Storm Water Pollution Prevention Plan

For

CIHA W32nd Avenue
Anchorage, Alaska

Operator(s)

SWPPP Contact(s)

SWPPP Preparation Date

1/21/2020

Estimated Project Dates

Start of Construction 3/1/2020
Completion of Construction 12/31/2021
APDES Project or Permit Authorization Number:
Enter Permit Authorization Number:
# RECORD OF SWPPP AMENDMENTS

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OPERATOR PLAN
AUTHORIZATION/CERTIFICATION/DELEGATION

(To be signed by Responsible Corporate Officer)

I state that based on my review this SWPPP meets the minimum requirements of the Construction General Permit and that the Operator, , has day-to-day operational control of the project site. is responsible for the maintenance and implementation of the SWPPP including inspections, documentation, and application of the Best Management Practices at the site. will notify all subcontractors of the requirement of this SWPPP. has operational control over the project specifications, including the ability to make changes to the project specifications.

I hereby designate __________________________ (AKCESCL#______________) SWPPP Administrator as my authorized representative. This designee is responsible for the overall operations of the site and will be responsible for the implementation of the Storm Water Pollution Prevention Plan, compliance with the Construction General Permit, selecting and implementing additional Best Management Practices as conditions warrant, and signing all inspection reports required.

I certify under penalty of law that this document and all attachments were prepared under direction of in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

(Corporate Agent)

__________________________  __________________________
Signature                    Date

__________________________  __________________________
Printed Name                 Title
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D. Supporting Documentation:
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   • Endangered Species
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F. Permit Conditions:
   • Copy of Signed Notice of Intent
   • Copy of Letter from ADEC Authorizing Coverage, with ADEC NOI Tracking Number
   • Copy of 2016 Construction General Permit
G. Grading and Stabilization Records
H. Monitoring Plan (If Applicable) and Reports
I. Training Records
J. Corrective Action Log
K. Inspection Records
1.0 PERMITTEE (5.3.1)

1.1 Operator(s)/Contractor(s)

**Operator Information**

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**Area of Control**
Operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications.

**Owner Information**

<table>
<thead>
<tr>
<th>Organization</th>
<th>Name</th>
<th>Title</th>
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<tbody>
<tr>
<td>Cook Inlet Housing Authority</td>
<td>Kelvin Goode</td>
<td>Project Manager</td>
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<thead>
<tr>
<th>Phone</th>
<th>Fax (optional)</th>
<th>Email</th>
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<tbody>
<tr>
<td>(907) 793-3000</td>
<td></td>
<td><a href="mailto:kgoode@cookinlethousing.org">kgoode@cookinlethousing.org</a></td>
</tr>
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**Area of Control**
Day-to-day operational control of those activities at a site which are necessary to ensure compliance with a SWPPP or other permit conditions.

1.2 Subcontractors

**Subcontractor Information**

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**Area of Control**
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### Area of Control

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### Area of Control

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## 2.0 STORM WATER CONTACTS (5.3.2)

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<tr>
<th>Qualified Personnel</th>
<th>Responsibility</th>
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<tr>
<td><strong>Storm Water Lead</strong></td>
<td>Authority to stop and/or modify construction activities as necessary to comply with the SWPPP and the terms and conditions of the permit.</td>
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<th><strong>SWPPP Preparer</strong></th>
<th>Possess the skills to assess conditions at the construction site that could impact storm water quality. Familiar with Part 5 as a means to implement the permit.</th>
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<tr>
<td>EBSC Engineering, LLC</td>
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<tr>
<td>Luke Mattson, P.E.</td>
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<tr>
<td>11301 Olive Ln</td>
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<tr>
<td>Anchorage, AK 99515</td>
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<tr>
<td>907-222-1085</td>
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<tr>
<td>907-222-5210</td>
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<th><strong>Storm Water Inspector</strong></th>
<th>Assess conditions at the construction site that could impact storm water quality. Assess the effectiveness of any erosion and sediment control measures selected to control the quality of storm water discharge, and familiar with Part 6 as a means to ensure compliance with the permit.</th>
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<th><strong>Monitoring Person (If Applicable)</strong></th>
<th>Knowledgeable in the principles and practices of water quality monitoring who is familiar with Part 7 and the monitoring plan for the site and how to conduct water quality sampling, testing, and reporting.</th>
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<th><strong>Active Treatment System Operator (If Applicable)</strong></th>
<th>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. Familiar with Part 4.5 as a means to implement and comply with the permit.</th>
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3.0 PROJECT INFORMATION (5.3.3)

3.1 Project Information

| Project Name: CIHA W 32\textsuperscript{nd} Avenue |
|———|———|———|
| Location Address: | Borough or similar government subdivision: |  |
| Street: | Anchorage |  |
| City: | Anchorage |  |
| Latitude (decimal degree, 5 places): | Longitude (decimal degree, 5 places): |  |
| 61.190963 | -149.908621 |  |

Determined By: ☑ GPS ☑ Web Map: Google ☑ USGS Topo Map, Scale: Enter Text ☑ Other:

3.2 Project Site Specific Conditions (5.3.3)

Mean annual precipitation based on nearest weather stations (inches): 15.91

Soil Type(s) and Slopes (describe soil type(s) and current slopes; note any changes due to grading or fill activities): According to the geotechnical report, conducted by Northern Geotechnical Engineers, Inc., “The majority of the project site is overlain by approximately 0.5 to 2.5 feet of organic-rich material. The organic-rich material is overlain by poorly graded sand with various amount of gravel to approximately 21 feet bgs. The poorly graded sand is underlain by an approximately five-foot thick layer of silt with various amount of sand. The silt layer is underlain by sand to at least 31.5 feet bgs.”

Landscape Topography: The site has relatively flat sloping gradually to the north to W 32\textsuperscript{nd} Avenue.

Drainage Patterns (describe current drainage patterns and note any changes due to grading or fill activities): The land is relatively flat and slopes northward to the west at a slope of 0-2%. The proposed improvements will not significantly alter the existing drainage patterns. Any grading or filling of the site will maintain this slope to direct storm water into the newly-developed storm water piping system under along the west property line, connecting to W 32\textsuperscript{nd} Ave, filtering through the oil and grit separator (OGS).

Approximate Growing Season: Early June to late-September.

Type of Existing Vegetation: The site is sparsely vegetated and mostly barren. The grass cover is sparse, less than 25% of the lot with the remainder being hard packed gravel/topsoil mix that appears to serve as an overflow parking area. Lot 38A is surrounded by a mix of commercial and residential developments.

Historic site contamination evident from existing site features and known past usage of the site: No known contamination has occurred on the project site. There is a recorded contaminated site within 500 feet of the parcel directly to the south that is classified as cleanup complete. Information: Hazard ID Number: 23868, Site Name: Ed Young File Number: 2100.26.123 Address: 1401 W. 33\textsuperscript{rd} Avenue Anchorage Alaska, 99503.
4.0 NATURE OF CONSTRUCTION ACTIVITY (5.3.4)

4.1 Scope of Work
The scope of work associated with soil disturbances on this parcel consists of the construction of a 3-story residential use building with associated parking areas, landscaping, and utility connections. It is expected that the excavation and installation of the utilities and foundations will take place this spring.

4.2 Project Function (5.3.4.1)
This project function falls under the commercial category.

4.3 Support Activities (As Applicable)
Support activities for this project are:

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<tr>
<th>Support Activity</th>
<th>Location</th>
<th>Dedicated</th>
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<tbody>
<tr>
<td>Concrete Batch Plant</td>
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<tr>
<td>Asphalt Batch Plant</td>
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<tr>
<td>Equipment Staging Yards</td>
<td>Construction Site</td>
<td>✔</td>
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<tr>
<td>Material Storage Areas</td>
<td>Construction Site</td>
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<tr>
<td>Excavated Material Disposal Areas</td>
<td>Construction Site</td>
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<tr>
<td>Borrow Areas</td>
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4.4 Sequence and Timing of Soil-disturbing Activities (5.3.4.2)

- Phase 1 - Excavation, backfill and rough grading (Spring 2020)
- Phase 2 - Water and Sewer utility installation (Spring 2020)
- Phase 3 - Foundation installation (Summer 2020)
- Phase 4 - Structure Construction (Summer-Fall 2020)
- Phase 5 - Final grading and site work (Spring 2021)
- Phase 6 - Site landscaping and final stabilization (Spring 2021)

4.5 Size of property and total area expected to be disturbed (5.3.4.3)

The following are estimates of the construction site:

| Total Project Area                      | 0.54 | Acres |
| Construction-site area to be disturbed  | 0.54 | Acres |
Percentage impervious area BEFORE construction: .............. 0 %
Runoff coefficient BEFORE construction: .................. 0.54
Percentage impervious area AFTER construction: .......... 74 %
Runoff coefficient AFTER construction: .............. 0.67

4.6 Identification of All Potential Pollutant Sources (5.3.4.5)

Potential sources of sediment to storm water runoff:

<table>
<thead>
<tr>
<th>Potential Pollution Source</th>
<th>Storm Water Pollutants</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>Excavation</td>
<td>Sediment</td>
<td>Building &amp; Utilities</td>
</tr>
<tr>
<td>Un-stabilized areas</td>
<td>Sediment</td>
<td>Any disturbed/barren area onsite</td>
</tr>
<tr>
<td>Paving</td>
<td>Sediment</td>
<td>Parking areas</td>
</tr>
<tr>
<td>Structure construction</td>
<td>Sediment</td>
<td>Building</td>
</tr>
<tr>
<td>Debris disposal</td>
<td>Sediment</td>
<td>Entire lot area</td>
</tr>
<tr>
<td>Material delivery and storage</td>
<td>Sediment</td>
<td>Adjacent roads</td>
</tr>
</tbody>
</table>

Potential pollutants and sources, other than sediment, to storm water runoff:

<table>
<thead>
<tr>
<th>Trade Name Material</th>
<th>Storm Water Pollutants</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portland Cement Concrete</td>
<td>Cement</td>
<td>Concrete Washout Area</td>
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<tr>
<td>Asphalt Concrete</td>
<td>Petroleum</td>
<td>Parking Area</td>
</tr>
<tr>
<td>Gasoline</td>
<td>Petroleum</td>
<td>Fueling/Maintenance Area</td>
</tr>
<tr>
<td>Diesel Fuel</td>
<td>Petroleum</td>
<td>Fueling/Maintenance Area</td>
</tr>
<tr>
<td>Motor Oil</td>
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<tr>
<td>Grease</td>
<td>Petroleum</td>
<td>Fueling/Maintenance Area</td>
</tr>
<tr>
<td>Paints</td>
<td>Petroleum</td>
<td>Secondary Containment Area</td>
</tr>
<tr>
<td>Solvents</td>
<td>Petroleum</td>
<td>Secondary Containment Area</td>
</tr>
</tbody>
</table>
5.0 SITE MAPS (5.3.5)

Include a general location map in Appendix A of this SWPPP.

Include site maps in Appendix A of this SWPPP.

6.0 DISCHARGES

6.1 Locations of Other Industrial Storm Water Discharges (5.3.8)

There are no other industrial storm water discharges associated with this project.

6.2 Allowable Non-Storm Water Discharges (1.4.3; 4.3.7; 5.3.9)

The possible non-storm water discharges associated with this project are as follows:

- Water from water line flushing
- Water used to wash vehicles, buildings and pavements with no detergents added.
- Water used for dust control

7.0 DOCUMENTATION OF PERMIT ELIGIBILITY RELATED TO TOTAL MAXIMUM DAILY LOADS (3.2, 5.6)

7.1 Identify Receiving Waters (5.3.3.3)

Description of receiving waters: Fish Creek, to Cook Inlet

Description of storm sewer and/or drainage systems: There is an existing municipal storm water system in W 32nd Avenue that flows east to Spenard Road and south to Fish Creek which is located in a large diameter CMP under W 36th Avenue. The system appears to be in good condition and is functioning properly.

Other: N/A

7.2 Identify TMDLs (5.6.1)

Is an EPA-established or approved TMDL published for the receiving water(s) listed in Section 7.1? ☐ Yes ☑ No.

TMDL: N/A

Summary of consultation with state or federal TMDL authorities (5.6.2): N/A

Measures taken to ensure compliance with TMDL (5.6.3): N/A
8.0 DOCUMENTATION OF PERMIT ELIGIBILITY RELATED TO ENDANGERED SPECIES (3.3, 5.7)

8.1 Information on Endangered or Threatened Species or Critical Habitat (5.7.1)

Are endangered or threatened species and critical habitats on or near the project area?  Yes [□]  No [☑]

Describe how this determination was made: USFWS website

Will species or habitat be adversely affected by storm water discharge?  Yes [☑]  No [□]

- Cook Inlet Beluga Whale: endangered species within the connecting body of water to the Chester Creek
- Kittliz’s Murrelet (Candidate): endangered North American seabird

Include any agency correspondence in the SWPPP (5.7.4): None

Provide summary of necessary measures (5.7.5): Extra vigilance in design, operation, and maintenance of this SWPPP to ensure limited effect on the endangered species.

9.0 APPLICABLE FEDERAL, STATE, TRIBAL, OR LOCAL REQUIREMENTS (4.15)

The Municipality of Anchorage operates the storm water program under its own MS4 permit. All required information shall be submitted to the following address:

Municipality of Anchorage
Public Works Department 4700 South Elmore Rd.
P.O. Box 196650
Anchorage, AK 99519
Control Measures

10.0 CONTROL MEASURES/BEST MANAGEMENT PRACTICES (4.0; 5.3.6)

10.1 Minimize Amount of Soil Exposed During Construction Activity (4.2.2)

The site is currently cleared and covered with sparse vegetation (weeds). Use good judgement and Best Management Practices (BMP’s) to minimize erosion potential during construction. Ensure that all erosion control measures are installed before commencing construction activities. Inspect and maintain BMP’s as directed and as necessary to comply with the permit.

10.2 Maintain Natural Buffer Areas (4.2.3)

Are stream crossings or waters of the U.S. located within or immediately adjacent to the property? □ Yes ☐ No.

10.3 Control Storm Water Discharges and Flow Rates (4.2.5)

The topography of the site is relatively flat which minimizes the risk for high flow rates and erosion. However, the site should be regularly inspected for evidence of erosion from discharges and high flow rates, especially during storm events. If evidence is found, address the cause immediately with BMP’s outlined in appendix of this document.

10.3.1 Protect Steep Slopes (4.2.6)

Will steep slopes be present at the site during construction? □ Yes ☐ No.

BMP Description: Erosion Protection mats and straw waddles

Installation Schedule: Following any steep sloped excavations or embankment construction that direct storm water away from the site.

Maintenance and Inspection: 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 that resulted in a discharge from the site. (ACGP 6.1.2) Maintain per BMP detail in Appendix B.

Responsible Staff: Operator’s Storm Water Lead (ACGP Section 6.3)

10.4 Storm Water Inlet Protection Measures (4.3.1)

BMP Description: Storm Drain Inlet Protection/ Catch Basin Inserts

Installation Schedule: Prior to disturbance of soil on site, install storm drain inlet protection measures in the storm drains on and adjacent to the site. The locations of existing storm drain inlets and proposed protection BMP’s are located on the site map.

Maintenance and Inspection: 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 that resulted in a discharge from the site. (ACGP 6.1.2) Maintain per BMP detail in Appendix B.
10.5 Water Body Protection Measures (4.3.2)

N/A

10.6 Down-Slope Sediment Controls (4.3.3)

BMP Description: Straw Waddles

Installation Schedule: Install prior to commencing soil disturbing activities on site.

Maintenance and Inspection: 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 that resulted in a discharge from the site. (ACGP 6.1.2) Maintain per BMP detail in Appendix B.

