impaired waters.

Site Map (Part 5.3.5)

The SWPPP must contain a legible site map, or series of site maps, indicating:

- (1) boundaries of the property where construction activities will occur,
- (2) areas of soil disturbance and areas that will not be disturbed,
- (3) anticipated drainage patterns and slopes after grading activities,
- (4) locations where control measures will be or are already installed,
- (5) locations of planned stabilization measures,
- (6) locations where post-construction controls will be or are already installed,
- (7) off-site locations of equipment storage, material storage, waste storage and borrow/fill areas,
- (8) location and type of authorized non-storm water that will be used,
- (9) locations of surface waters (including wetlands), and
- (10) locations of discharge points to surface waters,
- (11) locations of sampling points (if applicable), and
- (12) locations where final stabilization has been accomplished and no further construction-phase permit requirements apply, if applicable.

In addition, the site map(s) should include other major features and potential pollutant sources, such as locations of impervious structures and soil storage piles.

DEC included as a parenthetical clarification that it is acceptable to include a statement that all areas of the site will be disturbed unless otherwise noted. This was added to clarify what is considered acceptable for indicating areas of soil disturbance and areas that will not be disturbed on the site map.

Control Measures (Part 5.3.6)

A permittee must describe in the SWPPP the control measures it has implemented at the site to demonstrate compliance with the requirements of Parts 3.0 and 4.0 as well as to address discharges composed of allowable discharges listed in Parts 1.4.1 and 1.4.2 commingled with a discharge authorized by a separate APDES permit and/or a discharge that does not require APDES permit authorization.

Types of Control Measures (5.3.6.1)

The description of the control measures implemented to meet the requirements of the permit must include:

- The type of control measure to be installed and maintained and location on the site for installation;
- The general sequence during the construction process in which the control measures will be installed and made operational; and
- Include the manufacturer's specifications for installation or maintenance of the appropriate control measures.

Construction Sequence (5.3.6.2)

DEC recognizes that many factors can impact the actual construction schedule, so the permittee need not include specific dates. For example, the plan could state to install silt fence for area "A" before rough grading, rather than put up silt fences on August 15. Good site planning and preservation of mature vegetation are imperative for controlling pollution in storm water discharges both during and after construction activities. Properly staging major earth disturbing activities can also dramatically decrease the costs of control measures.

As described above, DEC added new language to specify in the SWPPP any manufacturer's specifications for installation and maintenance. In addition, the details about the control measures used during construction will provide permittees with a written record to support these decisions in terms of the placement and design of the on-site control measures, and it will give potential inspectors a way of verifying that the control measures described in the SWPPP were installed and are being maintained as indicated in that document.

Stabilization (Part 5.3.6.3)

The SWPPP must include a description of temporary and permanent stabilization practices for the site, including a schedule of when the practices will be implemented.

Treatment Chemicals (Part 5.3.6.4)

The SWPPP must provide a description of the locations on your site where polymers, flocculants, or other treatment chemicals will be applied the periods of construction activity during which chemical treatments will be applied and expected duration of the chemical treatments. DEC believes that greater specificity is warranted because of the requirements for monitoring in Part 3.3 that correspond to the new C&D rule requirements at 40 CFR § 450.22 that is expected later in 2011.

Active Treatment System (Part 5.3.6.5)

The SWPPP must provide a description of the active treatment system used at the site. A permittee who uses an Active Treatment System as a control measure must submit information required by the Department for review at least fourteen (14) days prior to start of operation of the active treatment system at the project. At a minimum, the information must provide details on the following: engineering plans, description of treatment process, site conditions (including soil types), treatment chemicals, dose rates, monitoring to be conducted, expected residual chemical, proper operator training, methods for storage, procedures for spill prevention and containment, operation and maintenance, and record keeping and reporting.

Good Housekeeping Measures (Part 5.3.6.6)

A permittee is required to comply with the good housekeeping requirements for any of the following activities that occur at the site or at an off-site location. This section does not apply to a construction site that does not have any of the six support activities listed below. For each of these construction activities, the primary good housekeeping concepts are to designate an area for the activity, locate the designated area away from a location where storm water collects, and use pollution prevention concepts to avoid creating polluted storm water. The six construction support activities covered by the permit are:

- Washing of Equipment and Vehicles and Wheel Wash-Down (Part 4.7.1);
- Fueling and Maintenance Areas (Part 4.7.2);
- Staging and Material Storage Areas (Part 4.7.3);
- Washout of Applicators/Containers used for Paint, Concrete, and Other Materials (Part 4.7.4);
- Fertilizer or Pesticide Use (Part 4.7.5); and
- Storage, Handling, and Disposal of Construction Waste (Part 4.7.6).

Spill Prevention and Response Procedures (5.3.6.7)

The SWPPP must document the procedures that will be followed in the event of a spill or a leak, including:

- Procedures for material storage and handling;
- Procedures for plainly labeling containers (e.g., “Used Oil,” “Spent Solvents,” “Fertilizers and Pesticides,” etc.) that could be susceptible to spillage or leakage of toxic or hazardous chemicals to encourage proper handling and facilitate rapid response if spills or leaks occur;
- Procedures for expeditiously stopping, containing, and cleaning up spills, leaks, and other releases. Identify the name or title of the employee(s) responsible for detection and response of spills or leaks; and

- Procedures for notification of appropriate facility personnel, emergency response agencies, and regulatory agencies where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity, in accordance with Part 4.5.

DEC included this provision to provide documentation of the permittee's plans for preventing spills from occurring and assist the permittee with planning for appropriate measures to prevent spills from occurring and, if they do occur, adequately responding to them in order to minimize the potential discharge of any pollutants from the site. The more detailed requirements in Part 5.3.6.6 reflect the need to require the permittee to document plans for compliance with the pollution prevention measure requirements in Part 4.7, which derive from the C&D ELG in 40 CFR § 450.21(d)(3) and (e).

Permanent Storm Water Management Controls (5.3.6.8)

Describe the permanent storm water management controls being installed at the site.

Winter Shutdown (Part 5.3.6.9)

The SWPPP must document winter shutdown activities for projects that are not completed during the summer construction season. The SWPPP must document (1) the anticipated dates of fall freeze-up and spring thaw, (2) activities leading up to fall freeze-up, (3) activities at fall freeze-up, and (4) activities to reestablish control measures prior to and immediately after spring thaw. See Section 4.4.10 of this fact sheet for additional discussion of winter shutdown.

Maintenance Procedures (5.3.6.10)

The SWPPP must include preventative maintenance procedures, including regular inspections, maintenance, removal of sediment and repair of control measures to avoid situations that may result in leaks, spills, or other releases.

Employee Training (5.3.6.11)

The SWPPP must document procedures to comply with the training requirements in Part 4.12 including procedures for how the training will be conducted, which members of the storm water team or what positions will receive training, and approximate dates of training.

Construction and Waste Materials (5.3.7)

The SWPPP must document procedures for handling and disposing of waste on the site, including clearing and demolition debris or other sediment removed from the site, construction and domestic waste, hazardous or toxic waste, and sanitary waste. This provision provides documentation showing how the permittee will comply with the pollution prevention requirements relating to the management of construction wastes. In addition, DEC believes that greater specificity is warranted in Part 5.3.7 because of the new, more specific good housekeeping measure requirements in Part 4.7 that correspond to the new C&D ELG in 40 CFR § 450.21(d).

Locations of Other Industrial Storm Water Discharges (Part 5.3.8)

The SWPPP must provide a description of any discharge associated with industrial activity other than construction (including storm water discharges from dedicated asphalt plants, concrete plants, etc.) and the location of that activity on the construction site.

Non-Storm Water Discharges (Part 5.3.9)

The SWPPP must identify appropriate pollution prevention measures for each of the eligible non-storm water components of the discharge covered by the permit when combined with storm water discharges associated with construction activity. The SWPPP must also include a description of the pollution prevention measures used to eliminate or reduce non-storm water discharges consistent with Part 3.3.

4.5.4 Inspections (Part 5.4)

The permit requires the permittee to document in the SWPPP the procedures that will be followed for conducting site inspections and, where necessary, taking corrective actions. The following must be documented in the SWPPP, at a minimum:

- Person(s) or positions of person(s) responsible for conducting site inspections;
- Schedules to be followed for conducting inspections;
- Any inspection checklist or form that will be used; and
- How conditions found that require corrective action will be addressed.

DEC is requiring these documentation provisions to help ensure that appropriate inspection procedures consistent with permit requirements are implemented. DEC believes documenting these activities will help to improve construction site compliance with the permit requirements.

In addition, the permittee is required to retain with the SWPPP a record of each inspection for at least three years from the date that permit coverage expires or is terminated. The report must also identify any actions taken in accordance with the inspection requirements in Part 6.0 and must identify any triggering conditions requiring corrective action in accordance with Part 8.0 of the permit.

4.5.5 Monitoring Plan (Part 5.5)

If applicable, the permittee must include a copy of the monitoring plan required in Part 3.2 of the permit. This provision provides documentation showing how the permittee will demonstrate compliance with the WQS.

A permittee subject to the monitoring requirements in Part 3.2 must include a copy of the monitoring plan that complies with Part 7.0. At a minimum the SWPPP must document the following: person(s) or positions of person(s) responsible for conducting monitoring; schedules to be followed for conducting the monitoring; any monitoring checklist or form that will be used to record monitoring results; and how conditions found that require corrective action will be addressed.

A record of each monitoring event, any form used to collect and summarize data, the annual report submitted to DEC in accordance with Part 9.1, and of any corrective actions taken in accordance with Part 8.0 must be retained with the SWPPP for at least three (3) years from the date that permit coverage expires or is terminated.

4.5.6 Documentation of Permit Eligibility Related to Total Maximum Daily Load (Part 5.6)

The SWPPP must include documentation supporting a determination of permit eligibility with regard to waters that have an EPA-established or approved TMDL. The SWPPP must include the following: identification of whether the discharge is identified, either specifically or generally, in an EPA-established or approved TMDL and any associated allocations, requirements, and assumptions identified for the discharge; summaries of consultation with state or federal TMDL authorities on consistency of SWPPP conditions with the approved TMDL; and measures taken by the permittee to ensure that the discharge of pollutants from the site is consistent with the assumptions and requirements of the EPA-established or approved TMDL, including any specific wasteload allocation that has been established that would apply to the discharge.

4.5.7 Documentation of Permit Eligibility Related to Endangered Species (Part 5.7)

The SWPPP must include documentation supporting a determination of permit compliance with regard to the Endangered Species Act, including:

- Information on whether federally-listed endangered or threatened species or federally-designated critical habitat may be in the project area;
- Whether such species or critical habitat may be adversely affected by storm water discharges or storm water discharge-related activities from the project;
- Results of the listed species and critical habitat screening determinations;
- Any correspondence for any stage of project planning between the USFWS, EPA, NMFS, or others and the permittee regarding listed species and critical habitat, including any notification that delays the permittee's authorization to discharge under this permit; and
- A description of measures necessary to protect federally-listed endangered or threatened species or federally-designated critical habitat.

4.5.8 Post-Authorization Records (Part 5.8)

Copy of Permit Requirements (Part 5.8.1)

Copies of the ACGP, the signed and certified NOI submitted to DEC, and a copy of the letter from DEC indicating that a complete NOI has been received must be included in the SWPPP. This condition in the permit is intended to stress the importance of these documents for permittees to understand permit responsibilities. Confirmation of delivery of NOI to DEC or to DEC's electronic NOI system may include an overnight, express, or registered mail receipt acknowledgment or electronic acknowledgment from DEC's electronic NOI system;

Additional Documentation Requirements (Part 5.8.2)

Part 5.8.2 of the permit includes a list of documents, findings, activities, and other information that must be kept with the permittee's SWPPP. The SWPPP requires that specific construction dates be documented and maintained as a way for the permittee as well as DEC, to determine applicability and implementation status. Important dates include when grading activities occur, when construction activities temporarily or permanently cease on a portion of the site, when stabilization measures are initiated, and beginning and ending period for winter shutdown. In addition, DEC added language clarifying that a permittee is required to maintain documentation, with the SWPPP, of any inspection reports, discharge monitoring reports, SWPPP modifications, employee training, maintenance activities, corrective actions, and any other reports or certifications required by the permit. The purpose of this added documentation is to be able to demonstrate to any DEC inspector that the permit is being complied with and that the permittee is making the effort to comply with the permit.

4.5.9 Maintaining an Updated SWPPP (Part 5.9)

SWPPP Modifications (Part 5.9.1)

The permit requires that the SWPPP be updated, including site maps, in response to any of the following:

- Whenever changes are made to construction plans, control measures, pollution prevention measures or other activities at the site that are no longer accurately reflected in the SWPPP. This includes changes made in response to corrective actions triggered under Part 8.0 and notifications by the secondary permittee(s);
- If inspections or investigations by site staff or by local, state, tribal or federal officials determine that SWPPP modifications are necessary for compliance with the permit; or
- To reflect any revisions to applicable federal, state, tribal, or local requirements that affect the control measure implemented at the construction site.

Log of SWPPP Modifications (Part 5.9.2)

The permittee must maintain a log showing the dates of all SWPPP modifications, which must include the name of the person authorizing each change and a brief summary. The requirement to log SWPPP modifications is to ensure that the SWPPP is kept up to date.

Deadlines for SWPPP Modifications (Part 5.9.3)

Part 5.9.3 of the permit requires the permittee to complete revisions to the SWPPP within seven (7) calendar days following the occurrence of any conditions listed in Part 5.9.1. DEC clarifies that requiring any SWPPP revisions to be complete within seven days is to ensure that any necessary revisions made to the SWPPP are incorporated in a timely matter so that the SWPPP is kept up to date.

4.5.10 Additional SWPPP Requirements (Part 5.10)

Retention of SWPPP (Part 5.10.1)

A copy of the SWPPP must be kept at the construction site from the date of project initiation to the date of final stabilization. A permittee with day-to-day operational control over the plan's implementation must keep a copy of the plan readily available whenever on site (a central location, such as a construction trailer or truck accessible by all on-site personnel is sufficient). If an on-site location is unavailable to store the SWPPP when no personnel are present, notice of the plan's location must be posted near the main entrance at the construction site. A copy of the SWPPP must be readily available to authorized inspectors during normal business hours.

Main Entrance Signage (Part 5.10.2)

A notice about the permit and SWPPP must be posted conspicuously near the main entrance of the site. If display near the main entrance is infeasible, the notice can be posted in a local public building such as the town hall or public library. For linear projects, the notice must be posted at a publicly accessible location near the active part of the construction project (e.g., where a pipeline project crosses a public road). The permit notice must include the following information:

- A copy of the completed Notice of Intent as submitted to DEC;
- The current location of the SWPPP (if different than that submitted to DEC in the NOI); and
- The current contact person and telephone number for scheduling times to view the SWPPP (if different than that submitted to DEC in the NOI).

The permit does not require that the general public have access to the construction site nor does it require that copies of the plan be available or mailed to members of the public. However, DEC strongly encourages permittees to provide public access to SWPPPs at reasonable hours. Upon request, DEC intends to assist members of the public in obtaining access to permitting information, including SWPPPs. DEC believes this approach will create a balance between the public's need for information on projects potentially impacting their water bodies and the site permittee's need for safe and unimpeded work conditions.

Availability of SWPPP (Part 5.10.3)

A permittee must provide a copy of the SWPPP or portion thereof to each subcontractor on-site. In addition, a permittee must make SWPPPs available, upon request, to DEC, state, tribal or local agencies approving sediment and erosion plans, grading plans or storm water management plans; local government officials; the operator of an MS4 receiving discharges from the site; and representatives of the Alaska Department of Fish & Game, U.S. Fish and Wildlife Service or the National Marine Fisheries Service. Also, a permittee must make the SWPPP available to DEC or its authorized representative for review and copying during any on-site inspection.

The SWPPP must identify an alternative off-site location during the period of winter shutdown for a multi-season project that goes through a winter shutdown. The SWPPP must then be returned to the site once the winter shutdown is over.

Signature and Certification (Part 5.10.4)

The SWPPP must be signed and certified in accordance with the signatory requirements in the Standard Permit Conditions section of the permit (Appendix A).

4.5.11 Requirements for Different Types of Operators (Part 5.11)

Operational Control Over Construction Plans and Specifications (Part 5.11.1)

If the permittee has operational control over construction plans and specifications, the permittee must ensure that: the project specifications meet the minimum requirements of this Part and all other applicable permit conditions; the SWPPP indicates the areas of the project where the permittee has operational control over project specifications, including the ability to make modifications in specifications; all other permittees implementing portions of the SWPPP (or their own SWPPP) who may be impacted by a change to the construction plan are notified of such changes in a timely manner; and the SWPPP indicates the name of the party(ies) with day-to-day operational control of those activities necessary to ensure compliance with the SWPPP or other permit conditions.

Operational Control Over Day-to-Day Activities (Part 5.11.2)

If the permittee has operational control over day-to-day activities, the permittee must ensure that: the SWPPP meets the minimum requirements of this Part and identifies the parties responsible for implementation of control measures identified in the plan; the SWPPP indicates areas of the project where the permittee has operational control over day-to-day activities; and the SWPPP indicates the name of the party(ies) with operational control over project specifications (including the ability to make modifications in specifications).

Control of a Portion of a Larger Project (Part 5.11.3)

If the permittee has operational control over only a portion of a larger project (e.g., one of four homebuilders in a subdivision), the permittee is responsible for compliance with all applicable effluent limits, terms, and conditions of this permit as it relates to the activities on the permittee's portion of the construction site, including protection of endangered species, critical habitat, and historic properties and implementation of control measures described in the SWPPP. The permittee must ensure, either directly or through coordination with other permittees, that activities do not render another party's pollutant discharge controls ineffective. The permittee must either implement a portion of a common SWPPP or develop and implement its own SWPPP.

For more effective coordination of BMPs and opportunities for cost sharing, a cooperative effort by the different operators at a site to prepare and participate in a comprehensive SWPPP is encouraged. Individual operators at a site may, but are not required to, develop separate SWPPPs that cover only their portion of the project provided reference is made to other operators at the site. In instances where

there is more than one SWPPP for a site, cooperation between the permittees is encouraged to ensure the storm water discharge control measures are consistent with one another (e.g., provisions to protect listed species and critical habitat).

4.6 Inspections (Part 6.0)

4.6.1 Inspection Frequency (Part 6.1)

The permit requires the permittee to inspect designated areas in accordance with one of the three inspection schedules and specify in the SWPPP which inspection schedule will be followed:

- For areas of the state where the mean annual precipitation is fifteen (15) inches or less, inspect at least once every fourteen (14) calendar days and within twenty-four (24) hours of the end of a storm event that results in a discharge from the site;
- For areas of the state where the mean annual precipitation greater than fifteen (15) inches and less than forty (40) inches;
 - Inspect at least once every seven (7) calendar days or
 - Inspect at least once every fourteen (14) calendar days and within twenty-four (24) hours of the end of a storm event (including snowmelt events) that results in a discharge from the site; or
- For areas of the state where the mean annual precipitation is forty (40) inches or greater, inspect at least once every 7 days. For periods of relatively continuous precipitation or sequential storm events inspect at least twice every seven (7) calendar days.

This provision provides greater clarification to the permittee so that inspection procedures are clearly stated and understood. Additionally, DEC believes that inspections should occur more frequently in areas of the state with higher mean annual precipitation. DEC also recommends that the permittee perform a “walk through” inspection of the construction site before anticipated storm events (or series of events such as intermittent showers over a period of days) that could potentially yield a significant amount of runoff. In exchange for committing to more frequent inspections, the permittee could plan and budget for one inspection per week and would not have to deal with uncertainties associated with an unknown number of additional inspections triggered by rain events and the need to have inspectors on standby. This flexibility would be especially valuable for unstaffed locations. Proper operation and maintenance of storm water control measures is independently required by Part 4.11 of the permit, so the inspection schedule used is expected to provide adequate environmental protection.

4.6.2 Case-by-Case Reductions in Inspection Frequency (Part 6.2)

Part 6.2 provides exception to the required inspection frequencies in Part 6.1 as follows:

- If the entire site is temporarily stabilized in accordance with Part 4.4, the permittee may reduce the frequency of inspections to at least once every thirty (30) calendar days and within two business days of the end of a storm event at actively staffed sites that results in a discharge from the site;

- If portions of the site have achieved final stabilization in accordance with Part 4.4 but construction activity remains on other portions of the site, a permittee may suspend inspections for those portions that have achieved final stabilization; however, the permittee may need to conduct subsequent inspections within two business days of the end of a storm event at actively staffed sites that results in erosion and causes a discharge from that portion of the site previously considered finally stabilized;
- If construction is occurring during seasonal arid or semi-arid periods, the permittee may reduce the frequency of inspections areas to at least once every thirty (30) calendar days and within two business days of the end of a storm event at actively staffed sites that results in a discharge from the site; or
- If the project is undergoing winter shutdown, as defined in Appendix C and documented in accordance with Part 5.3.6.9, the permittee may reduce the frequency of inspections. For example, in areas of Alaska, such as the Arctic and Interior Climatic Regions where frozen conditions are anticipated to continue for extended periods of time (e.g., more than one month), land disturbance activities are suspended and the site has undergone stabilization (temporary or final) unstaffed construction sites may stop inspections until at least 21 twenty one days before the anticipated spring thaw and before thawing conditions are expected to result in a storm water discharge from the site.

DEC believes that it is important to continue to periodically inspect the construction site to ensure that control measures are maintained and the site is in compliance with the terms and limits in the permit. DEC also added language to clarify that once the site has been finally stabilized and a NOT has been submitted, no further inspection requirements apply to that portion of the site.

4.6.3 Qualified Person (Part 6.3)

Inspections must be performed by qualified personnel, either the permittee's own personnel or a third party hired to perform the inspections. The inspectors must be knowledgeable and possess the skills to assess conditions at the construction site that could impact storm water quality and assess the effectiveness of sedimentation and erosion control measure chosen to control the quality of the sites storm water discharges.

4.6.4 Site Inspection (Part 6.4)

Part 6.4 of the permit specifies the areas that need to be checked during the site inspection and what conditions to inspect.

Location of Inspections (Part 6.4.1)

Site inspections must comprise, at a minimum, the following areas:

- All areas of the site disturbed by construction activity (e.g., areas cleared, graded, or excavated);
- Areas used for storage of materials that are exposed to precipitation;
- All areas where control measures are installed and maintained at the site;

- Areas where sediment and other pollutants have accumulated or been deposited, and may have the potential for or are entering the storm water conveyance system, and locations where vehicles enter or exit the site;
- All areas where storm water typically flows, including the storm water conveyance system;
- All points of discharge from the site. Where discharge locations are inaccessible, nearby downstream locations must be inspected to the extent that such inspections are practicable; and
- All portions of the site where temporary or permanent stabilization measures have been initiated.

Scope of Inspection (Part 6.4.2)

Inspectors must check for the following during site inspections:

- Check whether all control measures are installed and operating as intended and determine if any control measures need to be replaced, repaired or maintained;
- Check for the presence of accumulated sediment on locations of the site, such as roadways or parking lots, storm water conveyance systems, storm drain inlets, and discharge points;
- Check for the evidence of, or the potential for spills, leaks, or other accumulations of pollutants on the site entering the storm water conveyance system or waters of the U.S.;
- Describe visible areas of erosion that has occurred on any portion of the site. Identify any locations where new or modified control measures are necessary to meet the requirements in Part 8.0;
- Describe the following conditions at the site in which a discharge is occurring:
 - Observe and document the visual quality and characteristics of the discharge, including color, odor, floating, settled, or suspended solids, foam, oil sheen, and other obvious indicators of storm water pollutants; and
 - Identify all points of the property where there is a discharge; and

Any incidents of noncompliance observed and corrective actions pursuant to Part 8.0.

4.6.5 Linear Project Inspections (Part 6.5)

Linear construction projects (e.g., utility line installation, pipeline construction) must inspect the construction site at the same frequency as other construction projects, but representative inspections may be performed. For representative inspections, qualified personnel must inspect controls along the construction site for 0.25 mile above and below each access point where a roadway, undisturbed right-of-way, or other similar feature intersects the construction site and allows access to the areas described above. The conditions of the controls along each inspected 0.25-mile segment may be considered as representative of the condition of controls along that reach extending from the end of the 0.25-mile segment to either the end of the next 0.25-mile inspected segment or to the end of the project, whichever occurs first. DEC believes that this will provide specific flexibility to linear construction projects conducting inspections and limit additional disturbance to soils that may increase the erosion potential resulting from vehicles compromising stabilized areas.

4.6.6 Inspections by DEC or Applicable Local Government Authority (Part 6.6)

The permit requires the permittee to allow an authorized representative of the DEC or the MS4 to:

- Enter onto the premises, at reasonable times, where a regulated construction activity is being conducted or where records are kept under the conditions of the permit;
- Access and copy, at reasonable times, any records that must be kept under the conditions of the permit;
- Inspect at reasonable times the complete construction site, including any off-site staging areas or material storage areas, and the erosion/sediment controls; and
- Sample or monitor, at reasonable times, for the purpose of ensuring compliance.

DEC added this provision to place the permittee on notice of the possibility and scope of authority that the Department or a local MS4 representative may conduct its own inspections on the construction site for the purposes of determining compliance with the permit.

4.6.7 Inspection Report (Part 6.7)

Once an inspection has been performed, the permittee is required to prepare an inspection report and retain it for up to three years from the date of coverage under the permit expires or is terminated. The inspection report must contain all elements listed in Part 6.7 of the permit and the report must be signed in accordance with the signatory requirements in Appendix A, Part 1.12 of the permit.

4.7 Monitoring (Part 7.0)

4.7.1 General Requirements (Part 7.1)

A permittee subject to the monitoring requirements in Parts 3.2 or 3.3 is required to develop a written site-specific monitoring plan for analytical monitoring, in accordance with Part 7.0. The monitoring plan must comply with DEC requirements for a quality assurance project plan.

4.7.2 Qualified Person (Part 7.2)

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 construction site that could impact storm water quality and assess the effectiveness of sedimentation and erosion control measure chosen to control the quality of the sites storm water discharges.

4.7.3 Discharge Monitoring Requirements (Part 7.3)

Sampling Parameter (Part 7.3.1)

The sampling parameter is turbidity.

Sampling Frequency (Part 7.3.2)

The permittee must sample during any storm event or snow melt condition that results in a discharge of storm water from the site. Samples are only required to be taken during normal business hours and when conditions are safe to sampling personnel.

Sampling Discharge Point (Part 7.3.3)

Part 7.3.3 requires the permittee to conduct sampling at all discharge points when storm water is discharged off-site, except for linear projects. These sampling locations must be identified on the SWPPP site map and must be clearly marked in the field with a flag, tape, stake or other visible marker.

Representative Discharge Point for a Linear Projects (Part 7.3.4)

A permittee of a linear project is allowed to sample from just one of the discharge points when multiple discharge points are substantially identical, provided the requirements of Part 7.0 are met.

Commingled Discharges (Part 7.3.5)

If prior to discharging, storm water flow commingles with sources of storm water that originate outside of the construction site on property that is not owned or operated by the permittee, the following applies:

- The permittee is required to take samples of discharges from the construction site that consist in part of storm water that originates outside of the construction site and discharges from the site; or
- The permittee is not required to sample a discharge if storm water originates outside of the construction site then discharges from the permittee's property but does not come into contact with the site construction activities.

Sample Type (Part 7.3.6)

The permittee must collect a sample of the discharge that is representative of the flow and characteristics of the discharge. The Department expects that most samples collected will be grab samples, but automatic sampling is allowed, in accordance with Part 7.3.7.

Sampling and Analysis Methods (Part 7.3.7)

Part 7.3.7 requires that the turbidity analysis must be performed with a field-calibrated nephelometer or turbidity meter (turbidimeter). Automated sampling is allowed, but the Department expects that most samples collected will be grab samples. When collecting samples:

- Sample containers should be labeled prior to collecting the samples;
- Samples should be well mixed before transferring to a secondary container;
- Large-mouth, well cleaned and rinsed glass or plastic jars should be used for collecting samples. The jars should be cleaned thoroughly to avoid contamination;

- Samples must be taken from the horizontal and vertical center of the discharge point(s) or other sources of concentrated flow;
- Hold sampling container so that the opening faces the upstream direction of the discharge point in which samples are taken;
- Do not overfill the sampling container, and
- Keep the samples free from floating debris.

Rainfall Monitoring (Part 7.3.8)

The permittee must also use a rain gauge on-site or utilize the nearest National Weather Service precipitation gauge station to determine the amount of rainfall during a storm event. The permittee must maintain records of rainfall amounts and dates in the SWPPP.

Recording Monitoring Data (Part 7.3.9)

Part 7.3.9 requires the permittee to maintain records of all sampling information. For each sample taken, the records must include the date, location, method and time of sample, name of individual who performed the sampling, dates the analyses were performed, and analytical techniques used, results of the analysis in NTUs, and the arithmetic mean of all samples for each day.

Reporting Monitoring Results (Part 7.3.10)

Part 7.3.10 requires the permittee to report monitoring results to DEC in accordance with the Annual Reports in Part 9.1.

4.7.4 Visual Monitoring for a Linear Project (Part 7.4)

Visual Monitoring Frequency (Part 7.4.1)

A permittee of a linear project subject to the monitoring requirements of Parts 3.2 of the permit is required to visually monitor the project.

Visual Monitoring Locations (Part 7.4.2)

As described in Part 7.3.4, a permittee of a linear project with substantially identical effluent is required to collect samples from only one of those substantially identical outfalls. The visual monitoring applies to each drainage area of the project and must be conducted during, or subsequent to, a storm event or snowmelt condition that results in a discharge of storm water.

Visual Monitoring Parameters (Part 7.4.3)

The purpose of visual monitoring is to observe the visual quality and characteristics of the discharge, including color, odor, solids, foam, or other indicators of storm water pollutants.

Recording Visual Monitoring Data (Part 7.4.4)

The visual monitoring must also document whether control measures are operating effectively or are in need of maintenance. Records of the visual monitoring do not need to be submitted to DEC, unless specifically requested, but must be maintained with the SWPPP.

4.8 Corrective Actions (Part 8.0)

The provisions in Part 8.0 specify the types of conditions at the construction site that trigger corrective action requirements, what must be completed to eliminate such conditions or conduct further inquiries into their cause, and the deadlines for completing corrective action. This provision requires the permittee to review and revise the selection, design, installation, and implementation of the permittee's control measures to ensure that the condition is eliminated and will not be repeated in the future or to determine if modifications are necessary to meet the requirements in Parts 3.0 and 4.0 of the permit.

4.8.1 Corrective Action Conditions (Part 8.1)

Part 8.1 specifies conditions that, should they occur, trigger the need to review and modify the selection, design, installation, and implementation of control measures to resolve any deficiencies. These conditions include control measures that are not designed, installed, and/or maintained as required in Part 4.0 or a prohibited discharge as specified in Part 4.6 is occurring or will occur if effective corrective actions are not taken. Specific conditions triggering the need for corrective action are detailed in Parts 8.1.1 and 8.1.2. DEC believes that a review and revision of the condition is necessary in order to review and revise the selection, design, installation, and implementation of control measures to address the condition.

4.8.2 Deadlines for Corrective Actions (Part 8.2)

The permit includes specific deadlines for permittees to review the design, installation, and maintenance of control measures, upon detecting either condition in Parts 8.1.1 or 8.1.2, and document any corrective action(s) to be taken to eliminate or further investigate the deficiency. Specific deadlines for corrective actions include the following:

- For conditions that are easily remedied (e.g., removal of tracked sediment, maintenance of control measures, or spill clean-up), the permittee must fix the problem immediately, and complete such work by the close of the next full business day;
- If installation of a new control measure is needed, or an existing control measure requires significant redesign and reconstruction or replacement, the permittee must install the new or modified measure and make it operational within seven (7) days from the time of discovery at the site; or
- This provision stipulates time limits for implementing corrective actions to remedy the Part 8.1 conditions. The time limits are those that DEC considers reasonable for documenting that a problem has been identified and then making any necessary repairs or modifications. These timeframes are included to ensure that deficiencies are corrected expeditiously. In addition, where the permittee takes corrective actions that could affect subcontractors the primary

permittee must provide notification to all affected subcontractors within three (3) days of taking the corrective action.

4.8.3 Corrective Action Log (Part 8.3)

The permittee must document basic information describing the triggering condition and the permittee's response to that condition for any triggering condition described in Part 8.1 of the permit. DEC included this language to clarify that a permittee must document deficiencies immediately (e.g., within 24 hours) as a way to more clearly provide a starting point on which corrective actions are to be based. Subcontractors must also notify the permittee within 24-hours of becoming aware of any of conditions listed in Part 8.1 and provide documentation for the corrective action log, in accordance with this Part. The documentation must contain all of the elements contained in Part 8.3.1. As described in Part 9.3 of the permit, a permittee is required to maintain a copy of this documentation with the SWPPP.

4.8.4 Corrective Action Report (Part 8.4)

If a monitoring result pursuant to Part 3.2 exceeds the WQS, the permittee must submit a corrective action report consistent with Part 9.2. DEC is requiring submission of this report as a way to assess the potential impact of these discharges on water quality and also as a way to assess the adequacy of the permittee's response to the exceedance.