Responsible Staff: Operator’s Storm Water Lead (ACGP Section 6.3)

10.7 Stabilized Construction Vehicle Access and Exit Points (4.3.4)

BMP Description: Gravel Construction Entrance or Temporary Roadway (DuraDeck Mud Mats)

Installation Schedule: Install prior to importing or exporting fill and or materials onto the site.

Maintenance and Inspection: 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 that resulted in a discharge from the site. (ACGP 6.1.2) Maintain per BMP detail in Appendix B.

Responsible Staff: Operator’s Storm Water Lead (ACGP Section 6.3)

10.8 Dust Generation and Track-Out from Vehicles (4.3.5)

BMP Description: Sweeping

Installation Schedule: As required

Maintenance and Inspection: Inspect adjacent roadways daily and sweep as needed to keep the asphalt free of sediment.

Responsible Staff: Operator’s Storm Water Lead (ACGP Section 6.3)

10.9 Soil Stockpiles (4.3.6)

Will soil stockpiles be at the site during construction? ☑ Yes ☐ No.

BMP Description: Plastic Covering

Installation Schedule: Ensure material stockpiles are covered when not in use. Follow the BMP for the project when stockpiling and storing contaminated material.
Maintenance and Inspection: 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 that resulted in a discharge from the site. (ACGP 6.1.2) Maintain per BMP detail in Appendix B.

Responsible Staff: Operator’s Storm Water Lead (ACGP Section 6.3)

10.10 Sediment Basins (4.3.8)

Will a sediment basin be required during construction? ☐ Yes, ☑ No.

Insert Text

10.11 Dewatering (4.4)

Will dewatering be conducted during construction? ☐ Yes, ☑ No.

Will excavation dewatering be conducted within 1,500 feet of a DEC mapped contaminated site found on the following website? ☐ Yes, ☑ No. [http://www.arcgis.com/home/item.html?id=315240bfbaf84aa0b8272ad1cef3cad3](http://www.arcgis.com/home/item.html?id=315240bfbaf84aa0b8272ad1cef3cad3)

Describe control measures to be implemented to comply with dewatering discharges authorized either under the CGP or the DEC Excavation Dewatering general permit requirements.

BMP Description: N/A

Installation Schedule: N/A

Maintenance and Inspection: N/A

Responsible Staff: N/A

10.12 Soil Stabilization (4.5, 5.3.6.3)

BMP Description: Temporary Seeding

☐ Permanent, ☑ Temporary

Installation Schedule: Install as soon as practicable or within fourteen (14) calendar days after final grading and earth disturbing activities have ceased.

Maintenance and Inspection: 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 that resulted in a discharge from the site. (ACGP 6.1.2) Maintain per BMP detail in Appendix B.

Responsible Staff: Operator’s Storm Water Lead (ACGP Section 6.3)

10.13 Treatment Chemicals (4.6; 5.3.6.4)

Will treatment chemicals be used to control erosion and/or sediment during construction? ☐ Yes, ☑ No.
10.13.1 Treatment Chemicals (4.6.1)

N/A

10.13.2 Treatment Chemical Use Procedures (4.6.2)

N/A

10.13.3 Application of Treatment Chemicals (4.6.3)

N/A

10.14 Active Treatment System Information (4.6.3.3)

Will an ATS be used as a control measure at the site? ☐ Yes, ☑ No.

N/A

10.15 Good Housekeeping Measures (4.8)
10.15.1 Washing of Equipment and Vehicles (4.8.1)

Will equipment and vehicle washing and/or wheel wash-down be conducted at the site? ☐ Yes, ☑ No.

BMP Description: N/A

Installation Schedule: N/A

Maintenance and Inspection: N/A

Responsible Staff: N/A

10.15.2 Fueling and Maintenance Areas (4.8.2)

Will equipment and vehicle fueling or maintenance be conducted at the site? ☑ Yes, ☐ No.

BMP Description: Liquid Storage

Installation Schedule: Prior to fuel, oil, paint or other hazardous containers are stored on-site establish and delineate an area designated to store liquids.

Maintenance and Inspection: 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 that resulted in a discharge from the site. (ACGP 6.1.2)

Responsible Staff: Operator’s Storm Water Lead (ACGP Section 6.3)
10.15.3 Washout of Applicators/Containers Used for Paint, Concrete, and Other Materials (4.8.4)

Will washout areas for trucks, applicators, or containers of concrete, paint, or other materials be used at the site? □ Yes, ☑ No.

BMP Description: Concrete Washout

Installation Schedule: Install before performing any concrete work, painting or stucco work onsite.

Maintenance and Inspection: 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 that resulted in a discharge from the site. (ACGP 6.1.2)

Responsible Staff: Operator’s Storm Water Lead (ACGP Section 6.3)

10.15.4 Fertilizer or Pesticide Use (4.8.5)

Will fertilizers or pesticides be used at the site? ☑ Yes, □ No.

Material Name: N/A

BMP Description: N/A

Installation Schedule: N/A

Maintenance and Inspection: N/A

Responsible Staff: N/A

10.16 Spill Notification (4.9)

Where a leak, spill, or release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under 40 CFR Part 110, 40 CFR Part 117 or 40 CFR Part 302 occurs during a 24-hour period, the permittee must provide notice to the National Response Center (NRC) (800) 424-8802 during normal business hours and call the nearest DEC Area Response Team Office-Southeast (Juneau) 465-5340; Central (Anchorage) 269-3063; or Northern (Fairbanks) 451-2121. Outside of normal business hours, the permittee must call (800) 478-9300 as soon as the permittee has knowledge of the discharge. Within seven (7) calendar days of knowledge of the release, the permittee must provide a description of the release, the circumstances leading to the release, and the date of the release to the nearest DEC Area Response Team Office, in Part 4.5.2. The permittee must also implement measures to prevent the reoccurrence of such releases and to respond to such releases.

10.17 Construction and Waste Materials (4.8.6, 5.3.7)

General construction materials such as lumber, steel, sheetrock, glass, cardboard and plastic are expected to be stored onsite. All construction debris and waste will be disposed of properly in a refuse container stored onsite in its designated area as shown on the site maps. Hazardous, toxic and sanitary waste shall be disposed of properly; discharge of hazardous, toxic or sanitary waste into storm water or adjacent water bodies is not permitted.
11.0 INSPECTIONS (5.4; 6.0)

11.1 Inspection Schedules (5.4.1.2; 6.1; 6.2)

**Inspection frequency:** Annual average rainfall at the nearest weather station, Anchorage International Airport is 15.91”. According to the ACGP areas that have an annual average precipitation greater than 15” and less than 40” a permittee must 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 that resulted in a discharge from the site. (ACGP 6.1.2)

Inspection frequency can be reduced if one or more of the following is true:

- If the entire site is temporarily stabilized, inspections can be reduced to once every thirty (30) calendar days and within two (2) business days of the end of a storm event that results in a discharge from the site. (ACGP 6.2.1)

- If portions of the site have achieved final stabilization but construction continues on other parts of the site, inspections can be suspended for the portion of the site that has achieved final stabilization; however, inspections may need to be performed within two (2) business days of the end of a storm event that results in erosion and causes a discharge from the portion of the site considered finally stabilized. (ACGP 6.2.2)

- If the project is undergoing winter shutdown, meaning the cessation of soil disturbing or soil stabilizing construction activity for the winter, inspections may be stopped fourteen (14) calendar days after anticipated fall freeze-up and must resume at least twenty-one (21) calendar days prior to anticipated spring thaw. (ACGP 6.2.3)

- If the entire site has reached final stabilization and a NOT has been submitted to ADEC, no further inspections apply to the site. (ACGP 6.2.4)

**Justification for reduction in inspection frequency, if applicable:** N/A

**Estimated date of winter shutdown:** N/A

11.2 Inspection Form or Checklist (5.4.1.3; 6.7)

Attach to SWPPP

11.3 Corrective Action Procedures (5.4.1.4; 8.0)

Insert Text

Corrective Action Log
The Corrective Action Log can be found in Appendix K of this SWPPP

11.4 Inspection recordkeeping (5.4.2)
Records will be maintained for a minimum period of at least three (3) years after the permit is terminated.

12.0 MONITORING PLAN (If Applicable) (5.5; 7.0)

12.1 Determination of Need for Monitoring Plan

Is there an EPA-established or approved TMDL for Cook Inlet?

☑ Yes, ☐ No.

Is the receiving water listed as impaired for turbidity and/or sediment?
☐ Yes, ☑ No.

What is the acreage of the disturbance in the proposed construction project? 1.16

Is the disturbed acreage equal to or greater than 20 acres?
☐ Yes, ☑ No.

12.2 Monitoring Plan Development

Monitoring schedules (5.5.1.2; 7.3.2): N/A

Monitoring form or checklist (5.5.1.3; 7.3.9): N/A

Corrective action procedures (5.5.1.4; 8.0): N/A

12.3 Monitoring Considerations

- Locate upstream/upgradient sampling point(s) to determine background turbidity in the receiving water body. The location should be reasonably close to discharge but not so close as to experience increased turbidity from discharge. Clearly mark in field and on map in SWPPP.

- Sample the discharge where it enters the receiving water body or where it leaves the construction site. Clearly mark in field and on map in SWPPP.

- The discharge entering the water body impaired for turbidity or sediment must 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 a 10-percent increase in turbidity when the natural turbidity is more than 50 NTU, not to exceed a maximum increase of 25 NTU.

- Correct control measures within seven (7) calendar days, update your SWPPP to reflect improvements, submit a Corrective Action Report consistent with the CGP, AND continue daily sampling until discharge meets allowable turbidity.

- If a specific waste-load allocation has been established for turbidity or sediment that would apply to the discharge of storm water from the construction site, the permittee must implement necessary steps to meet that allocation.
• If there is only a general waste-load allocation applicable to construction storm water discharges, the permittee must consult the ADEC to confirm consistency with approved TMDL.

13.0 POST-AUTHORIZATION RECORDS (5.8)

Copy of Permit Requirements (5.8.1)

The SWPPP must contain the following documents:

• copy of 2016 CGP (5.8.1.1);

• copy or signed and certified NOI form submitted to ADEC (5.8.1.2);

• upon receipt, a copy of letter from ADEC authorizing permit coverage, providing tracking number (5.8.1.3);

These documents must be included in Appendix F.

13.1 Additional Documentation Requirements (5.8.2)

• Dates when grading activities occur (5.8.2.1; insert in Appendix G).

• Dates when construction activities temporarily or permanently cease on a portion of the site (5.8.2.1.3; insert in Appendix G).

• Dates when stabilization measures are initiated (5.8.2.1.4; insert in Appendix G).

• Date of beginning and ending period for winter shutdown (5.8.2.2; insert in Appendix G).

• Copies of inspection reports (5.4.2; 5.8.2.3; insert in Appendix K).

• Copies of monitoring reports, if applicable (5.8.2.4; insert in Appendix H).

• Documentation in support of chemical-treatment processes (4.6; 5.8.2.6; insert in Appendix H).

• Documentation of maintenance and repairs of control measures (5.8.2.8; 8.1; 8.2; insert in Appendix J).

• Documentation of any rainfall monitoring records (6.7.1.3)

13.1.1 Records of Employee Training (4.14; 5.8.2.7)

Describe Training Conducted:

General storm water and BMP awareness training for staff and subcontractors:

Add Training:

Detailed training for staff and subcontractors with specific storm water responsibilities:

Add Training:
14.0 MAINTAINING AN UPDATED SWPPP (5.9)

The permittee must modify the SWPPP, including site map(s), in response to any of the following:

- whenever changes are made to construction plans, control measures, good housekeeping measures, monitoring plan (if applicable), or other activities at the site that are no longer accurately reflected in SWPPP (5.9.1.1);
- if inspections of site investigations by staff or by local, state, tribal, or federal officials determine SWPPP modifications are necessary for permit compliance (5.9.1.2); and
- to reflect any revisions to applicable federal, state, tribal, or local laws that affect control measures implemented at the construction site (5.9.1.3).

14.1 Log of SWPPP Modifications (5.9.2)

A permittee must keep a log showing dates, name of person authorizing the change, and a brief summary of changes for all significant SWPPP modifications (e.g., adding new control measures, changes in project design, or significant storm events that cause replacement of control measures). A form to document SWPPP amendments has been placed at the beginning of this template.

14.2 Deadlines for SWPPP Modifications (5.9.3)

Revisions to the SWPPP must be completed within seven days of the inspection that identified the need for a SWPPP modification or within seven days of substantial modifications to the construction plans or changes in site conditions.

15.0 ADDITIONAL SWPPP REQUIREMENTS (5.10)

15.1 Retention of SWPPP (5.10.1)

A copy of the SWPPP (including a copy of the permit), NOI, and acknowledgement letter from ADEC must be retained at the construction site.

15.2 Main Entrance Signage (5.10.2)

A sign or other notice must be posted conspicuously near the main entrance of the site. The sign or notice must include a copy of the completed NOI.
15.3 Availability of SWPPP (5.10.3)
The permittee must keep a current copy of the SWPPP at the site. The SWPPP must be made available to subcontractors, government and tribal agencies, and MS4 operators, upon request.

15.4 Signature and Certification (5.10.4)
The SWPPP must be signed and certified in accordance with the requirements of the 2016 CGP Appendix A, Part 1.12. The certification form on page ii of this template meets the requirements of this paragraph.
APPENDICES

APPENDIX A – SITE MAPS AND DRAWINGS

APPENDIX B – BMP DETAILS

APPENDIX C – PROJECT SCHEDULE

APPENDIX D – SUPPORTING DOCUMENTATION:
- TMDL
- ENDANGERED SPECIES
- OTHER PERMITS

APPENDIX E – DELEGATION OF AUTHORITY, SUBCONTRACTOR CERTIFICATIONS

APPENDIX F – PERMIT CONDITIONS:
- COPY OF SIGNED NOTICE OF INTENT
- COPY OF LETTER FROM ADEC AUTHORIZING COVERAGE
- ADEC NOI TRACKING NUMBER
- COPY OF 2016 ALASKA CONSTRUCTION GENERAL PERMIT

APPENDIX G – GRADING AND STABILIZATION RECORDS

APPENDIX H – MONITORING PLAN (IF APPLICABLE) AND REPORTS

APPENDIX I – TRAINING RECORDS

APPENDIX J – CORRECTIVE ACTION LOG

APPENDIX K – INSPECTION RECORDS
IREY SUBDIVISION
LOT 38A
23,825 S.F.

STAGING, STORAGE, MAINTENANCE & REFUELING

WEST 32ND AVENUE
CONSTRUCTION FENCING TYP.
FIBER ROLL/STRAW WADDLE TYP.
GRAVEL CONSTRUCTION ENTRANCE TYP.
INLET PROTECTION TYP.

HALF SCALE WHEN PRINTED AT 11x17

COOK INLET HOUSING AUTHORITY
WEST 32ND AVENUE
ANCHORAGE, AK

PERMIT DOCUMENTS
REVISION SCHEDULE

# DESCRIPTION DATE

ERTICLATE OF AUTHORIZATION NO:
EBSC ENGINEERING, LLC #AECL1635
www.ebscengineering.com
11301 OLIVE LN. ANCHORAGE AK, 99515
Phone: 222-1085 Fax: 222-5210

SWPPP PLAN

1" = 10' (22x34)
1" = 20' (11x17)
BEST MANAGEMENT PRACTICE TOOLBOX

A BMP is simply a tool, and a tool can be used appropriately and inappropriately. A good analogy would be the use of a hammer to install a screw. Although it may ultimately work, the hammer is not the best tool for the job. Similarly, use of the wrong BMP for a particular application might ultimately work, however, the task will not be done as effectively as it would be with the right tool or BMP. Information about BMP selection and implementation, as well as maintenance (if applicable), is provided in this BMP Toolbox. Alternate individual engineering solutions will be reviewed and considered.