4.9 Reporting and Recordkeeping (Part 9.0)

4.9.1 Annual Report (Part 9.1)

A permittee who is required to monitor a discharge per Part 3.2 or Part 3.3 must submit all monitoring data to DEC using a paper annual report form with the NOT or by December 31 of the year if the project is a multi-year project. Monitoring results submitted as a paper annual report must be in a clearly legible format. Upon written notification, DEC may require the permittee to submit the monitoring results on a more frequent basis. Monitoring and analysis of any storm water discharge(s) or the receiving water(s) beyond the minimum frequency stated in the permit must be reported in a similar manner to DEC. The paper annual report must be signed and certified in accordance with the signatory requirements in Appendix A, Part 1.12.

4.9.2 Corrective Action Report (Part 9.2)

If monitoring data collected pursuant to Part 3.2 exceeds the WQS, the permittee must submit a corrective action report containing the following:

- APDES Permit Tracking Number;
- Project name, physical address and location;
- An appropriate contact name, telephone number and e-mail address;
- Name of receiving water;
- Monitoring data from the event that exceeded the WQS; and

- An explanation of the situation and steps taken or planned (should corrective actions not yet be complete) to correct the violation.

DEC is requiring submission of this report as a way to assess the potential impact of these discharges on water quality and also as a way to assess the adequacy of the permittee's response to the exceedance.

4.9.3 Retention of Records (Part 9.3)

The permit requires that all records and reports required by the ACGP be retained, including SWPPPs and information used to complete the NOI, for at least three years from the termination of coverage. This period may be extended by written notification from DEC.

4.9.4 Request for Submittal of Records (Part 9.4)

The permit requires the permittee to submit a copy of plans or records to DEC within thirty (30) calendar days of receipt of a written request from DEC.

4.10 Termination of Coverage (Part 10.0)

Part 10 of the permit details the requirements that must be met before a permittee of a construction project may be authorized to terminate coverage under the permit.

4.10.1 When to Submit a Notice of Termination (Part 10.1)

The NOT must be filed within 30 days after one or more of the following conditions have been met:

- Final stabilization has been achieved on all portions of the site, in accordance with Part 4.4.3, for which the permittee is responsible and all construction activity has been completed;
- A new permittee has assumed control over all areas of the site that have not been finally stabilized;
- Coverage under an APDES individual or alternative APDES general permit has been obtained, unless DEC has required that the permittee obtain such coverage under authority of Part 2.8, in which case coverage under the permit will automatically terminate;
- For residential construction only, temporary stabilization has been completed and the residence has been transferred to the homeowner; or
- The planned construction activity identified on the original NOI was never initiated (e.g., no grading or earthwork was ever started and plans for the construction have been permanently abandoned or indefinitely postponed).

Additionally, where a new permittee has assumed control over all areas of the site that have not been fully stabilized, that new permittee must submit an NOI for coverage. A permittee that has submitted and is covered by a low erosion potential waiver or TMDL waiver does not have to comply with the permit requirement to submit an NOT. A permittee may face enforcement action if an NOT is submitted

without meeting one of the requirements unless there has been authorization under an alternative permit or a waiver for coverage under the permit has been approved.

4.10.2 Submitting a Notice of Termination (Part 10.2)

A permittee must submit a completed NOT either electronically (strongly encouraged) or by paper using the NOT form when one or more of the conditions listed in Part 10.1 of the permit are met. If the permittee submitted an NOI to EPA before October 31, 2009, the permittee must submit an NOT to DEC.

The NOT includes:

- An NPDES or APDES permit tracking number for the storm water discharge;
- The basis for submission of the NOT, including: final stabilization has been achieved on all portions of the site for which the permittee is responsible; another person or entity has assumed control over all areas of the site that have not been finally stabilized; coverage under an alternative APDES permit has been obtained; for residential construction only, temporary stabilization has been completed and the residence has been transferred to the homeowner; or the planned construction activity identified on the original NOI was never initiated (e.g., no grading or earthwork was ever started) and plans for the construction have been permanently abandoned or indefinitely postponed ;
- The permittee's name, address, and telephone number;
- The name of the project and street address (or a description of location if no street address is available) of the construction site for which the notification is submitted; and
- A certification statement signed and dated by an authorized representative as defined in Appendix E, Part 1.12 and the name and title of that authorized representative.

Once a valid NOT is submitted, the permittee's authorization to discharge terminates at midnight of the day the NOT is signed and the permit no longer applies to storm water discharges associated with construction at the site. If DEC determines that the NOT is incomplete or the permittee has not satisfied one of the conditions in Part 10.1 for being able to submit an NOT, then the notice is not valid and the permittee must continue to comply with the conditions of the permit until authorization is terminated. DEC will notify the permittee if the department finds the NOT incomplete.

4.11 Reopener Clause (Part 11.0)

The permit contains a re-opener clause allowing the permit to be re-opened and modified during the term of the permit consistent with the APDES regulations at 18 AAC 83.130, 18 AAC 83.135, 18 AAC 83.140, or 18 AAC 83.145. Generally, this would be triggered by a water quality concern, a change in NPDES statutes, or to incorporate new procedures or requirements developed by DEC. Indication that a permittee is contributing to a water quality concern or generally not fulfilling his or her obligations under the permit, may result in a review of the permit and requirement to obtain an individual permit or alternative general permit or have the limitations and/or requirements under the permit be modified.

4.12 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. To better clarify permit-specific terms, DEC added abbreviations for Alaska Department of Environmental Conservation (DEC) and Alaska Pollutant Discharge Elimination System (APDES).

Definitions (Appendix C)

Appendix C contains definitions of statutory, regulatory and other terms important for understanding the permit and its requirements. To better clarify permit-specific terms, DEC has revised, deleted or added several definitions to Appendix C.

Small Construction Waivers and Instructions (Appendix D)

As described in Section 4.1.5 of this fact sheet, EPA's Phase II storm water regulations allow waivers from permitting requirements for some construction projects in the 1-5 acre range that do not pose a potential threat to water quality.¹ DEC adopted three types of waivers that construction sites may qualify for in lieu of needing to obtain coverage under a construction general permit.

The Rainfall-Erosivity Waiver 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 where (and when) negligible rainfall/runoff-erosivity is expected. The basis of the rainfall erosivity factor "R" was determined by EPA in the Phase II Rule in accordance with Chapter 2 of Agriculture Handbook Number 703, *Predicting Soil Erosion by Water: A Guide to Conservation Planning With the Revised Universal Soil Loss Equation (RUSLE)*, pages 21–64, dated January 1997; United States Department of Agriculture (USDA), Agricultural Research Service. DEC developed Alaska-specific R factor information for Alaska from RUSLE2 Version 1.26.6.4

http://fargo.nserl.purdue.edu/rusle2_dataweb/RUSLE2_Index.htm (Database last modified on Feb, 28, 2008).

¹ For more background on designation of small construction activity and available waivers, see discussion on "Discharges Associated with Small Construction Activity" starting on page 68771 of the December, 8 1999 Federal Register (64 FR 68771).

If a small construction project's rainfall erosivity factor is less than 5 during the period of construction activity, the applicant must certify to DEC that construction activity will occur only when the rainfall erosivity factor is less than 5 (see Table 4-5). The period of construction activity begins at initial earth disturbance and ends with final stabilization. Where vegetation will be used for final stabilization, the date of installation of a stabilization practice that will provide temporary non-vegetative stabilization can be used for the end of the construction period, provided the applicant commits (as a condition of waiver eligibility) to periodically inspect and properly maintain the area until the criteria for final stabilization as defined in the construction general permit have been met. If use of this temporary stabilization eligibility condition was relied on to qualify for the waiver, signature on the waiver with its certification statement constitutes acceptance of and commitment to complete the final stabilization process. The applicant must submit a waiver certification to DEC prior to commencing construction activities.

If the construction activity is eligible for a waiver based on low erosivity potential, the applicant may submit a rainfall erosivity waiver certification form to the address listed in Part 2.3 of the ACGP and provide the following information on the waiver certification form in order to be waived from permitting requirements:

1. Name, address and telephone number of the applicant;
2. Name (or other identifier), address, county or similar governmental subdivision, and latitude/longitude of the construction project or site;
3. Estimated construction start and completion (e.g., final stabilization) dates, and total acreage (to the nearest quarter acre) to be disturbed; and
4. The rainfall erosivity factor calculation that applies to the active construction phase at your project site; and
5. A statement, signed and dated by an authorized representative as provided in Appendix A, Part 1.12 that certifies that the construction activity will take place during a period when the value of the rainfall erosivity factor is less than five.

An applicant can access the waiver certification form from DEC's Web site at: (www.ADEC.state.ak.us/water/wnpspc/stormwater/stormwater.htm). The form must be sent to the addresses listed in Part 2.3 of the permit. If the R factor is 5 or greater, the rainfall erosivity waiver is not available, and the applicant must apply for permit coverage per Part 2.2 of the permit, unless the project can qualify for one of the Water Quality Waivers described below. Also, if the small construction project continues beyond the projected completion date given on the waiver certification, the applicant must recalculate the rainfall erosivity factor for the new project duration. If the R factor is below 5, the applicant must update all applicable information on the waiver certification and retain a copy of the revised waiver as part of the site SWPPP. The new waiver certification must be submitted prior to the projected completion date listed on the original waiver form to assure exemption from permitting requirements is uninterrupted. If at that time the new R factor is 5 or above, the applicant must submit an NOI per Part 2.0 of the permit.

TMDL or Equivalent Analysis Waiver

The next two waivers are water quality waivers allowed at 40 CFR §122.26(b)(15)(i)(B) that are essentially based on an analysis that storm water discharges from small construction activities would not be expected to cause or contribute to exceedances of WQS. As described in Appendix D, applicants may use these water quality waivers, where it is anticipated that the analysis would demonstrate that control measures for small construction activity were not needed based on: 1) an approved TMDL for impaired waters addresses pollutant(s) of concern; or 2) for non-impaired waters, an equivalent analysis that either determines pollutant load allocations for small construction or determines that such load allocations were not necessary to protect water quality.

Table 4-5: Accumulating Rainfall Erosivity Values for Representative Key Alaskan Communities Urban Areas

Indicator Stations/Urban Locations	1/1-4/15	4/16-4/30	5/1-5/15	5/16-5/31	6/1-6/15	6/16-6/30	7/1-7/15	7/16-7/31	8/1-8/15	8/16-8/31	9/1-9/15	9/16-9/30	10/1-10/15	10/16-12/31
Talkeetna	0.0	1.0	22.0	45.0	68.0	90.0	109.0	125.0	134.0	141.0	146.0	151.0	160.0	170.0
Homer	0.0	0.0	0.3	0.9	1.8	3.0	6.8	10.6	13.6	16.6	19.3	21.8	22.6	23.0
Anchorage/ Kenai	0.0	0.0	0.3	1.0	2.0	4.0	11.0	19.0	21.0	22.0	23.0	23.0	23.0	23.0
Palmer	0.0	0.0	0.3	1.1	2.1	3.8	9.1	14.5	19.1	23.6	27.5	30.8	31.6	32.0
Gulkana	0.0	0.0	0.3	1.3	3.9	8.9	23.1	37.7	41.5	44.3	46.0	46.9	46.9	46.9
Healy	0.0	0.5	14.1	31.6	50.9	69.9	88.2	106.6	114.2	120.4	124.1	128.1	133.9	140.4
Aniak/ Crooked Creek Kuskokwim/ McGrath	0.0	0.5	13.0	26.0	39.0	53.0	66.0	79.0	86.0	91.0	93.0	95.0	99.0	103.0
Galena/ Norway	0.0	0.5	2.1	5.9	12.8	19.4	23.2	25.9	27.2	28.1	28.2	28.4	28.7	29.1
Big Delta	0.0	0.5	2.0	6.0	9.0	13.0	16.0	18.0	19.0	20.0	21.0	21.0	22.0	23.0
Fairbanks - Key	0.0	0.2	4.8	11.9	21.4	30.4	38.7	46.4	50.2	52.8	53.7	54.6	55.8	57.1
Fort Yukon	0.0	0.1	2.0	5.4	11.3	16.7	21.1	24.8	27.0	28.6	29.0	29.6	30.3	31.0
Bettles	0.0	0.3	9.8	21.7	34.9	47.8	60.1	72.4	78.2	82.4	84.2	86.4	89.6	93.2
Dillingham/ Iliamna	0.0	0.8	26.9	52.6	69.1	83.2	95.8	106.8	113.7	119.3	122.5	125.7	132.7	140.4
Bethel - Key	0.0	0.4	12.5	25.3	37.3	49.1	59.8	70.1	76.6	81.5	83.6	86.1	89.9	94.2
Nome	0.0	0.3	9.1	18.9	28.3	38.1	48.9	60.5	66.6	71.2	73.5	76.0	79.4	83.2
Kotzebue	0.0	0.3	8.6	17.0	23.3	29.7	38.0	47.0	51.9	55.7	57.5	59.5	62.2	65.2
Galbraith Lake Camp	0.0	0.3	9.2	21.1	34.6	47.9	60.2	71.9	78.4	82.9	84.2	85.9	89.7	94.0
Barrow/ Prudhoe Bay/ Barter Island - Key	0.0	0.2	4.2	10.0	17.0	23.8	29.7	34.9	37.8	39.8	40.6	41.5	43.7	46.1

NOTE: Values in Bold indicate a period with a rapid increase in R values that would make it difficult to obtain a low rainfall erosivity waiver.

Notice of Intent (NOI) Form (Appendix E)

DEC will modify the existing NOI form and modify the eNOI system as needed to accommodate the final permit conditions of the permit. The new NOI form will be posted on DEC's website.

NOI Modification Form (Appendix F)

DEC will modify the existing NOI modification form and modify the eNOI system as needed to accommodate the final permit conditions of the permit. The new NOI modification form will be posted on DEC's website.

Notice of Termination (NOT) Form (Appendix G)

DEC will modify the existing NOT form and modify the eNOI system as needed to accommodate the final permit conditions of the permit. The new NOT will be posted on DEC's website.

Annual Report Form (Appendix H)

DEC will develop an annual report form for those permittees who are required to conduct turbidity monitoring at their site. The annual report form will be posted on DEC's website.

5.0 REISSUED PERMIT

18 AAC 83.480 requires that "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." The effluent limitations in the permit reissuance are consistent with 18 AAC 83.430. The permit effluent limitations, standards, and conditions are as stringent as in the previous permit. 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, water quality-based effluent limitations may be revised as long as the revision is consistent with the State's antidegradation policy.

In the "*Development Document for Final Effluent Guidelines and Standards for the Construction & Development Category*" November 2009 there are several places where the document did not include Alaska data in the analysis. In the analysis the national Land Cover Dataset does not include data from Alaska, neither did EPA's analysis consider pollutant loading reductions or environmental benefits estimates for Alaska (page 4-9). EPA's costing analysis used state-specific design storms for determining storm water runoff rates and volumes and for determining storage volumes and treatment sizing. Alaska was not included in this study, because EPA lacked sufficient data on the annual amount of construction activities in Alaska (page 3-13)

The Technical Support Document used information from EPA's rulemaking for gold placer mining from Alaska placer mines. The document did not use any data from Alaska construction

industry. In the Document the loading analysis for the runoff volume estimates does not include consideration of construction activities in Alaska (page 10-10).

6.0 ANTIDEGRADATION

The Antidegradation Policy of the Alaska Water Quality Standards (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. The Department conducted an antidegradation analysis using the Interim Antidegradation Implementation Methods, dated July 14, 2010 (see Appendix C of the fact sheet). The Department conducted the analysis on the general permit so that each individual authorizations covered under the permit is not required to undergo an antidegradation analysis for coverage under the permit.

The ACGP requires that control measures must be selected, installed, and maintained at the construction site that minimize pollutants in the discharge as necessary to meet WQS (Part 3.1). A permittee whose discharges are covered by the permit and does not comply with the permit conditions may be required to take corrective action and modify storm water controls, conduct monitoring, or cease discharges and submit an individual permit application (Part 3.1.3). The proposed ACGP includes details of the nonnumeric effluent limits (control measures) required by the new federal requirements for the C&D industry that specifically address erosion and sediment control, pollution prevention measures, and prohibited discharges.

It is the Department's determination that the permit meets all five criteria of the Tier 2 analysis therefore the permit complies with Alaska's antidegradation policy.