Acronyms used in this appendix:

- ADEC: Alaska Department of Environmental Conservation
- ADOT&PF: Alaska Department of Transportation and Public Facilities
- AWWU: Anchorage Water and Wastewater Utility
- BMP: Best Management Practice
- cfs: Cubic Feet per Second
- CGP: Construction General Permit
- DCM: Design Criteria Manual
- EPA: Environmental Protection Agency
- ESC: Erosion and Sediment Control
- LID: Low Impact Development
- MOA: Municipality of Anchorage
- MS4: Municipal Separate Storm Sewer System
- NOI: Notice of Intent
- NOT: Notice of Termination
- NPDES: National Pollutant Discharge Elimination System
- OGS: Oil and Grit Separator
- SPCC: Spill Prevention, Control, and Countermeasure Plans
- SWPPP: Storm Water Pollution Prevention Plan
- SWTP: Storm Water Treatment Plan
- WMS: Watershed Management Services
<table>
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<tr>
<th>Page in Appendix</th>
<th>Fact Sheet Provided?</th>
<th>Best Management Practice</th>
<th>Temporary Controls</th>
<th>Permanent Controls</th>
<th>Required Consideration for All Sites</th>
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<td>Effects of erosion control on adjacent property</td>
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<td>A-19</td>
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<td>Sandbag filter</td>
<td>RT</td>
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<td>A-20</td>
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<td>Catchbasin insert</td>
<td>RT</td>
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<td>Catchbasin covering</td>
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<td>A-22</td>
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<td>Block and gravel barrier</td>
<td>RT</td>
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<td>A-24</td>
<td>Yes</td>
<td>Catchbasin silt fence</td>
<td>RT</td>
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<td>A-26</td>
<td>Yes</td>
<td>Curb inlet protection</td>
<td>RT</td>
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<tr>
<td>A-28</td>
<td>Yes</td>
<td>Wattles</td>
<td>RT</td>
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<td>A-30</td>
<td>Yes</td>
<td>Interceptor ditch</td>
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<td>A-31</td>
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<td>Temporary diversion dike</td>
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<td>A-32</td>
<td>Yes</td>
<td>Down drain</td>
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<td>A-22</td>
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<td>Gravel check dam</td>
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<td>Storm drain diffuser</td>
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<td>A-36</td>
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<td>Outlet protection</td>
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<td>A-59</td>
<td>Yes</td>
<td>Rock swale</td>
<td>SC</td>
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<td>A-38</td>
<td>Yes</td>
<td>Inspection and maintenance</td>
<td>SC</td>
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<td>A-39</td>
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<td>Stockpile maintenance</td>
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<td>A-40</td>
<td>Yes</td>
<td>Stockpile organic soils for revegetation</td>
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<td>A-48</td>
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<td>Concrete washout</td>
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<td>A-49</td>
<td>Yes</td>
<td>Dust control</td>
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<td>A-50</td>
<td>Yes</td>
<td>Sweeping</td>
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<td>A-51</td>
<td>Yes</td>
<td>Dewatering Controls</td>
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<tr>
<td>A-52</td>
<td>Yes</td>
<td>Truck wheel wash basin</td>
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<td>A-53</td>
<td>Yes</td>
<td>Mud mats</td>
<td>SC</td>
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### Table A1 Matrix of Best Management Practices (continued)

<table>
<thead>
<tr>
<th>Best Management Practice</th>
<th>Temporary Controls</th>
<th>Permanent Controls</th>
<th>Required Consideration for All Sites</th>
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<tr>
<td></td>
<td>Erosion and Sediment Control</td>
<td>Waste, pollutant management</td>
<td>Flow Control and Detention</td>
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<td>Infiltration</td>
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<td><strong>PERMANENT PHYSICAL CONTROLS</strong></td>
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<tr>
<td>A-60 Yes</td>
<td>Outfall protections</td>
<td>RT</td>
<td>RT, FA</td>
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<tr>
<td>A-53 Yes</td>
<td>Sedimentation basin (wet pond)</td>
<td>RT</td>
<td>RT, FA</td>
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<td>No</td>
<td>Infiltration basin</td>
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<tr>
<td>No</td>
<td>Infiltration trench (see the MOA LID Design Guidance Manual)</td>
<td>RT, FA</td>
<td></td>
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<td>No</td>
<td>Presettling basin</td>
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<td>RT</td>
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<tr>
<td>No</td>
<td>Extended detention dry pond</td>
<td>RT, FA</td>
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<tr>
<td>A-55 Yes</td>
<td>Proprietary oil and grit separators</td>
<td>RT</td>
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<tr>
<td>A-57 Yes</td>
<td>Vegetated filter strip</td>
<td></td>
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<tr>
<td>A-58 Yes</td>
<td>Bioswale (Grassed swale)</td>
<td>RT</td>
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<tr>
<td>A-62 Yes</td>
<td>Constructed wetlands</td>
<td>RT, FA</td>
<td></td>
</tr>
<tr>
<td>A-61 Yes</td>
<td>Use of existing wetlands</td>
<td>RT, FA</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>Riparian improvements</td>
<td>RT</td>
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<tr>
<td>No</td>
<td>Restore native plant species</td>
<td>RT</td>
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</tbody>
</table>

**DESIGN PHASE and OTHER LID CONTROLS**

| A-63 Yes | Preservation of natural drainage systems | SC |
| A-64 Yes | Preservation of natural vegetation | SC, FA |
| A-65 Yes | LID: reduced lot grading | SC |
| A-67 Yes | LID: rain garden (see the MOA LID Design Guidance Manual) | SC, FA |
| A-68 Yes | Minimize disturbance/maintenance via cluster development | SC |
| 56 No | LID: minimize impervious areas | SC |
| 57 No | Reduce hydraulic connectivity of impervious surfaces | SC, FA |

**SOURCE CONTROLS FOR URBAN LAND USE ACTIVITIES**

| A-69 Yes | Parking lot management | SC |
| A-70 Yes | Snow storage facility operations | SC |
| A-72 Yes | Liquid Storage | SC |
| A-71 Yes | Vehicle and equipment washing | SC |
| A-73 Yes | Materials storage | SC |
| No | Fuel and vehicle maintenance staging areas | SC |
| No | Spill prevention and control plan | SC |
| No | Maintenance of urban runoff facilities | SC |
| No | Roof runoff management | FA |
| No | Herbicide, pesticide, and fertilizer application | SC |
| No | Petroleum product handling | SC |
| No | Solid waste disposal | SC |
Erosion and Sediment Control Practice Symbols

The use of symbols for different ESC BMPs is helpful in site plans for SWPPP submissions. The symbols are a basic shorthand for the plan preparation. The symbols shown in Figure 1A are an example; any symbols are acceptable as long as a key identifying them is provided.

Figure 1A: ESC Practice Symbols
Scheduling to Minimize Soil Exposure

The short construction season in Anchorage does not always allow flexibility for mass earthwork on each project to be performed at the ideal time of year. Because nothing is more unpredictable than the weather, contingencies must be developed to cover variations in climatic conditions. However, certain weather trends do exist in Anchorage and must be addressed in the project schedule. Care must be taken to minimize weather impacts. Although it may be advantageous to an owner or contractor to work in early spring or late fall, the downside must be understood – ESCs will require more attention and maintenance during these periods. Scheduling is a temporary BMP.

Selection

Any project can benefit from a well-conceived schedule that takes into account seasonal ESC issues.

Implementation

Discussions with the owner or contractor can aid in understanding the construction process in Anchorage and how to take advantage of dry periods to reduce erosion and sediment concerns.
**Phased Clearing and Grading**

Phased clearing and grading can significantly reduce the amount of disturbed area on a construction site. By phasing the construction, the time that soils are left exposed and the total area that is exposed during the rainy season can be reduced. Phasing the clearing and grading operations is a temporary BMP.

**Selection**

- Any project can benefit from a schedule that phases the construction to account for ESC issues.
- Discussions with the owner or contractor can aid in understanding the critical construction timelines in Anchorage and how to phase the land clearing construction activities to coincide with periods of expected dry weather.

**Implementation**

- Show areas to be cleared and graded in phases clearly on the site plan.
- Clear and grade as necessary for immediate construction only.

**Maintenance**

- Apply erosion control practices to cleared areas.
- Comply with CGP temporary stabilization requirements if the cleared area will not be worked immediately.
Flagging and Fencing of Clearing Limits

Flagging and fencing of clearing limits is the most positive method to ensure that the area of disturbance is controlled. As construction progresses and excavation and stockpiles occur at the site, it is easy to inadvertently expand the area of disturbance into areas to be protected without the presence of visual cues or physical barriers. Delineation of clearing limits is a temporary BMP. Figure 2A illustrates the flagging and fencing clearing limits BMP.

**Selection**

Flagging and fencing of clearing limits is applicable for all construction sites.

**Implementation**

- Designate areas of retained vegetation clearly on the plans. Required buffers should also be designated on the site design plan.

- Delineate the clearing limits with a continuous length of brightly colored tape. Support highly visible tape with vegetation or stakes, 3 to 6 feet high.

- Individual trees and shrubs that are to be preserved within the cleared area should be identified.

- If the area is to be flagged only, the flagging should be spaced no greater than 200 feet apart and closer in wooded or hilly areas.

**Maintenance**

- Immediately repair or replace damaged fencing or flagging necessary to ensure the area of disturbance does not enlarge should be repaired or replaced.

- Check that vandals have not moved stakes or flagging.

- Make sure that the construction is staying within the clearing limits.

![Figure 2A: Flagging and Fencing of Clearing Limits](image)
Benching

Benching reduces erosion damage by segmenting the effective slope length, thus intercepting surface runoff and conveying the discharge along the benches at a slower velocity. Figure 6A shows a benching diagram.

Selection

Banches should not be used in sandy areas or on soils that are too rocky for construction and maintenance. Benching should only be used where the concentrated flows from the benches can be discharged without erosion of downstream areas.

Implementation

The plans and specifications for the bench construction should be followed. Benches must be constructed along contours in order to minimize the velocity of intercepted runoff.

Maintenance

Maintenance should be performed as needed. Benches should be inspected regularly; at least once a year and after large storm events.

- Check for and correct erosion of the benches.
- Check for and remove trash collecting in the benches.
- Look for and correct erosion at the bench discharge points.

Figure 6A: Benching
Slopes Requiring Cut and Fill Design

Cut and fill slopes should be constructed in a manner that will minimize erosion by taking into consideration the length and steepness of slopes, soil types, upslope drainage areas, and groundwater conditions.

Selection

For use on all cut or fill slopes higher than 3 feet.

Implementation

Design cut and fill slopes to be at stable angles, or less than the normal angle of repose, to minimize erosion and slope failure potential.

Maintenance

Slopes should not be left at angles steeper than their final design any longer than necessary for other site activities.
Effects of Erosion Control Measures on Adjacent Properties

Plan and design all streambank, shoreline, and navigation structures so that they do not transfer erosion energy or otherwise cause visible loss of surrounding streambanks and shorelines. Many streambank or shoreline protection projects result in a transfer of energy from one area to another, which causes increased erosion in the adjacent area. Property owners should consider the possible effects of erosion control measures on other properties located along the shore.
**Surface Roughening**

Surface roughening, also called cat-tracking, is used on slopes to provide small pockets for trapping runoff and allowing infiltration. This temporary BMP is shown in Figure 5A. Surface roughening aids in the establishment of vegetation cover by providing a rough soil surface with horizontal depressions.

**Selection**

Surface roughening works on most sloped areas, except hard pan.

**Implementation**

- The contractor should run tracked machinery along the fall line of the slope with the blade raised.
- Roughening with tracked machinery needs to be limited to avoid compaction of the soil surface.
- Tracking should be performed in a manner that covers the slope with no more than one foot between tracks.
- Roughened areas should be seeded and mulched immediately.

**Maintenance**

Surface roughening is a temporary measure and should be inspected and shaped after each rainfall that causes erosion or after no more than 90 days since the last shaping, to minimize erosion.

- Make sure the area is adequately covered with tracking.
- Check for erosion after significant rainstorms. If rills appear, regrade and roughen again and reseed eroded area immediately, as appropriate.

![Figure 5A: Surface Roughening](image-url)
Plastic Covering

Plastic covering, shown in Figure 3A, is used on steep slopes and material stockpiles to reduce erosion. This temporary BMP is a very reliable way to protect from erosion.

Selection

Plastic covering works on many surfaces that require protection from erosion. Clear plastic can be used to promote seed germination. Do not use upslope of areas that might be adversely impacted by concentrated runoff, such as steep or unstable slopes.

Implementation

- Plastic sheeting should have a minimum thickness of 0.06 mm.
- The plastic covering should be secured at the top of slope and should be anchored with tires, sandbags, or other appropriate ballast material to prevent plastic from being blown apart by wind.
- Space weights at a maximum of every 10 feet in all directions.
- Once the sheeting is anchored, secure edging at the top and toe of slope by tucking them into shallow trenches and backfilling.
- The plastic covering should overlap a minimum of one foot between sheets, the overlaps should run perpendicular to the slope, and the seams should be weighted or taped. The plastic covering should extend past the bottom of the slope.

Maintenance

- Check whether anchors are working properly.
- Verify that plastic is secured at the top of slope.
- Look for and replace torn or deteriorated plastic.
- Assure that the seams are taped or weighted and one foot overlap exists.
- Verify that the plastic extends past the top and bottom of slope.
- Remove plastic when it is no longer needed.

Figure 3A: Plastic Covering
Mulching

Mulching is the application of plant materials such as straw or other materials to the soil surface. Surface mulch is an effective and cost-effective means of controlling runoff and erosion on disturbed areas prior to revegetation. Mulch absorbs the raindrop impact energy and minimizes soil detachment, which is the first step of erosion. Mulching is a temporary BMP that helps seedlings germinate and grow by conserving moisture and can be used in unseeded areas to protect against erosion during winter or until final grading and stabilization can be accomplished. Mulches should be free of weeds and unwanted seeds to prevent invasive plants.

Selection

Mulch can be used successfully on the majority of construction projects in Anchorage. Mulch design life is six months or less. Appropriate for use on slopes of 3:1 or flatter.

Implementation

Mulch is most commonly used in conjunction with seeding. Mulch should be uniformly spread by hand or blower to provide 75 percent ground cover. When straw mulch may be exposed to wind, it must be anchored immediately after spreading. Mulch should be applied immediately after seeding to improve seed germination. Depth of the applied mulch should be not less than one inch and not more than 2 inches.

Maintenance

After mulch has been applied and anchored properly, little additional maintenance is required during the first few months. After high winds or significant rainstorms, mulch-covered areas should be checked for adequate cover and remulched if necessary. To be effective, mulch must last until vegetation develops to provide an erosion-resistant cover.

- Confirm mulch is adequately watered.
- Check to ensure erosion is not occurring.
- Watch for and repair washout of mulch.
- Mulching may degrade slowly in Anchorage’s climate; therefore, some mulches may need to be removed once vegetation is established.

Mulching Specifications

<table>
<thead>
<tr>
<th>Mulch Type</th>
<th>Characteristics</th>
<th>Application</th>
</tr>
</thead>
</table>
| Straw      | - Should be air dried, come from wheat or oats, and be free of weeds and coarse material.  
- Most commonly used in conjunction with seeding and where the need for protection is less than 3 months. | - Spread by hand or machine to a minimum 4-inches thick.  
- Anchor by crimping, disk, rolling, or punching into the soil, covering with netting, or keeping moist. |
| Wood Chips | - Should be small enough to use as a mulching medium.  
- Suitable for areas that will not be closely mowed and around ornamental plantings. | - May be obtained from trees cleared on site to provide inexpensive mulch.  
- Apply to slopes less than 6 percent (16:1) to avoid clogging of drainage inlets by chips washed downslope. |
| Bark Chips | - Should be small enough to use as a mulching medium.  
- Use in landscape plantings. | - Use in areas to be planted with grasses and not closely mowed.  
- Apply by hand or mechanically. |
| Wood Fiber Cellulose | - This may include partially digested wood fibers.  
- Dyed green; should not contain growth inhibiting factors.  
- Short cellulose fibers do not required tacking, but longer fiber lengths provide better erosion control. | - Use in hydroseeding operations as part of the slurry.  
- Apply with hydromulcher: 25 to 30 pounds per 1,000 square feet. |
| Bonded Fiber Matrix | - Hydraulically applied fibers and adhesive that form an erosion resistant blanket  
- Biodegradable; promotes growth of vegetation | - Apply hydraulically  
- Typically applied at rates from 3,000 to 4,000 pounds per acre  
- Do not apply immediately before, during or after rainfall |
| Flexible Growth Medium | - Generally provides good protection  
- No cure time (can be applied under most conditions) | - Apply hydraulically  
- Typically applied at rates of 3,500 pounds per acre |


**Erosion Control Blankets**

Erosion control blankets are used as an alternative to mulch but can also be used to provide structural erosion protection. They aid in controlling erosion on areas by providing a temporary or semi-permanent protective cover made of straw, jute, wood, plant fibers, or artificial products. Figure 4A depicts the use of erosion control blankets.

**Selection**

Erosion control blankets function best in providing a protective cover on slopes and channels where the erosion hazard is high and plant growth is likely to be slow; generally on slopes steeper than 3H:1V and greater than 10 feet of vertical relief.

**Implementation**

- The manufacturer’s recommendations for installation should be followed.
- Blankets must be anchored; spacing depends on type of material and slope steepness,
- Maintain a firm continuous contact between the blanket and soil to prevent erosion below the blanket.

**Maintenance**

When erosion blankets have been installed and anchored properly, little additional maintenance is required during the first few months. After high winds or significant rainstorms have occurred, blanketed areas should be checked for adequate cover and repaired if necessary. The blanket must last until vegetation develops to provide an erosion-resistant cover. After any damaged slope or drainage course has been repaired, the material should be reinstalled.

- Check that surfaces adhere, fasteners remain secure, and covering is in tight contact with soil surface beneath.
- After significant rainstorms, check for erosion and undermining and repair promptly.
- Look for and repair washouts.

![Figure 4A: Erosion Control Blankets](image-url)
Seeding

Seeding is the establishment of perennial vegetation, usually lawns, on disturbed areas from seed. Seeding can be a temporary or permanent measure.

The seed mixture should be free of weeds and unwanted seeds to prevent invasive plants.

Selection

This practice is used when vegetation is desired for temporary or final stabilization. Temporary seeding is not recommended if permanent seeding will be completed in the same growing season. Other temporary stabilization should be considered.

Implementation

Proper seedbed preparation and the use of high quality seed are essential to the success of this practice.

- Seeding shall take place as soon as practicable after the last ground-disturbing activities in an area, but not during the period August 15 through May 1 unless dormant seeding is used.
- Supplement topsoil as necessary to ensure a minimum of 4 inches of topsoil in areas to be permanently seeded. Work topsoil into the layer below for a depth of at least 6 inches.
- The project plans and specifications produced by the landscape architect or engineer shall be followed.

Maintenance

All seeding should be inspected periodically following installation. Seeded areas should be checked for erosion and flooding after significant rainstorms. Any repairs must be made immediately.

- Water seeded areas daily until initial ground cover is established if rainfall does not provide moisture for seed germination.
- Check the area to ensure the grass is growing; replant at appropriate times if required.
- Look for damage to the seeded area due to runoff and repair before the next runoff event.
- Check for erosion and flooding after significant rainstorms and repair before the next runoff event.
**Slope Revegetation**

Slope revegetation is used to re-establish a live organic surface on disturbed slopes to inhibit erosion. It is usually a permanent installation on a completed portion of the work, but can be used as a temporary or interim measure. See Figure 30A for an illustration.

**Selection**

All disturbed land areas with slopes steeper than 3H:1V should be protected or revegetated to inhibit erosion.

**Implementation**

The slope revegetation should be completed as early in the planting season as practicable, generally between May and August. The revegetation should occur on adequately prepared areas. This BMP shall not be used in excessively wet or frozen ground conditions.

**Maintenance**

The slope revegetation should receive adequate moisture through either watering or precipitation to establish a vegetative mat. Eroded areas should be stabilized and reseeded. Diseased or dead areas should be revegetated. Mowing and fertilization should occur to maintain healthy growth.

- Check whether adequate water is being supplied and correct as necessary.
- Look for and correct areas that have eroded.
- Look for dead or diseased areas; remove or treat as necessary.
- Confirm that growth is green and lush.

*Figure 30A: Slope Revegetation*
Silt Fence

Silt fences are used to filter sediments from sheet flow runoff on sloped areas. The fences can be very effective in removing sediment from runoff. See Figure 15A for details on this temporary BMP.

Selection

Silt fences are appropriate for the majority of construction sites. The design life a silt fence is six months or less. The maximum contributory sheet flow drainage area shall not exceed 0.25 acres per 100 feet of silt fence. Use of a silt fence is usually more complex, expensive, and maintenance-prone than other slope stabilization measures.

Implementation

Silt fences should be installed at right angles to the slope and along contours. Posts should be securely installed. The filter fabric should be securely attached to the posts. The filter fabric should be keyed into the surrounding earth.

Maintenance

The filter fabric should be kept up to maintain its function. It should be replaced if it is torn or frayed. The posts should be reinstalled if loose. The filter fabric should be reinstalled if it is not keyed into the surrounding earth. The silt fence should be cleaned when sediment accumulates to nine inches in height, and cleaned or replaced when it is covered with sediment.

- Confirm that the fence posts are secure.
- Assure that the filter fabric is securely attached to the fence posts.
- Look for and repair filter fabric that is torn or frayed.
- Check for evidence of runoff overtopping the filter fabric; correct as necessary.
- Verify the silt fence is not leaning over.
- Check for underflow, re-key if necessary.
- Remedy fence sags as needed.
Figure 15A: Silt Fence
**Sandbag Filters**

A sandbag filter uses sandbags to prevent sediment from exiting small construction sites. See Figure 31A for an illustration of this temporary control.

**Selection**

Use of sandbag filters is appropriate for remodeling or redevelopment projects in paved areas.

**Implementation**

Sandbags should be placed around the disturbed work area.

**Maintenance**

The sandbag filters used for protection must be regularly inspected and cleaned. Sediment should be removed from behind sandbags after each significant storm to provide adequate storage volume for the next rain. Damaged sandbags should be replaced. All sediment should be immediately removed from adjacent paved parking and roadway areas. The sediment should be disposed of in locations where it cannot enter a storm drain or stream, or be transported off site.

- Check sandbags after each storm.
- Confirm that collected sediment is disposed of properly.
- Check sandbags to ensure they are not packed with sediment.
- Replace damaged sandbags.

![Figure 31A: Sandbag Filters](image-url)
**Catchbasin Insert**

A catchbasin insert is a “sock” made from a porous fabric with an apparent opening size (AOS) U.S. Standard Sieve No. 30 (0.6 millimeter) that is installed in the drainage structure to filter the sediments from the runoff. This temporary BMP is a last line of defense for containing sediments on-site. See Figure 16A for an illustration.

**Selection**

Catchbasin inserts are applicable for use on projects where the quantity of sediment anticipated would average 0.1 cubic yards per month or less. The insert should be properly sized for the catch basin and the drainage area and it should allow flow bypass during significant runoff events. Oversized inserts may be difficult to remove when full and, under freezing conditions may cause pipe damage. Inserts that are tapered are easier to maintain.

**Implementation**

The insert should be installed in a fashion that holds the device securely in place and prohibits it from falling into the catchbasin.

**Maintenance**

- The insert should be cleaned when half full of sediment. It should be replaced if torn or frayed.
- Confirm that the insert is securely fastened.
- Look for and replace insert material that is torn or frayed.
- Remove sediment or replace the insert if the insert is half full.
- Look for evidence that the sediment or runoff is traveling around and not entering the catchbasin and make corrections as necessary.

**Figure 16A: Catchbasin Insert**
**Catchbasin Covering**

Another last line of defense for containing sediments on-site, a catchbasin covering is a porous fabric with an apparent opening size (AOS) U.S. Standard Sieve No. 30 (0.6 millimeter) that removes sediment from runoff before it enters a catchbasin. See Figure 17A for an illustration of this temporary BMP.

**Selection**

The catchbasin covering is an applicable protection measure for all catchbasins on sites where small quantities of sediments are mobilized. It is not effective in removing large quantities of sediment because the sediment clogs the covering and requires frequent maintenance.

**Implementation**

Catchbasin coverings should be installed so that a sump is constructed around the catchbasin. The sump allows water velocities to slow and deposit sediments before they enter the catchbasin. The filter fabric should be installed in a manner that completely covers the catchbasin opening. The washed gravel should encircle the catchbasin and act as a filter.

**Maintenance**

The washed gravel should be cleaned or replaced when the catchbasin covering becomes half filled with sediments. The sump should be reshaped at the same time the washed gravel is maintained.

- Check for washed gravel that is bermed around the catchbasin.
- Look for evidence that the washed gravel is filled with sediment.
- Confirm that the filter fabric is covering the opening.
- Look for and replace filter fabric that is torn or frayed.
- Check on whether the filter fabric needs cleaning; remove as necessary.

![Figure 17A: Catchbasin Covering](image)
**Block and Gravel Barrier**

The block and gravel barrier is another type of last line of defense for containing sediments onsite. It is a filter that uses concrete blocks, gravel, and a porous fabric with an apparent opening size (AOS) U.S. Standard Sieve No. 30 (0.6 millimeter), to remove sediment from runoff prior to entering a catchbasin. See Figures 18A and 19A for illustrations of these temporary BMPs.

**Selection**

Block and gravel barriers are applicable for all catchbasins on sites where small quantities of sediments are mobilized. This BMP is not effective in removing large quantities of sediment because the sediment clogs the barrier and requires frequent maintenance. The block and gravel barrier BMP is also ineffective in situations in which high runoff flow occurs because the barriers become hydraulically overloaded and allow untreated runoff to enter the catchbasins. Block and gravel barriers must not be used in areas open to bicycle and motor vehicle traffic.

**Implementation**

The block and gravel barrier should be installed so that a sump is created by effectively raising the height of the top of the catchbasin. The blocks should hold the filter fabric securely in place. The washed gravel and blocks should encircle the catchbasin.

**Maintenance**

The washed gravel should be cleaned or replaced when it becomes half filled with sediments.

- Confirm that the washed gravel and blocks encircle the catchbasin.
- Check whether the washed gravel is filled with sediment.
- Look for filter fabric that is covered with sediment.
- Look for and repair filter fabric that is torn or frayed.
- Look for evidence of sediment having entered the catchbasin.
- Repair any structural damage immediately.
Figure 18A: Block and Gravel Barrier
Catchbasin Silt Fence

Another last line of defense for containing sediments on-site, a catchbasin silt fence, comprised of a porous fabric with an apparent opening size (AOS) U.S. Standard Sieve No. 30 (0.6 millimeter), is a filter that removes sediment from runoff before it enters a catchbasin. See Figure 20A for an illustration of this temporary BMP.

Selection

Catchbasin silt fences are applicable protection measures for all catchbasins on sites where small quantities of sediments are mobilized. This BMP is not effective in removing large quantities of sediment because the sediment causes clogging and requires frequent maintenance. The anticipated height of the runoff should not exceed half the height of the filter fence. The design flow shall be 0.5 cubic feet per second or less.

Implementation

The catchbasin silt fence should be installed so that a sump is constructed around the catchbasin. The sump allows water velocities to slow and deposit sediments before they enter the catchbasin. The filter fabric should be installed to provide a "fence" around the catchbasin. It should be keyed into the surrounding earth and should be securely fastened to the posts. The washed gravel should encircle the catchbasin.

Maintenance

The washed gravel should be cleaned or replaced when half filled with sediments. The sump should be reshaped at the same time the washed gravel is maintained. The filter fabric should be cleaned if it becomes covered with sediment. It should be reinstalled if it is not keyed into the surrounding earth. The posts should be reinstalled if they become loose.

- Confirm that the washed gravel is bermed around the catchbasin.
- Check whether the washed gravel is filled with sediment.
- Confirm that the fence posts are secure.
- Confirm that the filter fabric is securely attached to the fence posts.
- Look for and repair filter fabric that is torn or frayed.
- Check whether the filter fabric needs cleaning.
- Look for evidence of runoff overtopping the filter fabric.
- Look for evidence of the filter fabric and fence posts leaning over.
- Look for evidence that sediment has entered the catchbasin.
- Repair any structural damage immediately.
Figure 20A: Catchbasin Silt Fence
Curb Inlet Protection

Curb inlet protection uses sandbags to prevent sediment from entering curb inlet drainage structures. Figures 21A and 22A show sample installations of this temporary BMP.

Selection

Curb inlet protection must not be used in areas open to bicycle and motor vehicle traffic. Use of curb inlet protection is appropriate for construction projects near roadways with curb and gutter drainage systems that are closed to traffic.

Implementation

At a minimum, sandbags should be placed upstream of curb inlet.

Maintenance

Curb inlet protection should be inspected and cleaned regularly. Sediment should be removed from behind sandbags after each significant storm to provide adequate storage volume for the next event, and damaged sandbags should be replaced as necessary. All sediment should be removed immediately from the roadway. The sediment should be disposed of in a location where it cannot enter a storm drain or stream, or be transported off site.

- Check sandbags after each storm.
- Confirm that sandbags are not packed with sediment.
- Replace damaged sandbags.
- Remove sandbags in traveled ways before winter freeze up.
Figure 21A: Curb Inlet Protection

Figure 22A: Curb Inlet Protection
Wattles

Wattles are used to control soil erosion and to filter surface runoff leaving a construction site. Wattles are manufactured from fibers such as straw and coconut. They are typically bound into eight- or nine-inch diameter tubes that are seven to twenty-five feet long. The binding is biodegradable plastic netting allowing the whole structure to decompose over time. See Figure 23A for an illustration of this temporary BMP.

Selection

Wattles are placed in shallow trenches perpendicular to newly constructed or disturbed slopes. They are useful to break up slope length and thus reduce the potential for erosion on slopes susceptible to sheet and rill erosion.

The use of wattles treated with chemical coagulants or flocculants must be stated in the SWPPP and the location shown on the site plan. Treated wattles will not be allowed near storm drain inlets and at project site stormwater discharge points.

Implementation

Trenches should be deep enough to accommodate half the diameter of the wattle. Wattles must be staked a minimum of every four feet but may require more staking in order to hold them tightly to the soil. Stakes should extend twelve inches into undisturbed soil. Wattles can be left in place to biodegrade. This is a particularly appealing option when live willow stakes have been used in place of rebar or wood stakes. The wattle will hold moisture to help the willow get established, and then will slowly decompose as the plant grows. Wattles can be used in place of silt fences on steep slopes.

Maintenance

Wattles should be inspected once per week on active construction sites, and every two weeks on inactive sites. In addition to this regular inspection routine, inspections should be made after any rainfall event greater than half an inch. Wattles that are no longer in contact with the soil should be restaked. If a wattle becomes too sediment laden to filter runoff then it should be replaced.

- Check that the wattle is properly staked and is in tight contact with the soil surface beneath.
- After significant rainstorms, check for erosion and undermining.
- Check that wattles are securely fastened together.
Figure 23A: Wattles

NOTES:
1. STAKING SPECIFICATIONS:
   A. 1"x2" wooden stakes
   B. Additional stakes may be installed on downhill side of wattles, on steep slope or highly erosive soils.
Interceptor Ditch

Interceptor ditches can either be temporary or permanent, and are used to capture runoff on the project site and route it to treatment or discharge facilities. A representative interceptor ditch is shown in Figure 10A.