7.0 OTHER REQUIREMENTS

7.1 Alaska Coastal Management Program

In accordance with 11 AAC 110.760, *Review process for resource agency general permits*, if a resource agency proposes a new or amended general permit, the permit is subject to a consistency review. Prior to coordinating a consistency review, the Department consults with coastal districts in accordance with the *ADEC Single Agency Coastal Management Consistency Review Procedures*, April 1, 2008, in order to determine if the permit includes activities subject to a coastal district enforceable policy. According to AS 46.40.040(b)(1), the specific aspects of an activity that are subject to authorization by DEC are excluded from consistency review processes. Also, the issuance of an DEC permit establishes consistency with the Alaska coastal management program for those activities subject to the permit (AS 46.40.040(b)(1)). DEC contacted affected coastal districts with approved coastal district plans. Based on district responses, DEC determined that a Department coordinated consistency review is not required for the permit in accordance with the *ADEC Single Agency Coastal Management Consistency Review Procedures*.

DEC will submit the final permit to the State of Alaska, Division of Coastal and Ocean Management for inclusion in the "*List of Expedited Consistency Reviews and State Authorizations Subject to the ACMP, Volume I, B List, Section II, General Permits and General NPDES Permits Statewide or More Than One Region*". A permittee conducting construction

activities authorized under the terms and conditions of the permit is consistent with the Alaska Coastal Management Program for those activities subject to the permit.

7.2 Endangered Species Act

DEC initiated discussions with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries (NOAA Fisheries) to determine if the permitted actions could beneficially or adversely affect any threatened or endangered species. DEC informally met with USFWS and NOAA Fisheries to discuss the permit and sent them a request for information on any threatened or endangered species.

7.2.1 Determining Eligibility

The following process may be used by the permittee to determine eligibility under ESA. The permittee must comply with one or more of the following six criteria (A-F) for the entire term of coverage under the permit:

Criterion A. No federally-listed threatened or endangered species or their designated critical habitat are in the project area as defined in Appendix C; or

Criterion B. Formal consultation with the USFWS and/or NOAA Fisheries under section 7 of the ESA has been concluded and that consultation:

- Addressed the effects of the project's storm water discharges, allowable non-storm water discharges, and storm water discharge-related activities on federally-listed threatened or endangered species and federally-designated critical habitat; and

The consultation resulted in either:

- Biological opinion finding no jeopardy to federally-listed species or destruction/adverse modification of federally-designated critical habitat; or
- Written concurrence from the Service(s) with a finding that the storm water discharges, allowable non-storm water discharges, and storm water discharge-related activities are not likely to adversely affect federally-listed species or federally-designated critical habitat; or

Criterion C. Informal consultation with the USFWS and/or the NOAA Fisheries under section 7 of the ESA has been concluded and that consultation:

- Addressed the effects of the project's storm water discharges, allowable non-storm water discharges, and storm water discharge-related activities on federally-listed threatened or endangered species and federally-designated critical habitat, and

The consultation resulted in either:

- Biological opinion finding no jeopardy to federally-listed species or destruction/adverse modification of federally-designated critical habitat, or
- Written concurrence from the Service(s) with a finding that the storm water discharges, allowable non-storm water discharges, and storm water discharge-related activities are not likely to adversely affect federally-listed species or federally-designated critical habitat; or

Criterion D. The construction activities are authorized through the issuance of a permit under section 10 of the ESA, and that authorization addresses the effects of the storm water discharges, allowable non-storm water discharges, and storm water discharge-related activities on federally-listed species and federally-designated critical habitat; or

Criterion E. Storm water discharges, allowable non-storm water discharges, and storm water discharge-related activities are not likely to adversely affect any federally-listed threatened or endangered species or result in the destruction or adverse modification of federally-designated critical habitat; or

Criterion F. The project's storm water discharges, allowable non-storm water discharges, and storm water discharge-related activities were already addressed in another operator's valid certification of eligibility under Criteria A-E which included the permittee's construction activities and there is no reason to believe that federally-listed species or federally-designated critical habitat not considered in the prior certification may be present or located in the project area. By certifying eligibility under this criterion, the permittee agrees to comply with any measures or controls upon which the other operator's certification was based.

7.2.2 ESA Review Procedures

The permittee must review and comply with at least one of the six criteria described in Part 7.2.1. The permittee must consider the procedures in this section to assess the potential effects of storm water discharges and storm water discharge-related activities on listed species and their critical habitat. When evaluating these potential effects, permittees must evaluate the entire project area.

For purposes of this section, the term "project area" is inclusive of the term "Action Area." Action area is defined in 50 CFR §402.02 as all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action.

This includes areas beyond the footprint of the construction area that may be affected by storm water discharges and storm water discharge related activities. "Project area" is defined in Appendix C of the permit.

(Permittees who are eligible and able to comply with Criterion B, C, D, or F of Part 7.2.1 because of a previously issued ESA section 10 permit, a previously completed ESA section 7 consultation, or because the operator's activities were already addressed in another operator's certification of eligibility may proceed directly to Step Four.)

Step One: Determine if Listed Threatened or Endangered Species are Present On or Near the Permittee Project Area

The permittee must determine, to the best of their knowledge, whether listed species are located on or near their project area. Refer to the U.S. Fish & Wildlife Service Region 7 website at <http://alaska.fws.gov/fisheries/endangered/consultation.htm> for further information. To make this determination, the permittee should:

- Determine if listed species are in their county or township. The local offices of the U.S. Fish and Wildlife Service (USFWS), NOAA Fisheries, and State or Tribal Heritage Centers often maintain lists of federally listed endangered or threatened species on their internet sites. Visit <http://www.epa.gov/npdes/stormwater/cgp> to find the appropriate site for your state or check with your local office. In most cases, these lists allow the permittee to determine if there are listed species in their county or township.
- If there are listed species in the permittee's county or township, check to see if critical habitat has been designated and if that area overlaps or is near the permittee's project area.
- If the required information is not available on the pertinent websites, contact the local USFWS, NOAA Fisheries, or State or Tribal Heritage Center to determine if the listed species could be found on or near the permittee's project area and if any critical habitat areas have been designated that overlap or are near the permittee's project area. Critical habitat areas may be designated independently from the listed species for the permittee's county, so even if there are no listed species in the permittee's county or township, the permittee must still contact one of the agencies mentioned above to determine if there are any critical habitat areas on or near the permittee's project area.

The permittee can also find critical habitat designations and associated requirements at 50 CFR Parts 17 and 226. <http://www.access.gpo.gov>.

If there are no listed species in the permittee's county or township, no critical habitat areas on or near your project area, or if the local USFWS, NOAA Fisheries, or State or Tribal Heritage Center indicates that listed species are not a concern in the permittee's part of the county or township, the permittee may check box A on the Notice of Intent Form.

If there are listed species and if the local USFWS, NOAA Fisheries, or State or Tribal Heritage Center indicates that these species could exist on or near the permittee's project area, the permittee will need to do one or more of the following:

- Conduct visual inspections: This method may be particularly suitable for construction sites that are smaller in size or located in non-natural settings such as highly urbanized areas or industrial parks where there is little or no natural habitat, or for construction activities that discharge directly into municipal storm water collection systems.
- Conduct a formal biological survey. In some cases, particularly for larger construction sites with extensive storm water discharges, biological surveys may be an appropriate way to assess whether species are located on or near the project area and whether there are likely adverse effects to such species. Biological surveys are frequently performed by environmental consulting firms. A biological survey may in some cases be useful in conjunction with Steps Two, Three, or Four of these instructions.

- If listed threatened or endangered species may be in the project area either during or after construction, or if critical habitat is present in the project area, you must look at impacts to species and/or habitat when following Steps Two through Four. Note that many but not all measures imposed to protect listed species under these steps will also protect critical habitat. Thus, meeting the eligibility requirements of this CGP may require measures to protect critical habitat that are separate from those to protect listed species.
- Contact USFWS and/or NOAA Fisheries to conduct interagency consultation under section 7 of the ESA if all of the following apply: listed species or critical habitat is present; the project involves federal land, permits, or funding; and the project may result in adverse impacts such as those listed in Step 2 below.

Step Two: Determine if the Construction Activity's Storm Water Discharges or Storm Water Discharge- Related Activities Are Likely to Adversely Affect Listed Threatened or Endangered Species or Designated Critical Habitat

To receive CGP coverage, the permittee must assess whether their storm water discharges or storm water discharge related activities is likely to adversely affect listed threatened or endangered species or designated critical habitat that are present on or near the permittee's project area.

Potential adverse effects from storm water discharges and storm water discharge-related activities include:

- *Hydrological.* Storm water discharges may cause siltation, sedimentation or induce other changes in receiving waters such as temperature, salinity or pH. These effects will vary with the amount of storm water discharged and the volume and condition of the receiving water. Where a storm water discharge constitutes a minute portion of the total volume of the receiving water, adverse hydrological effects are less likely. Construction activity itself may also alter drainage patterns on a site where construction occurs that can impact listed species or critical habitat.
- *Habitat.* Excavation, site development, grading, and other surface disturbance activities from construction activities, including the installation or placement of storm water BMPs, may adversely affect listed species or their habitat. Storm water may drain or inundate listed species' habitat.
- *Toxicity.* In some cases, pollutants in storm water may have toxic effects on listed species.

The scope of effects to consider will vary with each site. If the permittee is having difficulty determining whether their project is likely to adversely affect listed species or critical habitat, or one of the Services has already raised concerns to the permittee, the permittee must contact the appropriate office of the USFWS, NOAA Fisheries or Natural Heritage Center for assistance. If adverse effects are not likely, then the permittee may check box E on the NOI form and apply for coverage under the CGP. If the discharge may adversely affect listed species or critical habitat, you must follow Step Three.

Step Three: Determine if Measures Can Be Implemented to Avoid Adverse Effects

If the permittee makes a preliminary determination that adverse effects are likely to occur, the permittee can still comply with Criterion E of Part 7.2.1 if appropriate measures are undertaken to avoid or eliminate the likelihood of adverse effects prior to applying for CGP coverage. These measures may involve relatively simple changes to construction activities such as re-routing a storm water discharge to bypass an area where species are located, relocating BMPs, or by changing the “footprint” of the construction activity. The permittee should contact the USFWS and/or NOAA Fisheries to see what appropriate measures might be suitable to avoid or eliminate the likelihood of adverse impacts to listed species and/or critical habitat. (See 50 CFR §402.13(b)). This can entail the initiation of informal consultation with the USFWS and/or NOAA Fisheries (described in more detail in Step Four).

If the permittee adopts measures to avoid or eliminate adverse effects, the permittee must continue to abide by those measures for the duration of the construction project and coverage under the CGP. These measures must be described in the SWPPP and are enforceable CGP conditions and/or conditions for meeting the eligibility criteria in Part 1.4 of the permit. If appropriate measures to avoid the likelihood of adverse effects are not available, the permittee must follow Step Four.

Step Four: Determine if the Permittee Can Comply with the Requirements of Criterion B, C, D, or F of Part 7.2.1

Where adverse effects are likely, the permittee must contact the USFWS and/or NOAA Fisheries. The permittee may still be eligible for CGP coverage if any likely adverse effects can be addressed through complying with Criterion B, C, D, or F of Part 7.2.1. These criteria are as follows:

1. *An ESA Section 7 Consultation Is Performed for Your Activity (See Criterion B or C of Part 7.2.1).*

Formal or informal ESA Section 7 consultation is performed with the USFWS and/or NOAA Fisheries for projects that involve federal land, permits, or funding. Section 7 consultation addresses the effects of the permittee’s storm water discharges and storm water discharge-related activities on federally-listed and threatened species and designated critical habitat. In order to be eligible for coverage under this permit, consultation must result in a “no jeopardy opinion” or a written concurrence by the Service(s) on a finding that the permittee’s storm water discharge(s) and storm water discharge-related activities are not likely to adversely affect listed species or critical habitat (For more information on consultation, see 50 CFR §402). If the permittee receives a “jeopardy opinion,” the permittee may continue to work with the FWS and/or NMFS and DEC to modify the permittee’s project so that it will not jeopardize listed species or designated critical habitat.

Consultation may occur in the context of another federal action at the construction site (e.g., where ESA section 7 consultation was performed for issuance of a wetlands dredge and fill permit for the project or where a NEPA review is performed for the project that incorporates a section 7 consultation). Any terms and conditions developed through consultations to protect listed species and critical habitat must be incorporated into the SWPPP. If formal or informal

ESA consultation under section 7 of the ESA is appropriate, operators may initiate consultation with the Services at Step Four.

Whether ESA section 7 consultation must be performed with either the USFWS, NOAA Fisheries or both Services depends on the listed species that may be affected by the permittee's activity. In general, NOAA Fisheries has jurisdiction over marine, estuaries, and anadromous species. Operators should also be aware that while formal section 7 consultation provides protection from incidental takings liability, informal consultation does not.

- 2. An Incidental Taking Permit Under Section 10 of the ESA is Issued for the Permittee's Activity (See Criterion D of Part 7.2.1).*

The permittee's construction activities are authorized through the issuance of a permit under Section 10 of the ESA and that authorization addresses the effects of your storm water discharge(s) and storm water discharge-related activities on federally-listed species and designated critical habitat. The permittee must follow USFWS and/or NOAA Fisheries procedures when applying for an ESA Section 10 permit (see 50 CFR §17.22(b)(1) for USFWS and §222.22 for NOAA Fisheries). Application instructions for section 10 permits for USFWS and NOAA Fisheries can be obtained by accessing the USFWS and NOAA Fisheries websites (<http://www.fws.gov> and <http://www.nmfs.noaa.gov>) or by contacting the appropriate USFWS and NOAA Fisheries regional office.

- 3. The permittee is Covered Under the Compliance of Another Permittee for the Project Area (See Criterion F of Part 7.2.1).*

The permittee's storm water discharges and storm water discharge-related activities were already addressed in another operator's compliance with Criteria A through E of Part 7.2.1 which also included the permittee's project area. For example, a general contractor or developer may have completed and filed an NOI for the entire project area with the necessary Endangered Species Act certifications (criteria A-E), subcontractors may then rely upon that certification and must comply with any conditions resulting from that process. By complying with Criterion F of Part 7.2.1, the permittee agrees to comply with any measures or controls upon which the other permittee's compliance with Criterion B, C, or D of Part 7.2.1 was based.

The permittee must comply with any terms and conditions imposed under the requirements of Criterion A through F to ensure that their storm water discharges and storm water discharge-related activities are protective of listed species and/or critical habitat. Such terms and conditions must be incorporated in the project's SWPPP. If the eligibility requirements of Part 7.2.1 cannot be met, then the permittee is not eligible for coverage under the CGP. In these instances, the permittee may consider applying to DEC for an individual permit.

7.3 Essential Fish Habitat

DEC initiated discussions with the NMFS to determine if the permitted actions could affect essential fish habitat (EFH) 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 NOAA when a proposed discharge

has the potential to adversely affect (reduce quality and/or quantity of) EFH. DEC initiated discussions with NFMS on this permit

The ACGP includes non-fishing activities that may have the potential to adversely affect the quantity or quality of EFH in upland and riverine systems. DEC addressed EFH considerations in its Antidegradation Analysis, specifically Appendix C, Table C-9. DEC believes with the addition of the non-numeric effluent limits (the control measures detailed in Part 4.0 of the permit) that all the non-fisheries impacts expected by this industry are being addressed in the permit.

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 construction general permit 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. Because the permit encourages the treatment train approach DEC believes the permit addresses EFH considerations.

7.4 Permit Expiration

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

8.0 REFERENCES

ADEC. 2009. Alaska Storm Water Guide. Alaska Department of Environmental Conservation Division of Water. Anchorage, AK.

ADEC. 2009. Alaska Pollutant Discharge Elimination System General Permit for Discharges from Large and Small Construction Activities. Permit number AKR100000. Department of Environmental Conservation, Wastewater Discharge Authorization Program, Juneau, AK.

ADEC. 2010. Alaska's Final 2010 Integrated Water Quality Monitoring and Assessment Report, July 15, 2010. Department of Environmental Conservation, Wastewater Discharge Authorization Program, Juneau, AK.

Curran, J.H., Meyer, D.F., and Tasker, G.D., 2003, *Estimating the Magnitude and Frequency of Peak Streamflows for Ungaged Sites on Streams in Alaska and Conterminous basins in Canada*: U.S. Geological Survey Water-Resources Investigations Report 03-4188, 101p.

Lloyd. Denby. 1986. Turbidity in Freshwater Habitats of Alaska: A Review of Published and unpublished Literature Relevant to the use of Turbidity as a Water Quality Standard. Report No. 85-1. Prepared by the Alaska Department of Fish & Game, Habitat Division. 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.

Rinella, Daniel, Daniel Bogan and Doug Dasher. 2009. Ecological Condition of Wadeable Streams in the Tanana River Basin, Interior Alaska. Prepared for the U.S. Environmental Protection Agency, Seattle, WA.