Selection

Interceptor ditches are applicable for use on projects that have the available land and grades necessary for the ditch installation.

Implementation

The interceptor ditch should be constructed in a manner that results in longitudinal slopes of six percent or less, and side slopes of 2H:1V or less. The ditch should be constructed with a nonerodible covering such as grass or stones.

Maintenance

Any eroded areas should be repaired. Cleaning of the ditch is required when it becomes half full of sediment.

- Check for erosion in the ditch.
- Look for sediment filling the ditch.
- Verify that the ditch is capturing runoff and sediment on-site.

Figure 10A: Interceptor Ditch
Temporary Diversion Dike

A temporary diversion dike is a channel constructed across a slope with an excavated ditch, a compacted berm, or both in combination. Most diversions are constructed by excavating a ditch and using the excavated material to construct a berm on the downhill side. Diversion dikes may be either temporary or permanent. This BMP is illustrated in Figure 11A.

Selection

Use of a temporary diversion dike works well on sites where storm water runoff can be redirected to protect areas from erosion and sediment. Temporary diversion dikes are used to temporarily divert storm water runoff to protect disturbed areas and slopes, or to retain sediment on-site during construction. This measure should be used in construction areas where runoff can be diverted and disposed of properly to control erosion, sedimentation, or flood damage. Berms to intercept and divert runoff should not be used where the drainage area exceeds 10 acres. Diversion dikes should be carefully designed where ditch slopes are steeper than 10 percent.

Implementation

Temporary diversion dikes should be designed so that the runoff velocities are high enough to create self-cleaning flows so that sediment deposition in the channel is minimized. Compact the berm to prevent unequal settlement and to provide stability against seepage. Stabilize the diversion after installation.

Maintenance

Temporary diversion dikes should be inspected periodically for erosion damage, especially after heavy rainfall. Sediment should immediately be removed from the flow area. Outlet areas should be checked, and timely repairs should be made as needed.

- Look for flow impediments in the channel.
- Check for erosion at the outfall.
- Remove trash accumulations.
- Check for sediment accumulations; remove when deeper than 2 inches.
Down Drains

Down drains, also called slope drains, are applicable wherever concentrated storm water runoff must be conveyed down a steep slope to avoid erosion of the slope. Typically, down drains are used to convey storm water collected in diversion dikes and benching for discharge at the bottom of steep slopes. Down drains may be either temporary or permanent. See Figure 12A.

Selection

Long uninterrupted slopes are ideal for down drains. Contributing flow drainage area should not exceed five acres per down drain.

Implementation

The design information in the project plans and specifications should be followed. Provide both inlet and outlet protection to minimize erosion at these locations. The down drain must be adequately secured, all connections must be watertight, and the conduit must be securely staked.

Maintenance

After every significant rainfall, the down drain should be inspected and any required repairs made. When the protected area has undergone final stabilization, temporary measures may be removed and materials may be disposed of.

- Check inlet and outlet points regularly, especially after storms.
- Look for and repair undercutting of the inlet.
- Check for outlet protection at the outlet point.
- Look for and repair erosion at the outlet point.
- Check for and remove debris lodged in the pipe.

Figure 12A: Down Drain
Gravel Check Dam

Gravel check dams are used to reduce the velocity of the runoff in a ditch as shown in Figure 8A. By reducing the velocity of the runoff, they reduce the potential for ditch erosion. Gravel check dams can be both a temporary or permanent control measure.

Selection

Gravel check dams are appropriate for any ditch where the runoff velocity is no greater than 6 feet per second. Check dams installed in grass lined structures may kill the vegetative lining if siltation is excessive or the dam remains submerged for extended periods of time. Rock check dams are used in narrow ditches and gullies. Straw bales are used primarily in wide swales.

Implementation

Gravel check dams should be constructed from angular rock, sized for the design flow velocity (refer to the MOA Design Criteria Manual Chapter 2). They should be keyed into the surrounding earth to prevent erosion. The check dams should be placed closer together on steeper slopes. The layout of the check dams must be done in a manner that overtopping of the ditch does not occur. Runoff from the contributing drainage area should be evaluated along with expected velocities in order to assure appropriate BMP design.

Maintenance

Cleaning is required if the rocks become half full of sediment. If the earth near the check dam is eroded, the area must be stabilized with rocks or other materials.

- Look for sediment filling the check dam.
- Check to see if the area near the check dam is eroded.
- Look for erosion in the ditch between check dams.
- Check for overtopping of the ditch.
- Repair check dam voids and undercuts.
Figure 8A: Gravel Check Dam
Storm Drain Diffuser

Storm drain diffusers are useful in areas where drainage systems do not exist to address concentrated runoff from a site. Figure 29A shows plan and section views of a storm drain diffuser. A storm drain diffuser can function as both a temporary and permanent measure.

Selection

Storm drain diffusers are used when a concentrated flow of water needs to be dispersed over a large area with existing stable vegetation.

Implementation

The outflow must be essentially level to work correctly. Care must be taken to not create a surcharged drainage system or a system that does not drain entirely.

Maintenance

The diffuser should be inspected after every runoff event to ensure that it is functioning correctly.

- Look for and remove trash accumulation in the diffuser.
- Look for and remove sediment accumulation in the diffuser.
- Check for and repair erosion on the diffuser outlet.
- Check the drainage system for blockages and clear any blockage.
- Confirm that the system drains properly before freeze-up.

![Figure 29A: Storm Drain Diffuser](image)
Outlet Protection

Outlet protection can be either a temporary or permanent control that prevents scour at pipe outlets and reduces the velocity of the concentrated discharge. Guidelines for implementation of outlet protection are shown in Figure 9A.

Selection

Outlet protection is applicable wherever high-velocity discharge must be released on erodible soils. A lined apron is the most commonly used practice for this purpose because of its low cost and ease of installation. Select the gravel or riprap diameter based on the design flow velocity (refer to the MOA Design Criteria Manual Chapter 2). Stilling basins or plunge pools should be considered in lieu of aprons where pipe outlets are perched or where high flows would require excessive apron length.

Implementation

The installation must conform to the required lines and grades shown in the plan. All elements of the outlet protection installation should follow the plans and specifications. Designs will vary based on discharge specifics and receiving area conditions.

Maintenance

Outlet protection should be inspected after heavy rains to see if any erosion has occurred or if rock has been dislodged. All repairs should be made immediately to prevent further damage.

- Look for and correct erosion at the outlet.
- Check that rocks are in place and replace them as necessary.
- Ensure that any geotextile installed is in working order.
- Remove sediment when it fills the voids between rocks.
Figure 9A: Outlet Protection

**Plan**

\[ L_a = 4.5 \times D \text{ MIN.} \]
\[ D = \text{PIPE DIAMETER} \]

\[ 0.5 \times D \text{ MIN.} \]

**Section A–A**

\[ \text{THICKNESS ('d')} = 1.5 \times \text{MAX. ROCK DIAMETER} - 6'' \text{ MIN.} \]

**Notes:**
1. \( L_a \) = LENGTH OF APRON. DISTANCE \( L_a \) SHALL BE OF SUFFICIENT LENGTH TO DISSIPATE ENERGY.
2. APRON SHALL BE SET AT A ZERO GRADE AND ALIGNED STRAIGHT.
3. FILTER MATERIAL SHALL BE FILTER FABRIC OR 6'' THICK MINIMUM GRADED GRAVEL LAYER.
Stockpile Topsoil and Reapply to Revegetate Site

Because of the high organic content of topsoil, it cannot be used as fill material or under pavement, and is typically removed. Since topsoil is essential to establish new vegetation, it should be stockpiled and then reapplied to the site for revegetation, if appropriate. Unprotected stockpiles are very prone to erosion and therefore must be protected. Small stockpiles can be covered with a tarp to prevent erosion. Large stockpiles should be stabilized by erosion blankets, seeding, and/or mulching.
Concrete Washout

Concrete waste management includes procedures and practices that minimize or eliminate the discharge of concrete waste materials to the storm drain systems or watercourses.

Selection

Concrete washout facilities should be considered on construction projects where

- Slurries containing Portland cement concrete (PCC) or asphalt concrete (AC) are generated, such as from sawcutting, coring, grinding, grooving, and hydro-concrete demolition
- Concrete trucks and other concrete-coated equipment are washed on site, and
- Mortar-mixing stations exist.

Implementation

- Temporary concrete washout facilities shall be located a minimum of 50 ft from storm drain inlets, open drainage facilities, and watercourses,
- Each facility shall be located away from construction traffic or access areas to prevent disturbance or tracking.
- Install a sign adjacent to each washout facility to inform concrete equipment operators to utilize the proper facilities.
- Plastic lining material shall be a minimum of 10-mil polyethylene sheeting and shall be free of holes, tears or other defects that compromise the impermeability of the material.
- The soil base shall be prepared free of rocks or other debris that may cause tears or holes in the plastic lining material.
- Temporary washout facilities shall have a temporary pit or bermed areas of sufficient volume to completely contain all liquid and waste concrete materials generated during washout procedures.

Maintenance

- Supervise onsite concrete working tasks, such as saw cutting, coring, grinding and grooving to ensure proper methods are implemented.
- Vacuum slurry residue and dispose in a temporary facility and allow slurry to dry. Dispose of dry slurry residue and concrete wastes as solid waste.
- Temporary concrete washout facilities shall be maintained to provide adequate holding capacity with a minimum freeboard of 4 inches for above grade facilities and 2 inches for below grade facilities.
- Maintaining temporary concrete washout facilities shall include removing and disposing of hardened concrete and returning the facilities to a functional condition.
- Existing facilities must be cleaned, or new facilities must be constructed and ready for use once the washout is 75% full.
- Temporary concrete washout facilities shall be inspected for damage (i.e. tears in PVC liner, missing sand bags, etc.). Damaged facilities shall be repaired.
Dewatering Controls

Definition and Purpose
Dewatering controls are practices that manage the discharge of pollutants when non-storm water and accumulated precipitation (storm water) must be removed from a work location so that construction work may be accomplished. Controls are required to ensure that water that is discharged to surface waterbodies or the storm drain system meets water quality standards and does not cause erosion or flooding.

Appropriate Applications
- These practices are implemented for discharges of non-storm water and storm water (accumulated rain water) from construction sites. Non-storm water includes, but is not limited to, groundwater, dewatering of piles, water from cofferdams, water diversions, and water used during construction activities that must be removed from a work area.
- Practices identified in this section are also appropriate for implementation when managing the removal of accumulated precipitation (storm water) from depressed areas at a construction site.
- Excavation dewatering options include:
  - Haul it off for proper disposal elsewhere
  - Discharge to sanitary sewer (requires permit from AWWU)
  - Discharge clean water to storm sewer (requires permit from MOA)
  - Discharge to uplands or areas that provide infiltration and no runoff to surface waters
  - Install well points and discharge clean water
  - Provide for settling prior to discharge to storm sewer (requires permit from MOA) or waterbody
  - Provide filtration prior to discharge to storm sewer (requires permit from MOA) or waterbody
- A dewatering plan shall be submitted as part of the SWPPP detailing the location of dewatering activities, equipment, and discharge point. PM&E may require that the planned be stamped by a registered engineer.

Limitations
- Dewatering operations for non-storm water will require, and must comply with, applicable state permits, project-specific permits, and regulations.
- Discharges to surface water must comply with state of Alaska Water Quality Standards, which can be found in 18 Alaska Administrative Code 70.020.
- Coverage under the Alaska Department of Environmental Conservation (ADEC) General Permit for excavation dewatering is required for discharges that don’t otherwise have coverage under the EPA NPDES CGP. Written authorization from ADEC for the ADEC permit is required for sites within 1 mile of a contaminated site for discharges greater than 250,000 gallons (over the life of the project). More information can be found at http://www.dec.state.ak.us/water/wwdp/online_permitting/ind ww_apps.htm
- Site conditions will dictate design and use of dewatering operations.
- Removal efficiency by settling (sedimentation) depends on particle size, flow rate, water temperature, and other factors. This may not be a treatment option if soil particles are fine. Consult the Design Criteria Manual for additional information on design of sedimentation facilities.
- The controls discussed in this best management practice (BMP) address sediment only. If the presence of polluted water with hazardous substances is identified in the contract, the contractor shall contact the ADEC. If the quality of water to be removed by dewatering is not identified as
polluted in the dewatering plan, but is later determined by observation or testing to be polluted, the contractor shall notify PM&E and ADEC.

- Avoid dewatering discharges where possible by using the water for dust control, by infiltration, etc.
- Dewatering discharges must not cause flooding or erosion at the discharge point.
- Dewatering records shall be maintained for a period of 3 years.

**Maintenance and Inspection**

- Inspect all BMPs implemented to comply with permit requirements frequently and repair or replace to ensure the BMPs function as designed.
- Conduct water quality monitoring pursuant to the “Storm Water Dewatering Operations BMP Discharge Monitoring Forms”.
- Accumulated sediment removed during the maintenance of a dewatering device may be incorporated in the project at locations designated in the dewatering plan or disposed of outside the right-of-way in conformance with applicable laws and regulations.
- Accumulated sediment that is commingled with other pollutants must be disposed of in accordance with all applicable laws and regulations.
- Assure that there is no downstream flooding if discharges are made to storm sewers, creeks, or streams.

**Summary of Water Quality Standards (see 18 Alaska Administrative code 70.200.)**

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<tr>
<th>Indicator</th>
<th>Maximum Concentration or value</th>
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<tr>
<td>Turbidity</td>
<td>5 nephelometric turbidity units above natural conditions</td>
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<td>Total aqueous hydrocarbons</td>
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<tr>
<td>Foam in other than trace amounts</td>
<td>None</td>
</tr>
<tr>
<td>Garbage, debris, or other contaminants</td>
<td>None in detectable amounts</td>
</tr>
</tbody>
</table>

**Sediment Treatment**

A variety of methods can be used to treat water during dewatering. Several devices are presented in this section that provide options to achieve sediment removal. The size of particles present in the sediment and receiving water quality limitations are key considerations for selecting sediment treatment option(s); in some cases, the use of multiple devices may be appropriate.
**Category 1: Constructed Settling Technologies**

The devices discussed in this category are to be used exclusively for dewatering operations only. Removal efficiency depends on particle size, flow rate, water temperature, and other factors. This may not be a treatment option if soil particles are fine. Consult the Design Criteria Manual for additional information on design of sedimentation facilities.

**Sediment/Desilting Basin**

**Description:**
A desilting basin is a temporary basin with a controlled release structure that is formed by excavation and/or construction of an embankment to detain sediment-laden runoff and allow sediment to settle out before discharging.

**Appropriate Applications:**
Effective for the removal of trash, gravel, sand, and silt and some metals that settle out with the sediment.

**Implementation:**
- Excavation and construction of related facilities is required.
- Temporary desilting basins must be fenced if safety is a concern.
- Outlet protection is required to prevent erosion at the outfall location.

**Maintenance:**
- Maintenance is required for safety fencing, vegetation, embankment, inlet and outfall structures, as well as other features.
- Removal of sediment is required when the storage volume is reduced by one-third.

**Sediment Trap**

**Description:**
A sediment trap is a temporary basin formed by excavation and/or construction of an earthen embankment across a waterway or low drainage area to detain sediment-laden runoff and allow sediment to settle out before discharging.

**Appropriate Applications:**
Effective for the removal of large and medium sized particles (sand and gravel) and some metals that settle out with the sediment.

**Implementation:**
- Excavation and construction of related facilities is required.
- Trap inlets shall be located to maximize the travel distance to the trap outlet.
- Use rock or vegetation to protect the trap outlets against erosion.

**Maintenance:**
- Maintenance is required for vegetation, embankment, inlet and outfall structures, as well as other features.
- Removal of sediment is required when the storage volume is reduced by one-third.
Category 2: Mobile Settling Technologies

These devices are typical of tanks that can be used for sediment treatment of dewatering operations.

**Weir Tank**

Description:

A weir tank separates water and waste by using weirs. The configuration of the weirs (over and under weirs) maximizes the residence time in the tank and determines the waste to be removed from the water, such as oil, grease, and sediments.

Appropriate Applications:

The tank removes trash, some settleable solids (gravel, sand, and silt), some visible oil and grease, and some metals (removed with sediment). To achieve high levels of flow, multiple tanks can be used in parallel. If additional treatment is desired, the tanks can be placed in series or as pre-treatment for other methods.

Implementation:

- Tanks are delivered to the site by the vendor, who can provide assistance with set-up and operation.
- Tank size will depend on flow volume, constituents of concern, and residency period required. Vendors shall be consulted to appropriately size tank.

Maintenance:

- Periodic cleaning is required based on visual inspection or reduced flow.
- Oil and grease disposal must be by licensed waste disposal company.

**Dewatering Tank**

Description:

A dewatering tank removes debris and sediment. Flow enters the tank through the top, passes through a fabric filter, and is discharged through the bottom of the tank. The filter separates the solids from the liquids.

Appropriate Applications:

The tank removes trash, gravel, sand, and silt, some visible oil and grease, and some metals (removed with sediment). To achieve high levels of flow, multiple tanks can be used in parallel. If additional treatment is desired, the tanks can be placed in series or as pre-treatment for other methods.

Implementation:

- Tanks are delivered to the site by the vendor, who can provide assistance with set-up and operation.
- Tank size will depend on flow volume, constituents of concern, and residency period required. Vendors shall be consulted to appropriately size tank.

Maintenance:

- Periodic cleaning is required based on visual inspection or reduced flow.
- Oil and grease disposal must be by licensed waste disposal company.
Category 3: Basic Filtration Technologies

**Gravity Bag Filter**

Description:
A gravity bag filter, also referred to as a dewatering bag, is a square or rectangular bag made of non-woven geotextile fabric that collects sand, silt, and fines.

Appropriate Applications:
- Effective for the removal of sediments (gravel, sand, and silt). Some metals are removed with the sediment.

Implementation:
- Water is pumped into one side of the bag and seeps through the bottom and sides of the bag.
- A secondary barrier, such as a rock filter bed or straw/hay bale barrier, is placed beneath and beyond the edges of the bag to capture sediments that escape the bag.
- Assure that the size and mesh openings of the bag are appropriate for site soils and anticipated flow rate.

Maintenance:
- Inspection of the flow conditions, bag condition, bag capacity, and the secondary barrier is required.
- Replace the bag when it no longer filters sediment or passes water at a reasonable rate.
- Dispose of the bag off-site.
Category 4: Advanced Filtration Technologies

Sand Media Particulate Filter

Description:
Water is treated by passing it through canisters filled with sand media. Generally, sand filters provide a final level of treatment. They are often used as a secondary or higher level of treatment after a significant amount of sediment and other pollutants have been removed.

Appropriate Applications:
- Effective for the removal of trash, gravel, sand, and silt and some metals, as well as the reduction of biochemical oxygen demand (BOD) and turbidity.
- Sand filters can be used for standalone treatment or in conjunction with bag and cartridge filtration if further treatment is required.
- Sand filters can also be used to provide additional treatment to water treated via settling or basic filtration.

Implementation:
- The filters require delivery to the site and initial set up. The vendor can provide assistance with installation and operation.

Maintenance:
- The filters require monthly service to monitor and maintain the sand media.

Pressurized Bag Filter

Description:
A pressurized bag filter is a unit composed of single filter bags made from polyester felt material. The water filters through the unit and is discharged through a header, allowing for the discharge of flow in series to an additional treatment unit. Vendors provide pressurized bag filters in a variety of configurations. Some units include a combination of bag filters and cartridge filters for enhanced contaminant removal.

Appropriate Applications:
- Effective for the removal of sediment (sand and silt) and some metals, as well as the reduction of BOD, turbidity, and hydrocarbons. Oil absorbent bags are available for hydrocarbon removal.
- Filters can be used to provide secondary treatment to water treated via settling or basic filtration.

Implementation:
- The filters require delivery to the site and initial set up. The vendor can provide assistance with installation and operation.

Maintenance:
- The filter bags require replacement when the pressure differential exceeds the manufacturer’s recommendation.
Cartridge Filter

Description:

Cartridge filters provide a high degree of pollutant removal by utilizing a number of individual cartridges as part of a larger filtering unit. They are often used as a secondary or higher (polishing) level of treatment after a significant amount of sediment and other pollutants are removed. Units come with various cartridge configurations (for use in series with pressurized bag filters) or with a larger single cartridge filtration unit (with multiple filters within).

Appropriate Applications:

- Effective for the removal of sediment (sand, silt, and some clays) and metals, as well as the reduction of BOD, turbidity, and hydrocarbons. Hydrocarbons can effectively be removed with special resin cartridges.
- Filters can be used to provide secondary treatment to water treated via settling or basic filtration.

Implementation:

- The filters require delivery to the site and initial set up. The vendor can provide assistance.

Maintenance:

- The cartridges require replacement when the pressure differential exceeds the manufacturer’s recommendation.
### GENERAL INFORMATION

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### WATER SAMPLE LOG

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</tbody>
</table>

One sample shall be taken at a point representative of discharge prior to its entering the receiving water. A second sample shall be taken of the receiving water upstream of the discharge point or in the case of receiving waters with low or no flow, prior to discharge at a location representative of the receiving water. Both samples shall be taken during the same day within a reasonable timeframe (i.e., thirty minutes).

### DISCHARGE LIMITATION (See Alaska Water Quality Standards in 18 Alaska Administrative Code 70.200)

<table>
<thead>
<tr>
<th>Constituent</th>
<th>Units</th>
<th>Receiving Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>Standard</td>
<td>between 6.5 and 8.5</td>
</tr>
<tr>
<td>Turbidity</td>
<td>NTUs</td>
<td>5 NTU above background</td>
</tr>
</tbody>
</table>

Notes:
Dust Control

Dust control is a temporary BMP that is necessary during dry periods when soil is exposed to wind. This BMP prevents dust from leaving disturbed soil surfaces and falling onto surface waters, which causes sedimentation.

Selection

Dust control is necessary on construction haul routes and disturbed areas.

Implementation

The most common method for dust control is application of water to exposed soil surfaces to reduce the generation of dust, with re-application as needed. Alternate dust control methods include covering and acrylic soil treatments.

Other soil treatments may be acceptable; check with PM&E.
Sweeping

Street sweeping is an effective temporary BMP to prevent construction mud and sediment from entering the storm water collection system.

Selection

All construction sites shall institute sweeping or equivalent measures to ensure that sediment and mud is not tracked onto roadways.

Implementation

- The haul route within a 500-foot radius of the construction exit, or further as required, shall be cleaned from curb to curb thoroughly at the end of each day, and more often as necessary to ensure that sediment and mud is not tracked onto roadways.
- The entire haul route shall be cleaned thoroughly from curb to curb each week.
- Sediment shall be removed from roads by shoveling or pickup sweeping and shall be transported to a controlled sediment disposal area. Street washing will be allowed only after sediment is removed in this manner.
- Street sweeping equipment, such as vacuum trucks, must be equipped with an effective baghouse or other filtering devices. The use of sweeping equipment with air pollution control devices that are in disrepair is prohibited.
- Mechanical devices without filtering equipment may be used only when wet sweeping methods are effectively employed.
- Vacuum sweepers must be used with water.
- The use of leaf blowers and other similar equipment for sweeping is prohibited.
- Manual broom sweeping is allowed
- Reasonable measures must be employed to prevent dust from becoming airborne during any operation where particulate matter is handled, transported or stored.
- Control dust and particulate matter to comply with MOA fugitive emissions standards (AMC 15.35.090).

Maintenance

- Each hour during hauling operations, check to see that sediment and mud are not tracked onto the roadways.
Gravel Construction Exit

The gravel construction exit is used to reduce mud and sediment on a roadway adjacent to a construction site. Figure 13A illustrates this BMP. The gravel acts to remove the excess dirt on dump trucks as they travel across the bumpy surface. Gravel construction exists are a temporary measure used during construction. The effectiveness of this BMP is enhanced when used with a truck wash basin.

Selection

Gravel construction exits are appropriate on all projects where soil is being hauled from the site. Mud on a road can create a safety hazard as well as a sediment problem. If the exit is not preventing sediment from being tracked onto pavement, then alternative measures to keep the streets free of sediment shall be used. This will include street sweeping, an increase in the dimensions of the entrance, or the installation of a truck wash basin.

Implementation

The gravel construction exits should be installed at all construction site exits in a manner that minimizes sediment leaving the site. They should not be placed at locations that have steep grades or at curves in public roads where sight distance may be a problem. Rocks should be installed so that a bumpy and rough surface is created.

Maintenance

The gravel construction exit should be cleaned or replaced as needed. Remove all mud and sediment deposited on paved roadways within 24 hours.

- Check for and remove dirt present on roadways adjacent to the site.
- Verify that the dump trucks leaving the site are using the exit.
- Confirm that the surface is rough and bumpy.
- Check for sediment that has accumulated in the rocks. Replace or provide additional gravel as necessary.

<table>
<thead>
<tr>
<th>Area of Disturbance</th>
<th>Minimum Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 10,000 square ft</td>
<td>25 feet</td>
</tr>
<tr>
<td>10,000 square feet or more</td>
<td>50 feet</td>
</tr>
</tbody>
</table>

Figure 13A: Gravel Construction Exit
Truck Wheel Wash Basin

Truck wheel wash basins are a temporary measure for removing dirt and debris from dump trucks to reduce tracking of sediment onto roadways adjacent to the construction site. An illustration is shown in Figure 14A. The basins are most effective when used in combination with a gravel construction exit.

Selection

Truck wheel wash basins are appropriate on all projects where soil is being hauled from the site.

Implementation

The truck wheel wash basin should be installed at all construction site egress points in a manner that keeps sediments from leaving the site. The rocks should be installed so that a bumpy and rough surface is created. Construction of the truck wash basin should prevent the water from overflowing the basin.

Maintenance

The truck wash basin water should be replaced weekly or more frequently as necessary to clean the trucks. The rocks should be cleaned or replaced as needed.

- Check for dirt present on roadways adjacent to site.
- Verify that dump trucks leaving the site are using the basin.
- Check for and correct water overflowing the basin.
- Check on whether the water needs changing.
- Look for the accumulation of sediment in the rocks and remove or add additional gravel as necessary.
- Confirm that the basin is rough and bumpy.

Figure 14A: Truck Wheel Wash Basin
Mud Mats

Mud mats are a temporary measure for providing parking on dirt surfaces to reduce tracking of sediment onto roadways adjacent to the construction site. The mats are most effective when used in on flat slopes with light to moderate traffic.

Selection

Mud mats are appropriate on projects where worker parking is not provided in stabilized areas.

Implementation

Mud mats should be installed at all dirt parking areas in a manner that keeps sediments from leaving the site, either by foot or on vehicle wheels. The mats should be installed so that the entire area that may be used for parking or driving is covered.

Maintenance

The mud mat should be inspected weekly or more frequently as necessary to assure proper coverage and usage. The mats should be cleaned or replaced as needed.

- Check for dirt present on roadways adjacent to site.
- Verify that workers are parking in designated areas.
- Check on whether the mats need changing or sweeping.
Sedimentation Basin

Sedimentation basins are used to remove large quantities of sediment from runoff. The basins can be designed to remove fine-grained sediments such as clays or silts as well as some chemicals through physical, chemical, and biological processes. The basins can also serve a dual function for runoff detention. Figure 28A shows a representative installation of this temporary and permanent BMP. Design criteria for permanent sedimentation basins are available in the MOA DCM.

Selection

Sedimentation basins are generally used on medium- to large-scale projects, and where sediment discharge would damage environmentally sensitive areas such as wetlands or streams.

Implementation

The sedimentation basin should be installed according to the plans and specifications, and if required, the SWPPP. Because the facilities are customized for each project, the approved construction plans provide the best source of information on implementation. The engineer who stamped the plans should be consulted for any clarification. Design temporary sedimentation basins for projects requiring Type 2 or Type 3 SWPPPs based on the 2-year 24-hour rainfall event. Design and calculations for permanent sedimentation basins should follow the guidance in latest edition of the MOA DCM.

Maintenance

Sediment should be removed from the sedimentation basin yearly or when it accumulates to a depth of one foot. More frequent cleanings should occur if sediment impairs the function of the outlet structure. Rocks and washed gravel should be cleaned or replaced when they become filled with sediment. If sloughing or erosion of side slopes occurs, the sedimentation basin should be repaired.

- Confirm that the construction plans have been followed.
- Check that sediment accumulation is within acceptable limits.
- Confirm that the outlet structure is functioning properly.
- Confirm that sediment is not “passing through” to downstream end.
- Check for accumulations of floating debris.
- Check to ensure that the emergency overflow spillway is not obstructed.
Figure 28A: Sedimentation Basin
**Proprietary Oil and Grit Separator**

Many proprietary oil grit separators (OGS) are available. Most of the devices remove oil and sediments through plates, baffles, filters, vortices, or a combination of these elements. A sample illustration of this permanent BMP is shown in Figure 25A. Design criteria are available in the MOA DCM.

**Selection**

The design engineer is responsible for selecting the appropriate device and for the proper sizing. In general, OGS devices are available to handle most applications.

**Implementation**

The OGS should be installed according to the plans, specifications, and manufacturer’s information. The engineer that prepared the design should be consulted if any questions arise or if further information is needed.

**Maintenance**

OGS devices require frequent cleaning, at least once a month during construction, and at least twice a year thereafter. Depending on the system, cleaning usually involves removal of floating debris, sediments, oils, and in some instances, filter cartridge replacement.

- Check for and remove floating debris in the device.
- Check for and remove accumulations of sediment in the device.
- Check for accumulation of oil in the device; remove and dispose of properly.
- Confirm that the filter replacement schedule is being followed.
- Look for evidence of sediments or oils leaving the device.
- Check screens for evidence of clogging; repair or replace as necessary.
- Check for infiltration or exfiltration in the device.
Figure 25A: Proprietary Oil Grit Separator
Vegetated Filter Strip

A vegetated filter strip is highly efficient in reducing sediment transportation from a construction site by providing a barrier to sediment and reducing the runoff velocities of overland flow. Vegetated filter strips are similar to bioswales, except that they are designed to intercept sheet flow and not concentrated flow. Vegetated filter strips are typically a permanent BMP, see Figure 24A. Design criteria are available in the MOA DCM.

Selection

Vegetated filter strips are desirable where the runoff occurs as sheet flow, and the available land for storm water treatment is scarce. Vegetated filter strips generally only trap coarse sediments. Vegetated filter strips shall be a minimum of 15 feet wide.

Implementation

Ideally, vegetated filter strips should use undisturbed native vegetation with soil conditions that allow for infiltration of runoff. Use fencing or flagging to prevent disturbance to the areas used as vegetative filter strips. Do not used planted or seeded ground as a filter strip for sediment trapping until the vegetation is established.

Maintenance

Any areas damaged by erosion or construction activity should be seeded immediately and protected by mulch.

- Look for channelized flow.
- Check for damaged or unhealthy grass.
- Look for accumulation of trash.
- Repair or replace fencing or flagging as necessary.

Figure 24A: Vegetated Filter Strip
**Bioswale**

Bioswales are grass lined ditches that remove sediment through filtration and reduction of runoff velocities. See Figure 26A for an illustration of this temporary or permanent control. Design criteria are available in the MOA DCM.

**Selection**

The bioswale BMP is appropriate for construction sites where concentrated runoff needs to be handled to prevent erosion or encourage infiltration.

**Implementation**

A healthy grass cover and moderate ditch slopes are needed, per the MOA DCM.