9.0 APPENDICES

APPENDIX A - Summary of Public Comment on EPA
2008 CGP

Comments Received on Converting the EPA 2008 CGP to better fit Alaska Conditions

August 2009

Section in EPA 2008 CGP	Comment	Change
Global	Change EPA to DEC	Made change
Global	Change NPDES to APDES	Made change
1.1	No Change	
1.2	State that the permit covers the state of Alaska except Indian Reservation of Metlakatla --DEC	Made change
1.3	Clarify about whether the permit applies to maintenance projects, pile driving projects, fill only projects, or 404 projects. --ARRC	Made change
1.3.1.3.2	This sentence is unclear and seems to contradict itself. It is unclear what is meant by "commercial operation." - ADOTPF Describe relationship with MSGP -- ARRC	Made change
1.3.3.5	Clarify TMDL requirements - MOA	Find out what this means
1.3.3.6	Delete Endangered and Threatened Species	Confirm with Dept of Law
1.3.3.7	Can this be deleted - MOA	Confirm with Dept of Law
1.4	Need to develop Appendix to address waivers - DEC	Make addition
2.1	Require single NOI for a project rather than multiple NOI - MOA	Explore this further
2.2	Change address to DEC	Made change
2.3	Do we want to keep seven days? Or increase to fourteen? - DEC	Explore this further
2.4.2	Address transition for projects started under EPA CGP and continued under DEC CGP - MOA	Add language describing this situation
2.5	Check DEC citation for "Administrative Procedure Act" - DEC	Confirm with Dept of Law
2.6.1	Modify language for DEC - DEC	Made change
2.6.2	Check CFR citation, is there an 18 AAC 83 citation? - DEC	Check with Dept of Law
3	Consider adding narrative requirements "Ten Keys to Effective Erosion and Sediment Control" and "Six Key Pollution Prevention Principles for Good Housekeeping" from the EPA publication "Developing Your Stormwater Pollution Prevention Plan"	Made change
3	Add requirements from 401 certificate - DEC	Made change
3.1	No Change	
3.1.5	Address Post-Construction included in 401 certificates. - DEC, ADOTPF	Made change
3.2	No Change	
3.3	No Change	

Section in EPA 2008 CGP	Comment	Change
3.4	Define turbidity limit at point of discharge, consider allowing mixing zone - MOA	Find out more
3.5	No Change	
3.6	No Change	
3.6.2	Define what is a "storm event," when does it start, when does it end, how to deal with this in SE Alaska - ADOTPF	Consider using the 2-yr, 24hr rainfall as defined by TP-47
3.7	Add discussion of having a "qualified person" on site - DEC	Add to definitions
3.8	Should we make reference to MOA, COF, CONP and FNSB ? - DEC	
3.9	Add a section on winter: first, what to do to prepare for winter and what to do during winter; second, describe what to do for projects that construct during the winter and not the summer. -- DEC, AGC, ARRC	Add discussion of winter shutdown and construction
3.10	Add brief discussion of use of chemical flocculants. Distinguish between chemicals bound in another treatment method (such as tackifiers, coir logs - other examples) and use in a cat-ion exchange batch processing with settling in clarifying ponds or chemical treatment with filtering -- DEC	See Washington DOE or California CGP for example language
4.1.2	Define over what period of time the 0.5 inches of rain must fall. - ADOTPF	Clarify
4.2	No Change	
4.3	Redefine waiver to better fit Alaska Conditions, alternatively, consider eliminating frozen condition waiver - MOA Be more specific on the requirements for utilizing the inspection waiver, including expectations for inspections during freeze-thaw conditions -ARRC	Made change
4.4	Add definition of "Qualified Personnel" to definitions	Add to definitions
4.5	No Change	
4.6	No Change	
4.7	Add discussion of utility projects before main project - DEC Clarify when utilities need to file NOI and develop their own SWPPP - MOA	Add to section
4.8	Any Changes???	
5.1	No Change	
5.2	Modify ?? - DEC	
5.2.2.5	Add comment on including description of winter shutdown if applicable. -- DEC	Add section on winter shutdown
5.3	No Change	
5.4	Change to DEC address - DEC	

Section in EPA 2008 CGP	Comment	Change
5.5	Any Change ?? -- DEC	Check with Dept of Law
5.6	No Change	
5.7	No Change	
5.8	Adjust language - DEC	
5.11.3	Do we want to add ADF&G to list of agencies SWPPP must be made available to?? - DEC	Yes
5.12	Any Changes???	
5.12.3	Make change for rural and semi-rural subdivisions	Add language
5.11.3	Define acceptable location of SWPPP at project site - MOA	Find out what they want
6.1	Change website address -DEC	
6.2	No Change	
8.1	Check citations and are there any APDES 18 AAC 83 citations to include? - DEC	
8.2	No Change	
8.3	Retain ?? -DEC	
9	Check all subsections with 18 AAC 83 to make sure they are correct.	
9.12 -1, 4, 5 and 9.13 and 9.14	These conditions do not seem to apply to stormwater, recommend dropping them - ADOTPF	Required by regulations keep in the permit
9.12.6.1	Add a definition for "endanger health or the environment" - ADOTPF	Check with Dept of Law
9.12.6.2.1	Check CFR citation, should it be 40 CFR 122.41(m) - ADOTPF	
9.11	Allow the delegation of signature authority for government NOIs - MOA	Required by regulations keep in the permit
10(F)(1)(b)	Make the regulation 18 AAC 72.600 match with CGP post-construction language. What documentation is required in the SWPPP? - ADOTPF	Made change
Additional Comments		
	Identify procedure for allowing or disallowing chemical treatment of discharge effluent - MOA	Add subsection on chemicals
	There is an inherent contradiction between 'technologically available' and 'economically achievable.' Which is it Best Available Technology, Best Available Technology Not Entailing Excessive Economic Cost, or Best Available Technology Consistent with Industry Standards? -- AGC	Add definitions of each if they are available
	Drop the use of "etc." and "e.g." if it is to be included then spell it out. -- AGC	Keep them in.
	Address permafrost and the use of construction practices that	Add mention of permafrost

Section in EPA 2008 CGP	Comment	Change
	may, or may not, be suitable for permafrost areas. -- AGC	in sediment basins
	Establish protocol for over winter shut downs, include specific task to be accomplished prior to suspending work for the winter. --AGC	Add winter shutdown
	Address winter construction; spell out soil stabilization requirements specifically for winter construction. -- AGC	Add winter construction
	Provide clarification as to why and where entrance/exit controls would be required when using public gravel roads to access public paved roads. -- AGC	Add clarification
	Watershed based water quality standards, DEC cannot justify, in terms of economics or environmental reasons, the Chena River and the Tanana River having the same sediment effluent limits. - -AGC	Add discussion in fact sheet of Alaska's turbidity standard allows for natural conditions.
Definitions		
	Combine "arid" and "semi-arid" into one definition. - ADOTPF Provide a map showing arid and semi-arid areas of Alaska. - AGC	Use EPA CGP definition. Refer reader to www.wrcc.dri.edu for rainfall data.
	Add "clearing." In order to comply with USFWS vegetation clearing windows, clearing for projects in Alaska often occur several months prior to the start of construction. Clarify that a SWPPP is not needed for tree felling projects that do not disturb the vegetative mat or maintenance clearing of brush in an existing ditch line. --ARRC	Add
	Add "commencement of construction" Take ELG definition - DEC	Add
	Add "construction activity" Take ELG definition -- DEC	Add
	Who determines whether an area is "drought-stricken?" - AGC	Delete "drought-stricken" from CGP 3.1.8.2.3
	Edit "final stabilization" to address areas where 70% vegetative cover is not possible - arid areas --AGC Expand definition to specifically include use of shot rock or railroad ballast (gravel bed) --ARRC	Add
	Add "endanger health or the environment" as referred to in 9.12.6.1 - ADOTPF	Ask Dept of Law for definition
	Add "minimize" from ELG (is it possible to define the phrases included in the definition - 'technologically available,' 'economically practicable and achievable,' and 'best industry practices') - DEC	Add
	Add "Minimize Pollutant Discharge" -- How does an operator	See definition of minimize

Section in EPA 2008 CGP	Comment	Change
	demonstrate that the project has "minimized pollutant discharges?" -AGC	
	Add "Qualified Personnel" What does it mean in terms of the inspector, SWPPP preparer, on-site stormwater manager? -DEC, MOA, AGC	Add
	Add "potential for erosion" How is this measured or quantified, who makes the determination, provide an inclusive list of what this means. -- AGC	Is there an accepted definition for this?
	Add "potential for contribution to an excursion of a water quality standard" What is meant by this phrase in light of the existing turbidity standard and mixing zone regulations? -- AGC	Is there an accepted definition for this?
	Add "reasonable times" What does this term mean as used in 9.8 and 9.9? --AGC	Add to definitions
	Add "Reasonable" to define how an operator demonstrates that the project has employed "reasonable" measures. - AGC	
	Add "spring thaw" --DEC	
	Add "Storm Event" define duration, depth etc.- ADOTPF	See proposed ELG section 450.22, it uses 2-yr, 24 hr rainfall.
	Add "temporary stabilization"	
	Add "winter construction" -- DEC	
	Add "winter freeze-up" -- DEC	
	Add "winter shutdown" - DEC	
Appendix	Add Low Erosivity Waiver - DEC, ADOTPF	
	Add NOI, NOT and LEW forms	

APPENDIX B - Summary of New Federal Requirements
for Construction & Development Industry

According to federal and state regulations DEC has to incorporate the new C&D ELG into the Alaska Construction General Permit. The new federal requirements set a floor for the technology-based effluent limits that the NPDES permits have to comply with. When incorporated into NPDES permits, the C&D ELG is expected to result in reductions in pollutant discharges and substantial improvements in receiving water quality nationally in areas downstream of where construction activities are occurring. In addition, the monitoring requirements should increase transparency and accountability for the largest category of NPDES dischargers and provide permittees, permitting authorities and the public with an important mechanism for gauging compliance with the regulations and standards. Appendix B provides a summary of the new federal requirements and how they have to be incorporated into the Alaska Construction General Permit.

Control Measures

The C&D ELG requires all permittees to implement a range of erosion and sediment controls and pollution prevention measures at regulated construction sites. In the federal register notice announcing the final rule, EPA acknowledged that many state and local governments have existing programs for controlling storm water and wastewater discharges from construction sites. The ELG and NSPS are intended to work in concert with existing state and local programs and not interfere with existing state and local requirements that are more stringent than this rule or with the ability of state and local governments to establish and implement more stringent requirements.

Discharges from construction sites can be controlled by applying site design techniques that preserve or avoid areas prone to erosion and through the effective use of a combination of erosion and sediment control and pollution prevention measures. Construction activities should be managed to reduce erosion and retain sediment and other pollutants in the soil at the C&D site. Erosion and sedimentation are two separate processes and the practices to control them differ. Erosion is the process of wearing away of the land surface by water, wind, ice, gravity, or other geologic agents. Sedimentation is the deposition of soil particles, both mineral and organic, which have been transported by water, wind, air, gravity or ice (adapted from North Carolina Erosion and Sediment Control Planning and Design Manual, September 1, 1988).

Erosion Controls

Erosion control measures are intended to minimize dislodging and mobilizing of sediment particles. Sediment control measures are controls that serve to capture particles that have mobilized and are entrained in storm water, with the objective of removing sediment and other pollutants from the storm water discharge. Many states and local governments and other entities have also published detailed manuals for erosion and sediment control measures, and other storm water management practices.

The use of erosion control measures is widely recognized as the most important means of limiting soil detachment and mobilization of sediment. The controls described here are designed to reduce mobilization of soil particles and minimize the amount of sediment and other pollutants entrained in discharges from construction activity. Erosion can be minimized by a variety of practices. The selection of control measures that will be most effective for a particular site is

dictated by site-specific conditions (e.g., topography, soil type, rainfall patterns). The main strategies used to reduce erosion include minimizing the time bare soil is exposed, preventing the detachment of soil and reducing the mobilization and transportation of soil particles off-site.

Decreasing the amount of land disturbed can significantly reduce sediment detachment and mobilization directly from ground disturbance or indirectly through changes in overland flows. Minimizing site disturbance by minimizing the extent of grading and clearing is the most effective means of reducing sediment yield. This approach not only maintains some site vegetative cover but also minimizes the temporary and permanent alteration of the natural hydrology of the site and the receiving waters, thereby reducing the susceptibility of the receiving waters to long-term changes in channel incision and expansion which affects the basin's sediment regime. Short term reductions in sediment yield can also be accomplished by phasing construction so that only a portion of the site is disturbed at a time. Another effective approach is to schedule clearing and grading events to reduce the probability that bare soils will be exposed to rainfall. Many areas of the country have defined times during the year when the majority of rainfall (and hence erosion) occurs. By scheduling major earth disturbing activities outside of the rainy season, erosion can be significantly reduced.

Managing storm water flows on the site can be highly effective at reducing erosion. Typical practices include actively managing off-site and on-site storm water using diversion berms, conveyance channels and slope drains to avoid storm water contact with disturbed areas. In addition, storm water should be managed using energy dissipation approaches to prevent high runoff velocities and concentrated flows that are erosive. Vegetative filter strips are often considered as sediment controls, but they can also be quite effective at dissipating energy and reducing the velocity (and thus erosive power) of storm water. Storm water that is directed to vegetated areas can infiltrate, thus reducing or even eliminating the amount of storm water discharged from a site, particularly for smaller storm events.

After land has been disturbed and construction activity has ceased on any portion of the site, exposed soils should be covered and stabilized immediately. Simply providing some sort of soil cover on these areas can significantly reduce erosion rates, often by an order of magnitude or more. Vegetative stabilization using annual grasses is a common practice used to control erosion. Physical barriers such as geotextiles, straw, rolled erosion control products and mulch and compost are other common methods of controlling erosion. Polymers and soil tackifiers are also commonly used. These materials and methods are intended to reduce erosion where soil particles can be initially dislodged on a C&D site, either from rainfall, snow melt or up-slope runoff.

The effectiveness of erosion control measures is dependent on periodic inspection and identification and correction of deficiencies (e.g., after each storm event). Erosion control measures alone will not eliminate the mobilization of soil particles and such controls must often be used in conjunction with sediment control measures.

Sediment Controls

Despite the proper use of erosion control measures, some sediment detachment and movement is inevitable. Sediment control measures are used to control and trap sediment that is entrained in storm water runoff. Typical sediment controls include perimeter controls such as silt fences

constructed with filter fabric and compost filter berms. Trapping devices such as sediment traps and basins, inlet protectors and check dams are examples of in-line sediment controls. Sediment traps and basins are commonly used approaches for settling out sediment eroded from small and large disturbed areas. Their performance can be enhanced using baffles and skimmers, and additional removal can be accomplished by directing trap or basin discharges to a sand filter or to a vegetated area.

Basin and trap performance can also be enhanced by using chemically-enhanced settling (e.g., polymer or flocculant addition). Typical chemicals used on construction sites include Polyacrylamide (PAM), chitosan, alum, polyaluminum chloride and gypsum. Polymers or flocculants are available in either liquid or solid form, and can be introduced at several points in the treatment train in order to increase sediment removal. Liquid chemicals can be introduced via a metering pump in a channel upstream of a basin, or can be sprayed onto the surface of a basin. Rainfall-driven systems can also be used to introduce liquid forms of chemicals into channels or basins. This configuration allows for operation on nights or weekends when construction personnel may not be present on-site.

Conveyances are often used to channelize and manage storm water on construction sites, and check dams are often placed in channels to control flow velocities and to remove sediment through settling and filtration. Sediment removal by check dams can be enhanced by applying polymer to the check dam, or by placing a polymer enclosed in a permeable material, such as a gel sock, or solid forms sometimes referred to as a floc-block, in the channel. Floc-blocks and gel socks are effective when placed in channels just prior to a basin, a check dam or other structure or conveyance, where the water velocity will be slowed allowing the turbidity, sediment and other pollutants, along with the polymer, to settle out.

Sediment removal can be further enhanced by directing discharges from basins and channels, or by directing discharges through silt fences or filter berms into vegetation or other buffers between the site and surface waters to promote filtration and infiltration. Also, storm water in basins or other impoundments can be dispersed to vegetated areas using spray or drip irrigation systems, allowing for filtration and infiltration.

Active treatment processes such as electrocoagulation and filtration can also be used to increase sediment removal. Electrocoagulation uses an electrical charge to destabilize particles, allowing removal by settling or filtration. Filtration can be accomplished by directing storm water to a sand filter bed, or by pumping water through vessels filled with sand or other media. Tube settlers and weir tanks can also be utilized to aid in sediment removal. When discharges from sediment controls or active treatment processes are directed to vegetated areas and storm water is dispersed and allowed to infiltrate, the amount of storm water discharged from the site can be reduced, and in some cases the discharge can be eliminated.