**Maintenance**

Bioswales should be repaired and grass re-established as necessary. The bioswale should be checked for scour and repairs should be made immediately. All flow impediments should be removed to maintain the ditch hydraulics. The grass must be maintained in a healthy condition at all times because it is the primary erosion protection for the bioswale. Reinforced turf may be required.

- Look for and remove trash accumulations in the ditch.
- Check for accumulated sediment in the ditch.
- Look for diseased or unhealthy vegetation and repair or correct as necessary.
- Check for and repair signs of erosion.

![Figure 26A: Bioswale](image)
Rock Swale

Rock swales are used to reduce water velocities and provide an erosion-resistant channel. See Figure 27A for this temporary or permanent BMP.

Selection

Rock swales are generally used on steeper slopes or in situations where water velocities are anticipated to exceed five feet per second. The contributing flow area shall not exceed 10 acres per swale.

Implementation

The inlet and outlet should have appropriate devices to inhibit erosion. The channel should have the rock placed in a manner that adequately covers the underlying soils. The stone shall be adequately sized to prevent displacement during the design storm. The ditch should be deep enough to convey the water without overtopping. If geotextile is included in the installation, it should be firmly attached with staples and should be keyed into the surrounding earth. Provide both inlet and outlet protection to minimize erosion at these locations.

Maintenance

The inlet, outlet, and channel should be kept free of flow impediments. The channel should be checked for scour and additional rock should be installed if scour has occurred. The rock should be cleaned or replaced if sediment accumulates to one half the height of the rock. If geotextile fabric is included in the installation, it shall be kept in operable condition.

- Look for evidence that the rock swale needs cleaning of flow impediments or sediment.
- Check for erosion of the inlet and outlet.
- Confirm that the inlet and outlet are functioning properly.
- Confirm that the geotextile is anchored.
- Look for geotextile that is torn or frayed.
- Confirm that the stones have not been displaced by the flow.

Figure 27A: Rock Swale
Outfall Protection

Outfall protection prevents scour along lines where drainage leaves paved surfaces and enters a swale or ditch system. See Figure 32A for an illustration of this temporary or permanent control measure.

Selection

Outfall protection is applicable wherever high-velocity discharge is released from impervious surfaces to erodible soils.

Implementation

After underlying soils are compacted, geotextile should be placed and secured with anchors. Rocks should be placed on fabric following the line and grade to transition from the pavement surface to the ditch invert. The rocks shall be adequately sized to prevent displacement during the design storm.

Maintenance

Outfall protection must be inspected after heavy rains to see if maintenance is required. All repairs should be made immediately to prevent further damage.

- Check for erosion of soil.
- Confirm that rocks are in place.
- Confirm that any geotextile installed is in working order.

Figure 32A: Outfall Protection
Existing Wetlands

An alternative to constructed wetlands, detention basins or sedimentation basins is to discharge storm water into existing wetlands. The MOA has developed planning level guidance in the document *Anchorage Storm Water Treatment in Wetlands: 2002 Guidance*. It is available on the WMS web page. Discharge of storm water, following treatment for removal of sediment and floatables, can function to rehabilitate wetlands that have been dried out due to urbanization.

**Selection**

This BMP is an attractive option when longer hydraulic residence times are necessary for pollutant removal and wetlands with adequate capacity are available.

**Implementation**

- Install pretreatment to remove sediment.
- Use flow dissipators to reduce channelization.

**Maintenance**

Existing wetlands normally do not need maintenance other than cleaning of accumulated debris and trash. These systems are typically self-cleaning.

- Make sure the wetland is free of trash, debris, and litter.
- Make sure the pretreatment facility and outlet structures are operating properly.
- Look for damaged or unhealthy aquatic plants that need replacement. Repair damaged vegetation. Determine the causes, such as chlorides, excessive flow, or other factors, and mitigate them.
**Constructed Wetlands**

Properly designed constructed wetlands can decrease the frequency and severity of flooding while improving water quality by providing decentralized controls, infiltration, and advanced treatment of storm water flows. Constructed wetlands are typically a permanent BMP.

**Selection**

Once established, constructed wetlands work best when there are available lands and a constant base flow to sustain the wetland. This BMP is an attractive option when longer hydraulic residence times are necessary for pollutant removal.

**Implementation**

The design and construction of wetlands is a significant undertaking that involves an adequate understanding of hydrology, landscape architecture, geotechnical engineering, groundwater science, and chemistry. Because of these requirements, a team of professionals is needed to properly simulate natural wetlands for storm water treatment.

**Maintenance**

Constructed wetlands normally do not need maintenance other than cleaning of accumulated debris and trash. These systems are typically self-cleaning.

- Make sure the wetland is free of trash, debris, and litter.
- Make sure the inlet and outlet structures are operating properly.
- Check for beaver and muskrat dams.
- Look for damaged or unhealthy aquatic plants that need replacement.
Preservation of Natural Drainage Systems

Preservation of natural drainage systems is a permanent procedural BMP that can significantly reduce stream bank erosion.

Selection

Preserving the natural drainage system works on any site that has existing drainage courses on or adjacent to the site. Natural channels reach a steady state in which sediment transport and deposition are balanced. Generally minimal increases in flow rates or duration can be accommodated in the natural system without upsetting the natural balance. However, major increases in flow are best accommodated by using alternative disposal methods.

Implementation

To use a natural drainage system, a thorough downstream analysis must be undertaken to ensure adverse affects do not occur to the system. Flow attenuation or energy dissipation devices may be needed at the discharge point. An erosion-resistant connection of the flow path between the new storm drainage system and the natural drainage system is necessary.

Maintenance

The beauty of using a natural drainage system is that it normally does not need maintenance other than cleaning of accumulated debris and trash. However, structural damage caused by storm events must be repaired as soon as possible to prevent further erosion of the stream bank.

- Look for erosion, undercutting, and channel instability.
- Make sure the drainage path is free of trash, debris, and litter.
Preservation of Natural Vegetation and Buffer Zones

A buffer zone is an undisturbed area of natural vegetation or other established plantings that will reduce soil erosion that is a result of runoff from uphill and reduce runoff velocity and capture sediment by providing a living filter. Natural vegetation should be preserved wherever practicable, but definitely on steep slopes and adjacent to perennial and intermittent drainages system inlets, water courses, swales, creeks, lakes, and wetlands.

Selection

Preserving natural vegetation is principally a component of the project site planning; however, preservation requires special attention during construction. Construction equipment can cause plant injury both above and below the ground. Damage results from scarring and cutting of roots and with compaction of soil.

Preserving natural vegetation can be part of scheduling and project phasing.

Implementation

- See the Flagging and Fencing BMP for specific implementation requirements.
- Retain a minimum of 50-foot wide vegetation buffer zones on each side of wetlands, creeks, lakes, drainage systems, or other waterway, with increases subject to other onsite sensitive conditions, existing vegetative conditions, and erosion hazard potential. Where the slope is less than 4:1, the buffer may be reduced to 25 feet wide.
- Uphill of the area where vegetation is to be preserved, implant erosion and sediment control measures prior to clearing or other land disturbing activities.
- Avoid disturbing the ground at least as far out as a tree’s dripline.
- Minimize raising or lowering the natural ground level. Since most tree and shrub plant roots are in the upper foot of the soil, cuts and fills of only 2 to 3 inches can cause serious injury. To protect roots, terrace the immediate area around the plant to be saved.

Maintenance

- Inspect the area frequently to ensure that flagging remains in place, that no disturbance has occurred to the preserved vegetation, and that uphill control measures prevent concentrated runoff from entering the preserved area.
- If tree roots have been exposed or injured, recover or reseal them.
LID: Reduced-Lot-Grading

During the grading portion of the development process, the land is generally sloped away from each home in an effort to move storm water runoff away from the foundation. Typically this slope is 2%. This slope is necessary to protect the foundation of a structure. However, this slope is often extended from the foundation all the way to the property boundaries. The effect is that storm water is not given an ample opportunity to infiltrate into the soil. The Reduced Lot Grading approach uses the 2% grade from the edge of the building to a distance of 20 feet in order to protect the foundation. The remaining lot area is sloped to drain away from the home at lesser grades ranging from 0.5% to 1.5%. This grading scheme will still direct storm water away from the foundation, but will also slow runoff and encourage infiltration.

Selection

New residential development on relatively flat land within the MOA is well suited for the application of reduced-lot-grading.

Implementation

Reduced-lot-grading is only applicable in areas that are relatively flat prior to development. Reduced-lot-grading is not effective if the soil on a site has been compacted due to the use of heavy equipment. It is best to keep the use of heavy equipment limited to paved surfaces. If compaction cannot be avoided, tilling or scarification of the soil to a depth of 12 to 24 inches prior to laying sod will restore the infiltration capacity of the compacted soil.

Maintenance

Reduced lot grading requires no long-term maintenance.
**LID: Reinforced-Turf-Driveways**

Reinforced-turf-driveways (also called turf pavers) retain the weight bearing capacity necessary for a driveway but allow infiltration and plant growth, thus reducing the amount of impervious surface in the new development. The structures consist of modular paving blocks, or cast-in-place concrete grids, and are commonly referred to as “turf pavers.” Rather than be planted with turf, the voids in turf pavers can alternately be filled with sand or small gravel to provide the infiltration benefit and reduce the amount of maintenance required to keep healthy turf. There are several turf pavers available on the commercial market.

**Selection**

Urban and suburban driveways make excellent candidates for the use of turf pavers. The pavers can make up the entire driveway or only be placed in light use areas within the driveway, such as the area of the driveway straddled by automobiles entering and exiting.

**Implementation**

The usefulness of turf pavers is limited to areas where soils are permeable. Subbase depth for turf pavers depends on application and existing soils. For driveway application, a subbase of 8 to 12 inches is recommended. Manufacturers of turf pavers generally provide recommendations for subbase depth with their products. Turf pavers should be installed per the manufacturer’s specifications. Once installed, the voids in the turf pavers can be prepared for seeding.

**Maintenance**

Turf pavers require maintenance similar to lawn maintenance. Care must be taken in winter months not to damage plant life or the pavers during snow removal.
Rain Gardens

Rain gardens are one of the most popular and rewarding LID BMPs. A rain garden is simply a small, vegetated depression that is planted with shrubs, grasses, and flowering perennials for the purpose of promoting storm water infiltration. See Figure 33A for an illustration of this LID element. Design guidelines are available on the MOA WMS website. For residential applications, see http://www.anchorageraingardens.com/). For commercial applications, see http://www.muni.org/Departments/project_management/Publications/LID_Design_Guidance_1208.pdf.

Selection

Rain gardens can be planted almost anywhere in a residential setting. For larger scale applications, amended soils and an overflow are typically used.

Implementation

Rain gardens are easily excavated and planted in an afternoon. They can be placed to collect and absorb rooftop, driveway, or sidewalk runoff. Native plants that can withstand periods of inundation and the climate in Anchorage should be used. Local greenhouses are a good source of information on plant selection.

Maintenance

To insure that a rain garden remains functional and attractive it must be tended to regularly. Weeds must be pulled and some plants may need to be replaced in the spring.

Figure 33A: Rain Garden
Minimum Disturbance/Minimum Maintenance and Cluster Development:

Only those areas essential for completing construction activities should be cleared, and other areas should remain undisturbed. Avoid disturbing vegetation on steep slopes or other critical areas. Landscapes that demand significant amounts of chemical treatment should be avoided; thereby minimizing nonpoint source impacts associated with the application of fertilizers, pesticides, and herbicides that result from a new land development.
Parking Lot Management

Snow from streets and parking facilities contains many pollutants, with trash being the most visible of these materials. However, unseen pollutants from vehicles such as lead, zinc, copper, and petroleum products may also be present. In addition, the snow contains sand and salt used on streets and parking lots during the winter. Chloride levels in runoff rise sharply during periods of melting and taper off after a few weeks of warm weather. Because chloride and other pollutants can be present at high levels during breakup, the discharges from snow storage facilities and parking lot snow piles have a high potential to impact local water quality. Below are some general guidelines for storing and managing snow on parking lots and general parking lot maintenance. See also


Selection
- Avoid placing snow piles on slopes where runoff will be difficult to control.
- Never pile snow on, in to, or next to lakes, streams, or wells.
- If possible, pile snow on a grassy surface.

Implementation
- Place snow at a low point on site allowing the meltwater to pond in order to keep runoff contained and easier to control.
- Stack snow high in a single pile rather than in multiple piles around the site. The snow will melt more slowly and allow storm drains to drain properly.
- Use large or coarse grained material for sanding, since it is less likely to be transported off site.
- If salting is necessary, use magnesium chloride instead of sodium chloride. Magnesium chloride is better for the environment and is less abrasive to pavement.
- If using salt, apply it lightly just before it snows or after plowing.

Maintenance
- Before breakup, check that erosion problems will not occur when runoff begins.
- As the snow pile melts, remove garbage that becomes exposed.
- Sweeping
  - Sweeping equipment, such as vacuum trucks, must be equipped with an effective baghouse or other filtering device.
  - Mechanical devices without filtering equipment may be used only when wet sweeping methods are effectively employed.
  - The use of leaf blowers and other similar equipment for sweeping is prohibited.
  - Manual broom sweeping is allowed
  - At a minimum, sweep once before May 15 or as snowmelt conditions permit to remove winter sand and once between August 15 and October 15, with the last sweep as close to the first snowfall as can be predicted. This last sweep will reduce the amount of sediment available for runoff in the following spring breakup. More frequent sweeping, including a second pass following breakup (before May 15) and another before the August rains (between June 15 and August 15) are recommended for lots that have high usage or high particulate buildup.
  - Control dust and particulate matter to comply with MOA fugitive emissions standards (AMC 15.35.090).
Snow Storage Facility Operations

Following the requirements of AMC 21 and the desire to protect water quality, the establishment of a new storage facility must follow the MOA DCM.

Selection

Consider and design for the effects of:
- Noise impacts;
- Drainage and water quality plan, and analysis of the effects of the snow storage facility upon water quality;
- Site plan;
- Volume and height of snow;
- Snow collection area;
- Snow storage facility illumination methods;
- Traffic access and haul routes;
- Lot size and coverage;
- Yard requirements;
- Visual buffering;
- Landscaping and maintenance;
- Parking;
- Signage; and
- Security and public safety measures.

Specific guidelines for planning a commercial snow disposal site include:
- A holding pond shall be provided to manage the flow rate and water quality of meltwater.
- The site should be as flat as possible with allowances for grading to maintain drainage to the holding pond.
- Armored channels and perimeter berms are to encircle the disposal area with an allowance for truck access.

Implementation
- Snow is to be disposed of in a single pile with side slopes as steep as possible.
- Street sweepings are not to be stored or disposed of on the snow pad.
- Garbage is to be periodically removed from the site during spring melt periods.
- The site shall not be disturbed during spring breakup and shall be allowed to revegetate during summer.

Maintenance
- Prepare and implement a dust and litter control plan
- Identify and train individuals responsible for noise, litter, and dust control
- Prepare and implement a revegetation plan for areas where vegetation damage or die-off occurs
Vehicle and Equipment Washing

Commercial car washes have interior wash water recirculation systems and are connected to the sanitary sewer system. Most facilities have exterior wash water collection systems as well. These systems are designed to reduce the amount of oil and grease, suspended solids, heavy metals, soluble organics, soaps, and detergents that are exposed to storm water. Conversely, non-commercial or uncontrolled car and equipment washing activities direct wash water, along with the associated pollutants, to the ground, then to the storm sewer system, and eventually to surface waters. Vehicles, construction equipment, aircraft, vessels, restaurant equipment, carpet cleaning equipment, industrial equipment, and large buildings may be cleaned with the following proper measures in place to protect the environment from contaminated storm water discharges.