Other C&D Site Management Practices

Construction activity generates a variety of wastes and wastewater, including concrete truck rinsate, construction and demolition waste, municipal solid waste, trash, and other pollutants. Construction materials and chemicals should be handled, stored and disposed of properly to avoid contamination of runoff that is discharged from the site. While mobilization by storm

water is one mechanism by which these wastes may be discharged from C&D sites, pollutants may also be discharged if wastes or wastewaters are dumped into streams or storm drains. Pollutants, trash and debris may also be carried away by wind. Control of these wastes can be accomplished using a variety of techniques.

Site planning, sequencing of land-disturbing activities and phasing of construction activities are also important management practices. Limiting the amount of land disturbed at one time, as well as during the entire construction project, are perhaps some of the most effective practices to reduce the amount of sediment, turbidity and other pollutants in discharges. The longer exposed soil areas are left unprotected, the greater the chance of rainfall-induced erosion. Proper planning such that soil stabilization activities can occur in quick succession after grading activities have been completed on a portion of a site can greatly reduce the amount of sediment and turbidity discharged. In addition, limiting the amount of land that is in active construction (e.g., denuded) at one time to the minimum amount that is needed, as well as limiting soil compaction and retaining natural vegetation on the site, can greatly reduce erosion rates and help maintain the natural hydrology. Also, grading of the site to direct discharges to vegetated areas and buffers that have the capacity to infiltrate runoff can reduce the volumes of storm water requiring management in sediment controls.

Numeric Effluent Limitations

The ELG regulation establishes a numeric effluent limitation for turbidity in discharges from C&D sites that disturb ten or more acres of land at one time. Permittees would be required to sample storm water discharges from the site and report the levels of turbidity present in the discharges to the permitting authority. These effluent limitations would, for many sites, require an additional layer of management practices and/or treatment (e.g., control measures) above what most state and local programs previously required.

The ELG phases in the numeric effluent limitation over four years to allow permitting authorities adequate time to develop monitoring requirements and to allow the regulated community time to prepare for compliance with the numeric effluent limitation. Construction sites that disturb 20 or more acres at one time will be required to conduct monitoring of discharges from the site and comply with the numeric effluent limitation beginning on August 1, 2011. Construction sites that disturb 10 or more acres at one time will be required to conduct monitoring of discharges from the site and comply with the numeric effluent limitation beginning on February 2, 2014. More information on the deadlines and monitoring requirements based on the ELG under this CGP can be found in Section 4.3.

Permitting authorities are also required to incorporate these turbidity limitations into their permits and a permittee is required to implement control measures to meet a numeric turbidity limitation in discharges of storm water from their C&D sites. EPA has not dictated that specific technologies be used to meet the numeric limitation, but has specified the maximum daily turbidity level that can be present in discharges from C&D sites. EPA's limitations are based on its assessment of what specific technologies can reliably achieve. Permittees have the flexibility to select management practices or technologies that are best suited to site-specific conditions present on each individual C&D site if they are able to consistently meet the limitations and if they are consistent with requirements established by the permitting authority. Permittees also

have the ability to phase their construction activities to limit applicability of the monitoring requirements and turbidity limitation.

The Wisconsin Homebuilders Association and others petitioned the court to grant relief from the ELG requirement for meeting the numeric effluent limit requirement of 280 NTU. EPA reviewed its administrative record and agreed to reconsider the limit during the next eighteen months. EPA acknowledged that it “improperly interpreted the data” underlying the strict turbidity limit. However the appeals court has rejected EPA and industry requests to vacate the agency’s remanded strict numeric discharge limit for the construction industry while the agency revises the limit. EPA concluded that it improperly interpreted the data and, as a result, the calculations in the existing administrative record are no longer adequate to support the 280 NTU numeric limit. EPA has issued a direct final rule staying (stopping) the 280 NTU numeric limit until it is corrected. EPA is proceeding with an expedited rulemaking to correct the numeric effluent limitation. EPA intends to publish the proposed correction rule in December 2010 for public comment and issue a final rule by May 2011 so that the revised limitation can be effective by June 2011 in order that EPA can incorporate the corrected numeric limitation in the EPA issued Construction General Permit by June 30, 2011. While the Numeric Effluent limit is under reconsideration the EPA says it does have to be included in a state NPDES permit. The permit does not include the 280 NTU Effluent Limit. As of April 1, 2011 EPA had not issued a number to replace the stayed effluent limit, nor had they reissued their construction general permit.

APPENDIX C - Antidegradation Analysis

C.1 Introduction

The following Antidegradation Analysis addresses the requirements of Alaska's Antidegradation Policy (18 AAC 70.015) using the *Interim Antidegradation Implementation Methods (Methods)*, July 14, 2010, for the proposed Alaska Construction General Permit (ACGP). The ACGP authorizes pollutant discharges from construction sites with a disturbed area of one acre or more. Alaska's Antidegradation Policy requires that certain activities that might degrade water quality be evaluated and managed to ensure that surface water degradation is avoided or minimized, and that all waters support their beneficial use designations.

This analysis consists of background information, an overview of Alaska's construction industry, a summary of Alaska's surface water resources, details on the Alaska's antidegradation implementation approach, and specific practices designed to fulfill the requirements of 18 AAC 70.015. The control measures contained in Part 4.0 of the proposed ACGP are the pollution controls required to prevent degradation of the state's waters (as required in 18 AAC 70.015(a)(2)(D)). These control measures are described in the *Alaska Storm Water Guide* (see <http://www.ADEC.state.ak.us/water/wnpssc/stormwater/Guidance.html>). The Guide provides an approach for the selection, installation, implementation, maintenance, and removal of control measures that can prevent or minimize water quality degradation. In general, the approach described for controlling construction site storm water impacts is based on:

- the development of site-specific storm water pollution prevention plans (SWPPPs) for each regulated construction site, which will contain information on the site, proposed site activities, receiving waters, and pollution control practices;
- implementation of the SWPPPs throughout the construction period, including the selection, sizing, siting, installation, and operation of management practices to prevent or control pollutant discharges;
- maintenance of the management practices in a manner that avoids or minimizes adverse water quality impacts linked to site activities; and
- implementation of corrective actions to address any conditions found during inspections that could lead to a water quality impact.

The site-specific nature of the SWPPP, 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 basic purpose of the antidegradation policy is to maintain and protect existing water quality. Many waterbodies have natural water quality that is better than the criteria set by the Water Quality Standards (WQS) at 18 AAC 70. In such cases, a wastewater (or storm water) discharge might meet WQS but still cause some degradation of the waterbody.

C.2 Antidegradation Analysis

There are three ascending levels of protection offered by the Antidegradation policy; commonly referred to as “tiers.” The level of protection afforded to a particular water body depends upon which tier applies to it. Alaska has not classified any waters using multiple tier designations (such as Tier 1, Tier 2, or Tier 3). The existing regulation is listed in italics followed by the Department rationale and Decision. Tier 1 waters must be maintained and protected to ensure that, “the existing water uses and the level of water quality necessary to protect existing uses must be maintained and protected.” [18 AAC 70.015 (a)(1)]

In order to acquire and maintain coverage under the ACGP, operators of construction sites are required to comply with all permit conditions. Among the conditions is a requirement to comply with state water quality standards, which include protecting water body uses (i.e., Tier 1 protection). Construction site operators whose activities result in a violation of water quality criteria (Tier 1) limits in the receiving waters are – by definition – in violation of the proposed ACGP. Thus, the proposed ACGP provides Tier 1 protection of Alaska’s waters by disallowing activities that would degrade water quality to the point of violating the minimum water quality criteria limits that define beneficial use support for the state’s waters.

The proposed ACGP “does not authorize discharges that DEC . . . determines will cause, have the reasonable potential to cause, or contribute to an excursion above any applicable water quality standard” (Part 3.1.3 of the permit). This provision of the proposed ACGP ensures compliance with the antidegradation policy.

C.2.1 Tier 2 Discussion

For the purposes of the Antidegradation Analysis, the Department assumed that all waters that could be potentially impacted by construction activities are classified as Tier 2 waters. The WQS state that “If the quality of a 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, in its discretion, upon application, allows the reduction of water quality for a short-term variance under 18 AAC 70.200, a zone of deposit under 18 AAC 70.210, a mixing zone under 18 AAC 70.240, or another purpose as authorized in a department permit, certification, or approval; the department will authorize a reduction in water quality only after the applicant submits evidence in support of the application and the department finds that items 1 through 5 have been met.” [18 AAC 70.015(a)(2)]

For Tier 2 protection, further analysis is required. Antidegradation rules require that waters with better-than-minimum quality be protected unless allowing lower water quality is necessary to accommodate important economic or social development in the area where the water is located. Ensuring compliance with the state’s antidegradation requirements means that the proposed activity must:

- Demonstrate that “important economic or social development” will result from activities that may degrade water quality, such as building homes, businesses, schools, hospitals, industrial facilities, roads, and so on;

- Examine alternative pollution control strategies, and select those which will provide the “highest statutory and regulatory requirements” for point sources, and “all cost-effective and reasonable best management practices” for nonpoint sources;
- Ensure that the methods of pollution prevention, control, and treatment be “the most effective and reasonable” for “all wastes and other substances to be discharged;”
- Provide to DEC “all information reasonably necessary for a Decision on the application,” in terms of its effect on water quality;
- Be “subject to the public participation and intergovernmental review procedures applicable to the permit,” which can include requests for information, public hearings, and public reviews; and
- Ensure that Tier 1 protection is assured, i.e., that the receiving waters will fully support their designated uses.

To conduct the analysis for Tier 2 waters, the antidegradation policy of the WQS states that the existing water uses and the level of water quality necessary to protect existing uses must be maintained and protected. DEC may allow reduction of water quality only after finding that five specific criteria are met (18 AAC 70.015(a)(2)(A-E)). The following discussion lists the regulation followed by the Department’s rationale and the Department’s determination.

C.2.1.1 Economic and Social Development

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

Rationale

The Alaskan economy in general, and the construction industry in particular, provide economic and/or social benefits of construction activities that might affect water quality. Alaska’s economy has experienced steady growth over the past 20 years. The state’s gross domestic product (GDP) slowed from 9.7 percent in 2006 during recent years, reflecting the overall national and international economies. In 2007, Alaska’s GDP totaled \$44.5 billion in nominal terms, and \$30.6 billion in real terms. The state’s population grew by 0.89 percent in 2007, placing the total number of Alaska residents at 676,987. Population growth has slowed somewhat since 2007, due to resident migrations out of state. Employment grew for the 20th consecutive year, increasing by one percent in 2007. Growth was focused in natural resource related industries, with 10.6 percent growth in that sector. Total wages for all industries grew by six percent to \$13.8 billion in 2007.

The value of the mineral industry is approximately \$4 billion, with \$3.37 billion in production, \$329 million in exploration, and \$319 million in development. The 2007 salmon harvest was the fourth largest since 1960, estimated at a \$3.6 billion wholesale value. Summer visitor volume was 1.7 million, with one million from cruise ships. Agriculture value has remained steady or shrinking slightly, with a total estimated value of \$32 million. Federal spending in Alaska totaled \$9.3 billion in 2006, with per capita spending at \$13,804.

In the case of construction in Alaska, it is possible to list the types of construction activity, discuss the construction sector, and summarize construction spending. Jobs associated with construction, and the relative importance of this industry sector, is critical to the overall state economy and social fabric. Construction activity – measured by total spending, jobs, payroll, or gross product – has experienced strong growth for more than a decade, driven largely by growing federal capital grants to the state, large federal agency capital budgets, oil and gas spending, and more recently, large state capital budgets (Goldsmith and Killorin, 2009). These large external sources of construction funds not only fuel public spending and oil patch spending but also give a general boost to the economy, and add to the aggregate demand for new residential, commercial, and private infrastructure spending. Construction spending is one of the important contributors to overall economic activity in Alaska (Goldsmith and Killorin, 2009).

Annual wage and salary employment in the construction industry in 2009 was about 16,600 workers, with average annual earnings of \$60,000 per worker. This does not include construction workers employed in other industries, such as oil, gas, mining, and government force account workers, nor does it include an estimated 9,000 self-employed construction workers.

Construction spending generates activity in a number of industries that supply inputs to the construction process, such as sand, gravel, equipment, leasing, design, administration, construction finance, and management. The payrolls and profits from these activities support businesses in every community in the state. As this income is spent and circulates through local economies, it generates other jobs in businesses as diverse as restaurants, consumer products, appliances, and other sectors.

The total value of construction spending in Alaska in 2010 has been estimated at nearly \$7 billion. Wage and salary employment in the construction industry has declined somewhat since 2006, but remains above the long-term average for the industry. Table C-1 summarizes projected spending in the public and private sectors in Alaska during 2010.

Table C-1: Alaska Construction Spending – 2010 Forecast.

Category	Level	Change
Total	\$6,999,000,000	-3%
Total without Oil and Gas	\$3,984,000,000	-4%
Private	\$4,386,000,000	-1%
Oil and Gas	3,015,000,000	0%
Mining	307,000,000	-9%
Other Rural Basic Industry	0	-100%
Utilities	482,000,000	+23%
Hospitals	221,000,000	+57%
Other Commercial	153,000,000	-31%
Residential	208,000,000	-21%
Private without Oil and Gas	1,371,000	-3%
Public	\$2,613,000,000	-5%
National Defense	548,000	+9%
Highways	610,000,000	-8%
Airports and Ports	323,000,000	-19%
Alaska Railroad	43,000,000	-34%

Table C-1: Alaska Construction Spending – 2010 Forecast.

Category	Level	Change
Denali Commission	61,000,000	-32%
Education	246,000,000	-12%
Other Federal	388,000,000	+20%
Other State and Local	394,000,000	-10%

Source: Goldsmith and Killorin, 2009.

An assessment of the economic and/or social benefits of construction activities may consider a wide range of the type of construction activity, such as:

- Linear projects – highways, pipelines, power lines, etc;
- Spatial development – residential subdivisions, commercial buildings, institutional facilities, infrastructure projects, utility and energy projects, and sanitation projects, etc.

Then the location of the construction activity, such as:

- Urban projects – projects listed above that occur within the jurisdictional area of an entity that is a regulated MS4;
- Urban projects – projects listed above that occur within a developed or urbanized area with paved streets that are not regulated as an MS4; and
- Rural infrastructure development projects – those listed above that occur in rural Alaska.

Figure C-1 depicts the overall portion of total employment in Alaska represented by the construction sector. While construction directly accounts for six percent of the total jobs in Alaska, spin-off employment in trade, transportation, manufacturing, services, and other sectors produce jobs and related spending in these and other sectors.

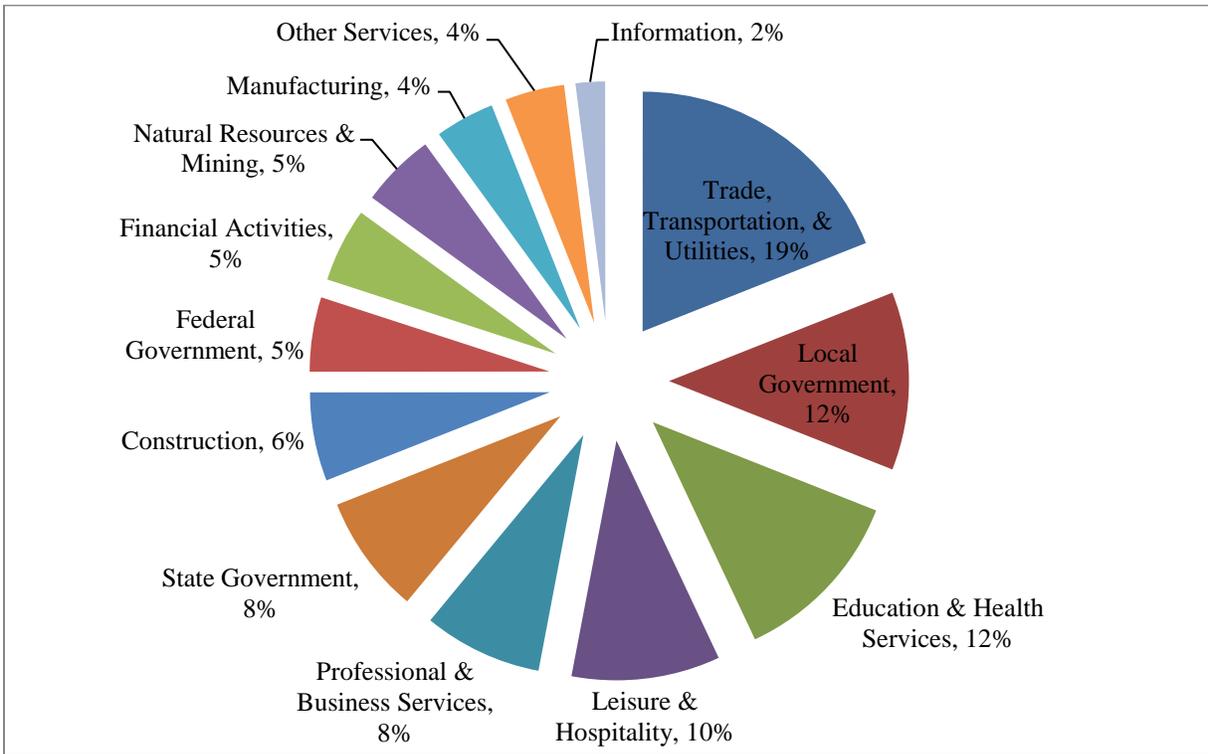


Figure C-1: Construction industry percentage of total Alaska employment

Determination

The Department determined that the construction industry and the project specific activities provide important economic and social benefits in Alaska. The Department concludes that criterion one is satisfied.

C.2.1.2. Applicable Criteria

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 [18 AAC 70.015 (a)(2)(B)]

Rationale

Construction activities such as linear or spatial projects may receive approval from DEC to degrade water quality in waters protected at the Tier 2 level under certain conditions. Protecting all waters at a minimum Tier 2 protection means that a permittee must provide information to DEC and be subject to public participation and intergovernmental review procedures as standard requirements for both the construction site SWPPPs and for coverage under the ACGP

The pollutant typically discharged from construction activity is sediment. Sediment in water is generally considered in two broad categories: first- settleable solids, which rapidly settle out of the water and move downstream or down a ditch if rolled along the bottom or resuspended by

currents; second- suspended sediment, which remains in the water column due to water turbulence, particle shape, and/or low specific gravity of individual particles. Turbidity was selected by EPA as a measure of the fine-material fraction of suspended sediment for use in the Effluent Limitation Guidelines as the pollutant to sample at construction sites.

EPA defined turbidity as “an expression of the optical property that causes light to be scattered and absorbed rather than transmitted with no change in direction of flux level through the sample ... caused by suspended and colloidal matter such as clay, silt, finely divided organic and inorganic matter and plankton and other microscopic organisms.” One unit of measure of turbidity is the Nephelometric Turbidity Unit (NTU). The NTU is based on the use of nephelometer, an instrument that measures the amount of light scattered by a water sample at 90° to the path of incident light. This measurement is calibrated against the scattering of light in a standard suspension of formazin polymer and is reported in NTU. Table C-2 summarizes DEC’s water quality criterion for turbidity.

Table C-2: 18 AAC 70.20(b)(12) TURBIDITY, FOR FRESH WATER USES
 (Criteria are not applicable to groundwater)

Designated Use	Criteria
(A) Water Supply (i) drinking, culinary, and food processing	May not exceed 5 nephelometric turbidity units (NTU) above natural conditions when the natural turbidity is 50 NTU or less, and may not have more than 10% increase in turbidity when the natural turbidity is more than 50 NTU, not to exceed a maximum increase of 25 NTU.
(A) Water Supply (ii) agriculture, including irrigation and stock watering	May not cause detrimental effects on indicated use.
(A) Water Supply (iii) aquaculture	May not exceed 25 NTU above natural conditions. For all lake waters, may not exceed 5 NTU above natural conditions.
(A) Water Supply (iv) industrial	May not cause detrimental effects on established water supply treatment levels.
(B) Water Recreation (i) contact recreation	May not exceed 5 NTU above natural conditions when the natural turbidity is 50 NTU or less, and may not have more than 10% increase in turbidity when the natural turbidity is more than 50 NTU, not to exceed a maximum increase of 15 NTU. May not exceed 5 NTU above natural turbidity for all lake waters.
(B) Water Recreation (ii) secondary recreation	May not exceed 10 NTU above natural conditions when natural turbidity is 50 NTU or less, and may not have more than 20% increase in turbidity when the natural turbidity is greater than 50 NTU, not to exceed a maximum increase of 15 NTU. For all lake waters, turbidity may not exceed 5 NTU above natural turbidity.
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	May not exceed 25 NTU above natural conditions. For all lake waters, may not exceed 5 NTU above natural conditions.

The turbidity WQS is based on the natural conditions of the receiving water. Table C-3 provides examples of the allowable turbidity in a storm water discharge for receiving waters with different natural levels of turbidity.

Table C-3: Allowable Storm Water discharge that would comply with Alaska Water Quality Standard for Turbidity for Selected Natural Conditions

Natural Condition in Stream (NTU)	Allowable Storm Water Discharge that would comply with 18 AAC 70.20 (b)(12) (NTU)
2	7
5	10
10	15
25	30
50	55
100	110
200	220
250	275
500	525
1000	1025

Turbidity in Alaska’s streams and rivers range from extremely low values of less than 1 NTU in clear-water drainages, to intermediate levels of 50 NTU, and to naturally high levels of 50-4,000 NTU in several major rivers (Lloyd, 1986). Sampling at 46 sites in wadable streams in the Tanana River basin found a range in turbidity from 0.1 to 716 NTU, with a median value of 1.7 NTU (Rinella, et. al, 2009).

Storm water discharges can have highly variable levels of pollutants. EPA’s Federal Register Notice states that turbidity levels in discharges from construction activity may range from as low as 10-50 NTU to several thousand NTU. (Fed. Reg. Vol. 73, No. 230 p. 72572) Sediment from construction projects that discharge to the clear-water tributaries that can have the greatest impact on the fisheries. Studies of sediment from placer mines in Alaska have little relevance to storm water considerations because most of the concern at placer mines has to deal with are low flow discharges whereas at construction sites the main concern is high flow discharges: these are two different flow regimes and require two different data sets to understand the impact on the fishery.

No detailed studies have been conducted of the turbidity values in discharges from C&D sites in Alaska or the relationship of the increase in natural turbidity levels in streams during high flows. There is very limited data on the variability in the change to the natural condition of turbidity in a stream during storm events. For example, when considering the impact of sediment laden runoff from construction sites it is important to understand the flow regime of the stream and when the sediment laden water from a construction site may enter the stream. Typically storm water is caused by storm events that rain on exposed soil, create erosion, collect in rivulets, and cause a sediment laden discharge from the site into a receiving water. At the same time the streamflow in the receiving water is increasing. This increase in streamflow will cause some scour of the streambed, thus increasing the natural condition of sediment in the water – leading to a natural increase in turbidity.

In Alaska large, turbid rivers such as the Copper, Susitna, Kuskokwim, Kenai, and Yukon Rivers, contain large salmon runs. The way the fish use the rivers and the tributaries is important to understanding the potential impact of turbid storm water runoff into tributaries on fish in

turbid rivers and streams. Pacific salmon and other anadromous fish migrate from the ocean to fresh water to spawn. As the fish journey up the turbid rivers they seek out the clear-water tributaries, sloughs, and areas of groundwater upwelling to deposit their eggs. Juvenile fish that hatch from these eggs generally remain in clear-water habitats for periods ranging from days to years and then descend through the turbid rivers to reach the ocean.

For example a stream in Interior Alaska with a watershed of 100 acres that flows through a road construction project during periods of no precipitation the stream may flow relatively clear with a natural turbidity of 1 to 10 NTU. During this period the site would probably not have a storm water discharge into the stream because there is no rainfall to generate storm water. Assume there is a rain event intense enough to generate a storm water discharge from the site. This rain event would also lead to an increase in streamflow in the stream. In this example assume that the rain event causes the natural stream turbidity to increase from approximately 1 to 10 NTU to approximately 100 to 200 NTU then the construction site, in order to meet the water quality standard, would need to have the storm water discharged from the site on the order of 110 to 220 NTU. With the diverse natural of climate and soils in Alaska there is a very wide range of possibilities to consider. EPA did not consider this wide range of possibilities in the development of the Effluent Limitation Guidelines.

Determination

The Department determined compliance with the permit, will ensure any reduction in water quality from the types of pollutants expected from this industry will not violate applicable criteria of 18 AAC 70. The department concludes that criterion two is satisfied.

C.2.1.3 Protect Existing Uses

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

Rationale

Alaska's water resources are extensive and the state is rich in water quantity, water quality, and aquatic resources – almost half of the total surface waters of the United States are located in Alaska (see Table C-4). Because of the state's size, sparse population, and remote character, the vast majority of Alaska's water resources are in pristine condition. More than 99.9% of Alaska's waters are considered unimpaired. Alaska's shoreline makes up more than 50% of the total United States coastline. The surface area of coastal bays and estuaries in Alaska is 33,211 square miles, almost three times the estuarine area of the contiguous 48 states.

Table C-4: Alaska water resources summary

Category	Statistics
State population	686,000
State surface area (square miles)	656,425
Total miles of rivers and streams	714,004

Number of lakes/reservoirs/ponds	3,000,000+
Acres of lakes/reservoirs/ponds	12,787,200
Miles of coastal shoreline	44,000
Palustrine wetlands –non-tidal: muskegs, bogs, tundra, etc.	172,503,400
Estuarine wetlands—bays, salt marshes, beaches	2,131,900
Marine intertidal wetlands—ocean shoreline	48,600
Total wetland acres	174,683,900

Alaska contains over 40% of the United States freshwater resources, with hundreds of glaciers, over 20,000 navigable rivers traversing over 714,000 miles, over 3 million lakes, nearly 175 million acres of wetlands, and 45,000 miles of coastal marine shoreline. They include over 15,000 salmon streams – an important resource to sport, subsistence and commercial fishing. Historically, Alaska’s water quality assessments have focused on areas with known or suspected water quality impairments.

The protection of surface waters occurs primarily through the development, adoption, and implementation of WQS and the use of the WQS in an APDES discharge permit. The WQS designate specific uses for which water quality must be protected. Seven uses for fresh waters and seven uses for marine waters are designated. Table C-5 identifies these uses.

Table C-5: Designated uses of fresh and marine waterbodies in Alaska

Designated Use	Fresh Water	Marine
Drinking Water	√	
Agriculture	√	
Aquaculture	√	√
Industrial	√	√
Contact Recreation	√	√
Non-contact Recreation	√	√
Growth & Propagation of Fish, Shellfish, Other Aquatic Life, Wildlife	√	√
Seafood Processing		√
Harvesting Raw Mollusks or Other Aquatic Life		√

Waters that do not meet the numeric/narrative criteria for their use designation(s) are listed as impaired, in compliance with the federal CWA and state rules. DEC currently lists approximately 65 waters as impaired, with about 30 listed as candidates for development of a total maximum daily load (TMDL) (DEC, 2010). Section 303(d) of the CWA requires states to identify waters that do not meet applicable WQS with technology-based controls alone. After identifying and priority ranking their water quality-limited waters, states must develop TMDLs at a level necessary to achieve the applicable WQS. TMDLs are a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet WQS along with an allocation of that amount to the pollutants’ sources. Table C-6 summarizes the waterbodies listed in the Departments report entitled *Alaska’s Final 2010 Integrated Water Quality Monitoring and Assessment Report* (ADEC, 2010)

Table C-6: Waterbodies Impaired for Sediment or Turbidity – 2010

Pollutant Source	Waterbody	Location	Category
Urban Runoff	Duck Creek	Juneau	4a
Urban Runoff	Jordan Creek	Juneau	4a
Urban Runoff	Lemon Creek	Juneau	4a
Urban Runoff	Vanderbilt Creek	Juneau	4a
Urban Runoff	Chena River	Fairbanks	5
Urban Runoff	Chena Slough	Fairbanks	5
Urban Runoff	Noyes Slough	Fairbanks	5
Gravel Mining	Granite Creek	Sitka	4a
Placer Mining	Birch Creek drainage, Upper Birch Creek, Eagle Creek, Golddust Creek	North of Fairbanks	4a
Placer Mining	Crooked Creek, Bonanza, Crooked, Deadwood, Ketchem, Mammoth, Mastodon, Porcupine	North of Fairbanks	5
Placer Mining	Goldstream Creek	Fairbanks	5
Mining	Slate Creek	Denali National Park	5
Timber Harvest	Fubar Creek	Prince of Wales Island	4b
Timber Harvest	Katlial River	North of Sitka, Baranof Island	5

Source: *Alaska's Final 2010 Integrated Water Quality Monitoring and Assessment Report* (ADEC, 2010)

Note: Category 4a – Impaired water with a final/approved TMDL

Category 4b – Impaired water with other pollution controls

Category 5 – Impaired water, Section 303(d) list, require TMDL

Determination

The Department determined that the permit will be adequate so that the resulting water quality will fully protect existing uses of the water. The department concludes that criterion three is satisfied.

C.2.1.4 Treatment Methods

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 [18 AAC 70.015 (a)(2)(D)].

Rationale

An antidegradation analysis is traditionally developed for an individual permit applicants discharging to single receiving waters. Due to an estimated number of over 200 potential permittees each year for the five-year period of the permit operating throughout the entire state, a thorough evaluation of each applicant's antidegradation demonstration is impractical under a general permit. However, the process required for coverage under the ACGP provides a framework for an analysis that ensures water resources are protected and that permit coverage is provided in a timely, efficient and consistent manner.

Control measures that prevent or minimize water quality impacts from construction activities are described in Part 3.0 and 4.0 of the proposed ACGP and in Chapter 4 of the *Alaska Storm Water Guide* (ADEC, 2009). The *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 storm water pollution prevention plan (SWPPP) which provides the basis for all pollutant discharge prevention/minimization activities. As noted below, development of the SWPPP requires a comprehensive evaluation of the site, the proposed construction activities, and possible pollutant discharges. This information is used to create the storm water management plan, 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 site-specific, activity-specific process of developing, implementing, and adjusting the pollution control practices contained in the SWPPP 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.

The ACGP contains additional provisions that create a mechanism for the permittee to inspect and correct control measures that are not adequate in protecting water quality. Section 3.1.3 states that “(a)t any time after authorization, DEC may determine that the permittees storm water discharges may cause, have reasonable potential to cause, or contribute to an excursion above any applicable water quality standard. If such a determination is made, DEC will require the permittee to . . . (m)odify storm water controls in accordance with Part 3.6 to address adequately the identified water quality concerns . . . (s)ubmit valid and verifiable data and information that are representative of ambient conditions and indicate that the receiving water is attaining water quality standards; or . . . “(c)ease discharges of pollutants from construction activity and submit an individual permit application according to Part 2.8.”

Construction sites contain a number of substances which may become part entrained in storm water discharges, such as sediment, nutrients, chemicals, and other substances. Table C-7 summarizes typical storm water pollutants, their sources, and potential impacts on water quality.

Table C-7: Typical storm water pollutants, sources and impacts

Storm water pollutant and sources	Impacts
<p>Increased runoff Land alterations increase the rate and amount of runoff from the watershed entering the stream.</p>	<p>Carries pollutants, erodes stream channel and banks, destroys in-stream habitat and increases flood potential.</p>
<p>Sediment and Turbidity Dirt and sand on roads, driveways and parking lots or eroded sediment from disturbed ground (e.g., construction sites) enters a stream with storm water runoff.</p>	<p>Smothers aquatic habitat, depletes oxygen, reduces water clarity, degrades aesthetics and carries nutrients and toxic contaminants.</p>

Table C-7: Typical storm water pollutants, sources and impacts

Storm water pollutant and sources	Impacts
Nutrients Excess fertilizers on lawns or fields, failing septic systems, and animal waste.	Stimulates excessive plant growth, lowers dissolved oxygen levels, degrades aesthetics and destroys native aquatic life.
Temperature Warmer water caused by runoff from impervious surfaces, removal of streamside vegetation, and reduction in groundwater flows.	Harmful to salmon and other cold water species, promotes spread of invasive species and excessive plant growth, reduces dissolved oxygen levels in water and increase disease in fish.
Bacteria Potentially pathogenic microscopic organisms in failing septic systems, sewer overflows, and animal (including pet) waste.	Harmful to humans; untreated waste can cause numerous diseases.
Toxic contaminants/heavy metals Heavy metals such as mercury, cleaning compounds, pesticides and herbicides, industrial by-products such as dioxin, and vehicle leakage of oil, gas, and such.	Harmful to humans and aquatic life at fairly low levels; many resist break down and some accumulate in fish and other animal tissues (including human), and can lead to mutations, disease or cancer.

Source: Adapted from Duluth Streams, 2008.

A permittee is required to implement erosion, sediment, and other storm water management practices to avoid or minimize pollutant discharges, as detailed in Part 4.0 of the permit. Many of these control measures are added to the permit because of the new ELGs that apply to the C&D industry (40 CFR Part 450) or to ensure compliance with the Essential Fish Habitat Recommended Conservation Measures. 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 4.0),
- Revised and expanded requirements for the SWPPP (Part 5.0),
- Monitoring of storm water discharges at sites that discharge to an impaired waterbody (Part 7.0); and
- Carrying out corrective actions based on the results of inspections (Part 8.0).

Table C-8 summarizes the pollution prevention and control measures identified for minimizing the discharge of pollutants at construction sites. The list of construction site pollution prevention and control practices in Table C-8 is not exhaustive; i.e., site operators may choose other

management measures that can address potential discharges from the site if they are described in the SWPPP and approved by DEC.

The practices listed in Table C-8 fall into the general categories of erosion and sediment control, good housekeeping measures and prohibited discharges. Brief descriptions of each of these categories are included in the following section. More details can be found in Chapter 4 of the *Alaska Storm Water Guide*.

Table C-8: Selected Control Measures to Minimize the Discharge of Pollutants at Construction Sites

Erosion Control	Sediment Control	Good Housekeeping Measures	Prohibited Discharges
Preserving natural vegetation	Install sediment basin/ Sediment trap	Manage washing of equipment and vehicles	Wastewater from concrete washout
Temporary vegetative buffers	Install outlet protection	Manage vehicle fueling and maintenance	Wastewater from paint, stucco and other construction materials
Surface roughing	Install storm drain inlet protection	Manage material staging and storage	Fuels, oils or other pollutants used in vehicles
Mulching	Install perimeter control	Manage washout of applicators/ containers used for paint, concrete and other materials	Soaps or solvents from equipment or vehicle washing
Temporary seeding	Vehicle tracking entrance/Exit	Manage use of fertilizers or pesticides	
Install rolled erosion control product	Water application of treatment chemicals	Manage storage, handling, and disposal of construction waste	
Rock flume	Active treatment systems		
Rock check dam			
Land application of treatment chemicals			

Erosion Prevention

Erosion prevention is any means used to keep soil particles in place. Erosion prevention is the least expensive option of all Erosion and Sediment Control (ESC) practices and should be the first line of defense employed. Many erosion prevention efforts can occur without physically modifying a site, and include planning, training, scheduling, sequencing and land management practices. The easiest and most cost-effective erosion prevention measure is to minimize the area of disturbance and retain existing vegetation.

Erosion Control

Erosion control is a practical complement to the exclusive use of erosion prevention and should be the primary ESC practice employed on construction sites. In its simplest form, erosion control

consists of preventing soils in construction areas from moving downslope. Erosion control minimizes the forces from raindrops, concentrated runoff flows, and wind, each of which detach and transport soil particles. Erosion controls treat the soil as a valued resource that must be conserved in place.

Sediment Control

Sediment controls are used to keep sediment from leaving a construction site. Sediment control is any mechanism that removes sediment from water by filtration, gravity or other means. Unlike erosion controls, sediment controls treat the soil as a waste product that must be continually removed and disposed of properly. Sediment control is the least cost-effective means to meet ESC objectives, because removing sediment from runoff is more costly and less effective than keeping soil in place.

Good Housekeeping Measures

Good housekeeping measures focus on 1) securely covering materials that might leach contaminants, 2) siting potential contaminants well away from storm drains, pavement, and surface waters, 3) handling materials in a manner that avoids spills, and cleaning them up promptly when they occur, and 4) containing solid, sanitary, and other wastes appropriately to prevent release into the environment. Housekeeping measures include material storage measures, vehicle fueling and maintenance procedures, spill response and cleanup practices, concrete washout containers, and other measures that address non-sediment pollutant discharges.

Adapting Management Practices with Control Measure Treatment Trains

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 construction general permit 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.

Determination

The Department determined that the permit includes the most effective and reasonable methods for control, treatment, and prevention of pollution through required control measures, good housekeeping techniques, and certain prohibited activities for the types of pollutants expected from this industry. The department concludes that criterion four is satisfied.

C.2.1.5 Statutory and Regulatory Requirements

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 [18 AAC 70.015 (a)(2)(E)]*

Rationale

The permit addresses the new federal effluent limitation guidelines that the C&D industry has to comply with (40 CFR Part 450). The permit also addresses the Recommended Conservation Measures for Non-Fishing Impacts to Essential Fish Habitat (NMFS, 2005). These two federal requirements are the highest statutory and regulatory requirements that new and existing point sources (e.g. construction sites) would have to comply with to ensure proper treatment and control of all wastes, other substances, and pollutants. Storm water management alternatives 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 following section summarizes how the permit, through the development, implementation, and maintenance of control measures and good housekeeping measures detailed in Part 4.0 of the ACGP and the required corrective actions ensures that these requirements are met.

The construction general permit contains additional provisions that create a mechanism for interceding when a permittee's control measures are not adequate in protecting water quality. Section 3.1.3 states that "(a)t any time after authorization, DEC may determine that the permittees storm water discharges may cause, have reasonable potential to cause, or contribute to an excursion above any applicable water quality standard. If such a determination is made, DEC may require the permittee to . . . take corrective action and modify storm water controls in accordance with Part 8 to adequately address the identified water quality concerns . . . (s)ubmit valid and verifiable data and information that are representative of ambient conditions and indicate that the receiving water is attaining water quality standards; or . . . (c)ease discharges of pollutants from construction activity and submit an individual permit application according to Part 2.8." This provision of the construction general permit ensures compliance with the antidegradation policy's Tier 1 antidegradation standard.

The requirements contained in the construction general permit, the SWPPP development process (Part 5 of the permit), the control measures and good housekeeping measures (Part 4 of the permit), and description 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. DEC has added a section to the permit that specifically addresses how a permittee will use the results of the required inspections (see Part 6 of the permit) to instigate corrective actions (see Part 8 of the permit).

Table C-9 provides a summary the federal requirements that the construction industry has to comply with, the accepted industry practices and the difference between the existing construction

general permit and the reissued permit. The comparison of the existing permit with the permit demonstrates that the permit complies with the antidegradation policy. The list of construction control measures and good housekeeping measures in Table C-8 is not exhaustive; i.e., site operators may choose other management measures that can address potential discharges from the site if they are described in the SWPPP and approved by DEC.

Table C-9: Summary of How the Highest Statutory and Regulatory Requirements are being Met Using Construction Industry Practices and Treatment Methods and Their Location in the Permit.

Highest Statutory and Regulatory Requirements		Construction Industry Practices and Treatment Methods		Improvement from Existing Permit to Reissued Permit	
Section of 40 CFR § Part 450.21	EFH Appendix G Conservation Measure	Type of Practice	Control Measure	Citation in Existing Permit	Citation in Permit
Not/Included (N/I)	G.2.2.2 (1) G.2.3.2 (8)	Good Housekeeping and Erosion Control	Preserving Natural Vegetation	Not Included (N/I)	4.1.1
(a)(3) & (a)(7)	G.2.2.2 (1, 3, 4 & 5) G.2.3.2 (2)	Erosion Control	Preserving Natural Vegetation	N/I	4.1.2
(a)(6)	G.2.2.2 (1, 3, 4 & 5) G.2.3.2 (1, 2,6 & 7)	Erosion Control	Preserving Natural Vegetation	N/I	4.1.3
(a)(2)	G.2.2.2 (1 & 6) G.2.3.2 (2)	Erosion Control	Interception/Diversion Ditch, Slope Drain, Rock Flume, Rock Check Dam, Sediment Basin/ Sediment Trap	3.1.3 & 3.1.4	4.1.4
(a)(2)	G.2.2.2 (1) G.2.3.2 (1 & 2)	Erosion Control	Surface Roughing, Interception/Diversion Ditch, Slope Drain, Rock Flume, Rock Check Dam,	N/I	4.1.5
(a)(5)	G.2.2.2 (1 & 6) G.2.3.2 (2)	Sediment Control	Storm Drain Inlet Protection	N/I	4.2.1
(a)(5)	G.2.2.2 (1 & 6) G.2.3.2 (2)	Sediment Control	Water Body Inlet Protection	N/I	4.2.2
(a)	G.2.2.2 (1 & 6) G.2.3.2 (2)	Sediment Control	Perimeter Controls	N/I	4.2.3
(a)	G.2.2.2 (1 & 6) G.2.3.2 (2)	Sediment Control	Vehicle Tracking Entrance/ Exit	3.1.2	4.2.4
(a)	G.2.2.2 (1 & 6) G.2.3.2 (2)	Sediment Control	Dust Supression/ Dust Control	3.1.2	4.2.5
(a)(3)	G.2.2.2 (1 & 6) G.2.3.2 (2)	Sediment Control	Temporary Seeding, Rolled Erosion Control Products	N/I	4.2.6
N/I	G.2.2.2 (1) G.2.3.2 (2)	Erosion or Sediment Control	A wide selection of methods, see <i>Alaska Storm Water Guide</i>	3.2	4.2.7
N/I	G.2.2.2 (1) G.2.3.2 (2)	Sediment Control	Sediment Basin/ Sediment Trap	3.1.1	4.2.8
(c)	G.2.2.2 (1)	Dewatering	Dewatering	N/I	4.3

Table C-9: Summary of How the Highest Statutory and Regulatory Requirements are being Met Using Construction Industry Practices and Treatment Methods and Their Location in the Permit.

Highest Statutory and Regulatory Requirements		Construction Industry Practices and Treatment Methods		Improvement from Existing Permit to Reissued Permit	
Section of 40 CFR § Part 450.21	EFH Appendix G Conservation Measure	Type of Practice	Control Measure	Citation in Existing Permit	Citation in Permit
	G.2.3.2 (2)				
(b)	G.2.2.2 (1 & 6) G.2.3.2 (2)	Erosion Control	Surface Roughing, Mulching, Temporary Seeding, Rolled Erosion Control Products	3.1.8.1	4.4.1
(b)	G.2.2.2 (1 & 6) G.2.3.2 (2)	Erosion Control	Surface Roughing, Mulching, Temporary Seeding, Rolled Erosion Control Products	3.1.8.2	4.4.2
(b)	G.2.2.2 (1 & 6) G.2.3.2 (2)	Erosion Control	Final Seeding, Non-Vegetative Permanent Stabilization Measures	N/I	4.4.3
N/I	G.2.2.2 (1 & 6) G.2.3.2 (2)	Erosion or Sediment Control	Material Storage and Handling, Specific Training Requirements, Land Application, Water Application, or Active Treatment System	N/I	4.5
e(1)	G.2.3.2 (9)	Prohibited Discharge	Concrete Washout Basin	N/I	4.6.1
e(2)	G.2.3.2 (9)	Prohibited Discharge	Concrete Washout Basin, Material Storage and Handling	N/I	4.6.2
e(3)	G.2.3.2 (9)	Prohibited Discharge	Vehicle Fueling and Maintenance Practices	N/I	4.6.3
e(4)	G.2.3.2 (9)	Prohibited Discharge	Vehicle and Equipment Maintenance Practices	N/I	4.6.4
d(1) & e(4)	G.2.3.2 (9)	Good Housekeeping	Vehicle and Equipment Maintenance Practices	N/I	4.7.1
d(2) & e(3)	G.2.3.2 (9)	Good Housekeeping	Vehicle Fueling and Maintenance Practices	N/I	4.7.2
d(2)	G.2.3.2 (9)	Good Housekeeping	Material Storage and Handling	N/I	4.7.3
d(1), e(1), & e(2)	G.2.3.2 (9)	Good Housekeeping	Concrete Washout Basin, Material Storage and Handling	N/I	4.7.4
d(2)	G.2.3.2 (9)	Good Housekeeping	Material Storage and Handling	N/I	4.7.5
d(2)	G.2.3.2 (9)	Good Housekeeping	Material Storage and Handling	3.1.6.1	4.7.6
N/I	G.2.3.2 (9)	Good Housekeeping	Material Storage, Handling, and Response	3.1.9	4.8
N/I	G.2.2.2 (1, 3, 4, 5, & 6) G.2.3.2 (2)	Sediment Control	A wide selection of methods, see <i>Alaska Storm Water Guide</i>	3.1.5	4.9
N/I	G.2.2.2 (1) G.2.3.2 (2)	Erosion or Sediment Control	A wide selection of methods, see <i>Alaska Storm Water Guide</i>	N/I	4.10
N/I	G.2.2.2 (1) G.2.3.2 (9)	Good Housekeeping	Provide for Active Maintenance of Control Measures to ensure maintenance of treatment effectiveness	3.6	4.11
N/I	G.2.2.2 (1) G.2.3.2	Erosion and Sediment Control	Identify person responsible for storm water management at site	3.7	4.12

Table C-9: Summary of How the Highest Statutory and Regulatory Requirements are being Met Using Construction Industry Practices and Treatment Methods and Their Location in the Permit.

Highest Statutory and Regulatory Requirements		Construction Industry Practices and Treatment Methods		Improvement from Existing Permit to Reissued Permit	
Section of 40 CFR § Part 450.21	EFH Appendix G Conservation Measure	Type of Practice	Control Measure	Citation in Existing Permit	Citation in Permit
	(2 & 9)	and Good Housekeeping	and provide employee training		
N/I	G.2.2.2 (1) G.2.3.2 (2 & 9)	Erosion and Sediment Control and Good Housekeeping	Comply with MS4 requirements or other local ordinances	3.8	4.13

Construction sites contain a number of substances which may become entrained in storm water discharges, such as sediment, nutrients, nutrients, chemicals, and other substances. Table C-7 summarizes many of the pollutants typically found on construction sites. Table C-9 describes how the permit addresses these pollutants using specific control measures. The Alaska construction general permit, the SWPPP requirements, and the Alaska Storm Water Guide provide a framework for complying with Alaska’s antidegradation requirements to analyze alternative pollution prevention/control measures and implement those that prevent or minimize water quality to the maximum extent practicable.

Determination

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 criterion five is satisfied.

C.2.2 Tier 3 Discussion

The Department has not designated any Tier 3 waters in Alaska. The regulation states, “High quality water constitutes an outstanding national resource, such as a water of a national or state park or wildlife refuge or a water of exceptional recreational or ecological significance, the quality of that water must be maintained and protected.” [18 AAC 70.015 (a)(3)]

The Department included in the ACGP a requirement that construction projects that discharge to a high quality water that constitutes as an outstanding national resource, submits a site-specific antidegradation analysis and the SWPPP prior to submitting the Notice of Intent (Part 2.1.6 of the permit). The Department will use this information to review and evaluate the potential effect of the specific project on the high quality waters.

C.2.4. Information Provided by Applicants

The Department requires applicants to submit a Notice of Intent which includes information on the waterbodies to which the project will discharge. The regulation states, “An applicant for a permit, certification, or approval who seeks to reduce water quality as described in (a) of this section shall provide to the department all information reasonably necessary for a decision on the

application, including the information and demonstrations required in (a) of this section and other information that the department finds necessary to meet the requirements of this section.” [18 AAC 70.015 (b)]

The proposed ACGP also requires the applicant to prepare a SWPPP prior to filing for permit coverage and starting construction. The SWPPP is required to provide details of control measures to be used at the construction project to minimize pollutants in the discharge as necessary to meet applicable WQS.

C.2.5. Public Participation

The Department regulation states, “An application received under (a) of this section is subject to the public participation and intergovernmental review procedures applicable to the permit, certification, or approval sought, including procedures for applications subject to the Alaska Coastal Management Program in AS 46.40 and 6 AAC 50, and applications subject to 18 AAC 15. If the department certifies a federal permit, the public participation and intergovernmental review procedures followed by the federal agency issuing that permit will meet the requirements of this subsection.” [18 AAC 70.015 (c)]

The Department is following the public notice requirements described in 18 AAC 83.120 and the public participation process described in the *Public Participation in APDES Permitting Process* available at <http://dec.alaska.gov/water/npdes/APDESApplication.htm>. The Department mailed an early notification letter to all federally recognized Alaska tribes in July 2010. DEC received no comments from any tribe as a result of the letter. The Department also sent an email to all coastal districts on July 2010, to solicit comment on the permit. DEC received some general comments from a couple of districts.

C.3. Summary of Antidegradation Analysis

This antidegradation analysis finds that the permit for construction sites with one acre or more of disturbed area requires the use of control measures and good housekeeping measures to meet WQS. The antidegradation analysis finds these measures are necessary for ensuring the support of water body uses, analyses of alternatives, selection of effective and reasonable control measures, implementation of the measures to minimize water body impacts to the maximum extent practicable, and provisions for ensuring public participation and intergovernmental review. In addition, this analysis finds that in those cases where water quality may be degraded by construction activities, there exists a rebuttable presumption that the construction activity constitutes “important economic or social development” in the state, by nature of its contribution to the state’s housing, institutions, infrastructure, jobs, and overall economy.

Ongoing support for these findings is dependent upon further implementation of Alaska’s APDES permit program. Specifically, successful implementation of the state’s antidegradation policy requires in integrated program for reviewing permit applicant submittals, issuing permit coverage, inspecting sites to ensure proper pollution prevention and control, and conducting enforcement actions where and when warranted. It is expected that the APDES permit program development and implementation process will be iterative, and focused on identifying those

areas which may not fully support state antidegradation objectives so they may be addressed during subsequent program development actions.

C.4. References

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