- In order to keep storm water separated from pollutant sources, washing activities should ideally occur in an enclosure and drain to a sump or the sanitary sewer, or should occur in a building that drains to a sanitary sewer. Contaminated wash water must be routed to a sanitary sewer (which requires permission from AWWU), temporarily stored before being properly disposed of, or recycled with no discharge to the ground, a storm drain, or surface water.

- To conduct uncovered outside washing operations, a designated paved wash area that has containment must be provided to prevent storm water from running through the site or the fugitive discharge of wash water. The area must convey the wash water to a sanitary sewer or sump for collection and disposal.

- Phosphate-free biodegradable detergents should be used whenever possible.

- At non-commercial car washes where it is not possible to discharge the wash water to a sanitary sewer, a temporary plug or sump can be used at the storm drain to collect wash water for off-site disposal; a vegetative buffer can be used to infiltrate wash water; the washing could occur within a portable spill containment liner; or the vehicles can be rinsed without soaps or detergents of any kind.

- The wash water from building washing operations should be collected for treatment or routed to a sanitary sewer system if it contains oils, soaps, or detergents. Clean wash waters are allowed to drain into soils that have sufficient infiltrative capacity.
Liquid Storage

When working with aboveground tanks containing liquids, leaks and spills can occur at connection points and during liquid transfer. Liquid materials spread rapidly when spilled. These liquids mobilize during storms or cleaning operations, and gain entry into the storm drain system and pollute storm water discharges. Protection devices must address potential spills of liquid materials for storm water pollution prevention.

By providing preventative controls for accidental discharge of liquids, costly recovery and clean up operations are avoided. Similar to erosion and sediment controls, the more effort to reduce the entry of liquid pollutants into storm water discharges, the less effort will be needed to remove liquid pollutants from storm water.

Implementation

- A secondary containment system should be installed or a double-walled tank should be used.
- All tanks and containers should be stored in a secure area, which is covered, bermed or diked, and is impervious so that it contains leaks and spills.
- Tanks and containers stored in an area where unauthorized persons may gain access must have locked valves and taps.
- Protective guard posts should be provided around tanks to protect against vehicle or forklift damage.
- Containment tanks must be inspected regularly to check components such as fittings, pipe connections, and valves. Inspection should identify leaks, spills, cracks, and corrosion. Containment tanks that are leaking, corroded, or otherwise deteriorating must be replaced or repaired.
- All paved tank storage areas should be swept and cleaned regularly to keep pollutants out of storm water.
- Place identification tags on valves to reduce human error.
- Drip pans should be placed beneath all operational spigots, and potential drip or spill locations during liquid transfers.

Operations and Maintenance

Storm water in containment areas may need to be collected for treatment or be discharged to the sanitary sewer if it is not clean.

For storm water in a containment area with a sump, the sump can be discharged to a sanitary sewer with permission of AWWU. The sump outlet should be equipped with tag-out and lock-out valves to prevent the accidental release of spilled or leaked liquids. The valve should be opened only during disposal and cleaning operations. Another option for discharge of contaminated storm water is to pump it to a tank truck for off-site treatment and disposal.
Materials Handling

Proper materials handling keeps sites clean and orderly. A significant amount of debris can accumulate at uncovered loading and unloading areas. These areas may contain raw materials, intermediate products, waste materials, and scrap metals that must be kept out of storm water discharges. If a site operator keeps the facility clean and orderly, the potential for storm water to mobilize debris, trash, scraps, and by-products is reduced. Any reduction in pollutant sources is desirable.

Selection

Source controls are more cost-effective than treatment methods. Some source controls are outlined below:

- Uncovered materials storage and loading / unloading areas should be swept frequently to remove materials that can be transported by storm water; and
- The loading and unloading areas should be covered and contained where necessary to prevent contamination of storm water running through the area.

Implementation

- Prepare and maintain a clean up contingency plan for the facility to ensure the immediate clean up of material spillage in the work area when a significant spill occurs, or no later than the end of the working day for minor spills.
- Employees, especially forklift operators, should be trained in plan execution, and the plan should be readily available to all employees.
- Materials used for clean up should be stored on the site, and employees should be trained in material containment and clean up.
APPENDIX D

SUPPORTING DOCUMENTATION
August 27, 2002

Chuck York
Neeser Construction, Inc.
2501 Blueberry Street
Anchorage, Alaska 99503

Subject: Deed notice not required for residual environmental contamination in soils on the Eastern Portion of the Alaskan Village Mobile Home Park property, 7800 DeBarr Road, Anchorage, Alaska (ADEC File No. CS100.138, Contaminated Sites Database Record No. 94-2100-221-02)

Dear Mr. York:

This follows up the two letters the Department has issued granting No Further Remedial Action (NFRAP) status for the eastern portion of the Alaska Village Mobile Home Park property at 7800 DeBarr Road. A letter dated May 8, 2002 granted NFRAP status for soils that exceeded the Department's most stringent cleanup levels for the contaminant of concern, diesel range organics. A letter dated August 9, 2002 granted NFRAP status for groundwater, with the condition that monitoring wells be decommissioned within a specified timeframe. Both letters discussed the requirement or possible requirement that a Notice of Environmental Contamination (NEC) be recorded on the property deed. The Department has determined that a deed notice is not required for the eastern portion of the property, based on site-specific conditions outlined and under the conditions specified below:

1) The eastern portion of the property is identified as the eastern approximately 42 acres of the 68-acre Alaskan Village Mobile Home Park parcel, shown on the attached diagram (Figure 1) as the shaded or colored portion. The Department has not received metes and bounds information for this area, so as a condition of this final notification, requires that an adequate legal description be provided for our files and database entry no later than December 31, 2002.

2) Soil contamination is present in several areas of the eastern portion of the property in smear zones bounded vertically by the fluctuation of the groundwater table (see Figure 2, attached). The smear zones are not continuous horizontally; however, if soils close to the groundwater interface are exposed or excavated in any area of the property, they should be evaluated for contamination by field screening and analysis before being transported off-site for any purpose other than to treat them by approved remediation methods. Additionally, if Chester Creek is to be re-routed, potentially contaminated soils in the reroute area should be evaluated under a Department-approved plan. The Department understands that a covenant will be in place restricting excavation to within one-and-a-half feet of the groundwater.
3) It is the continuing responsibility of the current property owner to notify future property owners, lessees, contractors, and other parties who have the right, whether implied or contractual, to excavate or otherwise expose potentially contaminated soil. This responsibility includes providing a copy of this letter and attached diagrams and the May 8, 2002 and August 9, 2002 letters referenced in the first paragraph of this letter.

4) Property status and information on the location of the contaminated soils will be recorded on the Department's Contaminated Sites database, and will be updated as needed when new information is provided. For example, when the Department receives documentation that monitoring wells have been decommissioned, or surveying is complete, that information will be recorded on the database under the database record number shown in the subject line of this letter.

Please call me at 269-7527 if you have questions regarding this letter.

Sincerely,

Eileen Olson
Environmental Specialist

cc: Dan Young, Terrasat
Smear zones are areas where heating oil came into contact with the shallow aquifer and spread laterally. This created a thin layer of contaminated soil that remains at the water table (less than 2 inches thick). This smear zone does not pose a threat to human health, or the environment. We define the limits of these zones with laboratory analysis, field observations, and our best professional estimates.
DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 226

[Docket No. 090224232–0457–04]

RIN 0648–AX50

Endangered and Threatened Species: Designation of Critical Habitat for Cook Inlet Beluga Whale

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Final rule.

SUMMARY: We, the National Marine Fisheries Service (NMFS), designate critical habitat for the Cook Inlet beluga whale (Delphinapterus leucas) distinct population segment (DPS) under the Endangered Species Act (ESA). Two areas are designated, comprising 7,800 square kilometers (3,013 square miles) of marine habitat. In developing this final rule we considered public and peer review comments, as well as economic impacts and impacts to national security. We have decided in the final rule to exclude the Port of Anchorage (POA) in consideration of national security interest. Additionally, consistent with the proposed rule, portions of military lands were determined to be ineligible for designation as critical habitat. We solicited comments from the public on all aspects of the proposed rule, and conducted four public hearings on the action. Along with the proposed rule, we published a draft economic impacts analysis, entitled “Draft RIR/4(b)(2) Preparatory Assessment/IFRA for the Critical Habitat Designation of Cook Inlet Beluga Whale.” This economic analysis has been completed to support the final designation. See “Final RIR/4(b)(2) Preparatory Assessment/IFRA for the Critical Habitat Designation of Cook Inlet Beluga Whale” for a discussion of these topics.

DATES: This rule will become effective on May 11, 2011.

ADDRESSES: The final rule, maps, status reviews, and other materials supporting this final rule can be found on our Web site at: http://www.fakr.noaa.gov/.

FOR FURTHER INFORMATION CONTACT: Brad Smith (907–271–3023), Kaja Brix (907–586–7235), or Marta Nammack (301–713–1401).

SUPPLEMENTARY INFORMATION:

Rulemaking Background

We are responsible for determining whether species, subspecies, or distinct population segments (DPSs) are threatened or endangered and for designating critical habitat for those species under the Endangered Species Act (ESA) (16 U.S.C. 1531 et seq.). On October 22, 2008, we published a Final Rule to list the Cook Inlet beluga whale as an endangered species (73 FR 62919). At the time of listing, we announced our intent to propose critical habitat for the Cook Inlet beluga whales. This critical habitat was subsequently proposed on December 2, 2009 (74 FR 63080). The proposed rule’s critical habitat for the Cook Inlet beluga whale was determined by considering information received in response to our Advance Notice of Proposed Rulemaking, sighting reports, satellite telemetry data, The Traditional and Ecological Knowledge of Alaska Natives (TEK), scientific papers and other research, the biology and ecology of the Cook Inlet DPS of beluga whales, and information indicating the presence of one or more of the identified primary constituent elements (PCEs) within certain areas of their range. The proposed rule identified “specific areas” within the geographical area occupied by the Cook Inlet beluga whale to be proposed as critical habitat.

We considered various alternatives to the critical habitat designation for the Cook Inlet beluga whale. The alternative of not designating critical habitat for the Cook Inlet beluga whale would impose no economic, national security, or other relevant impacts, but would not provide any conservation benefit to the species. This alternative was rejected because such an approach does not meet the legal requirements of the ESA and would not provide for the conservation of Cook Inlet beluga whale. The alternative of designating all eligible occupied habitat areas also was considered and rejected, because some areas within the occupied range were not considered to be critical habitat, and did not contain the identified physical or biological features that are essential to the conservation of the Cook Inlet beluga.

An alternative to designating critical habitat within all eligible occupied areas is the designation of critical habitat within a subset of these areas. Under section 4(b)(2) of the ESA, we must consider the economic impacts, impacts to national security, and other relevant impacts of designating any particular area as critical habitat. We have the discretion to exclude any particular area from designation as critical habitat if the benefits of exclusion (i.e., the impacts that would be avoided if an area were excluded from the designation) outweigh the benefits of designation (i.e., the benefits to the Cook Inlet beluga whale if an area were designated), so long as exclusion of the area will not result in extinction of the species. Exclusion under section 4(b)(2) of the ESA of one or more of the areas considered for designation would reduce the total impacts of designation. The determination to exclude any particular areas depends on our ESA 4(b)(2) analysis, which is described in detail in the ESA 4(b)(2) analysis report.

This final rule includes several small changes to the areas proposed as critical habitat and, importantly, excludes under Section 4(b)(2) the Port of Anchorage (POA) from designated critical habitat for reasons relating to national security. We corrected errors within the proposed rule’s descriptions of the boundaries for this critical habitat so that the final rule utilizes the coordinate system of degrees, decimal-minutes. We have also changed the sentence structure of the PCEs concerning noise and toxins in the final rule to improve clarity.

The total quantifiable economic impact associated with this final rule is estimated to be between $157,000 to $472,000 (discounted at 7 percent) or $187,000 to $571,000 (discounted at 3 percent). While we have excluded a small portion of the area originally proposed as critical habitat for national security reasons (the POA), that exclusion does not affect the economic impact analysis because the small size of the area indicates that the potential cost-savings are likely nominal (i.e., consultations will continue to occur to ensure proposed activities in those areas do not jeopardize the species or adversely modify or destroy adjacent areas of critical habitat). Additional economic impacts, both costs and benefits, that were not amenable to quantification, but nonetheless important to a complete evaluation of this action, were identified and analyzed qualitatively. Both the quantitative and qualitative economic effects of the final rule are presented, in detail, in the Final Regulatory Impact Review/4(b)(2) Preparatory Assessment/Final Regulatory Flexibility Analysis. We promulgate this final rule because it results in a critical habitat designation that provides for the conservation of the Cook Inlet beluga whale, without economic effects of sufficient significance to warrant an exclusion from designation on that basis alone. Other areas within the species’ range did not contain the identified physical or biological features that are essential
to the conservation of the Cook Inlet beluga. This alternative also meets the requirements under the ESA and our joint NMFS–USFWS regulations concerning critical habitat.

Cook Inlet Beluga Whale Biology and Habitat Use

The beluga whale is a small, toothed whale in the family Monodontidae, a family it shares with only the narwhal. Belugas are also known as “white whales” because of the white coloration of the adults. The beluga whale is a northern hemisphere species that inhabits fjords, estuaries, and shallow waters of the Arctic and subarctic oceans. Five distinct stocks of beluga whales are currently recognized in Alaska: Beaufort Sea, eastern Chukchi Sea, eastern Bering Sea, Bristol Bay, and Cook Inlet. The Cook Inlet population is numerically the smallest of these, and is the only one of the five Alaskan stocks occurring south of the Alaska Peninsula in waters of the Gulf of Alaska.

A detailed description of the biology of the Cook Inlet beluga whale may be found in the Proposed Listing Rule (72 FR 19854; April 20, 2007).

Summary of Comments and Responses

We requested comments on the proposed rule to designate critical habitat for Cook Inlet beluga whales and supporting documents (74 FR 63080; December 2, 2009). To facilitate public participation, the proposed rule was made available on our regional web page, and comments were accepted via standard mail, e-mail, and through the Federal eRulemaking portal. In addition to the proposed rule, several draft documents supporting the proposal, including an economic report, were posted. In response to comments, the original 60-day comment period was extended an additional 30 days, ending on March 3, 2010. Public hearings were held in Kenai, Soldotna, Wasilla, and Anchorage, Alaska.

We received 135,463 individual submissions in response to the proposed rule (including public testimony during the four hearings). This included 134,959 form letter submissions and 504 unique submissions. The majority of comments concerned economic and other impacts for consideration for exclusions, the regulatory process for critical habitat designation, legal issues, essential features or PCEs, additions to critical habitat, and biological issues. We have considered all public comments, and provide responses to all significant issues raised by commenters. We have not responded to comments outside the scope of this rulemaking, such as whether NMFS’ prior decision to list the Cook Inlet beluga whale as endangered was proper. We have categorized comments by issue and, where appropriate, combined similar comments.

General Comments on Critical Habitat

Comment 1: In the proposed rule’s discussions at 74 FR at 63084, NMFS has not listed activities that will deter use of or access to Area 1 by beluga whales.

Response: In the referenced paragraph, we simply endeavored to provide a description of the habitat values and associations within the proposed areas, along with a discussion of why these areas may be sensitive or vulnerable to various stressors. Later in the proposed rule, we provided a brief description of those activities that may adversely modify critical habitat, or that may be affected by the designation. See 74 FR at 63089. Examples of activities that may deter use or access could include causeways, dams, bridges, or tidal generation projects.

Comment 2: Cook Inlet anadromous fish runs are healthy and appropriately protected under existing regulatory mechanisms.

Response: We recognize and acknowledge that the current management structure of the salmon fisheries has generally provided for the sustained harvest and productivity of salmon in Cook Inlet. However, it should also be noted that there are problems inherent with any management system. The size of several king (Chinook) salmon returns in 2009 and 2010 was substantially below average, resulting in closures of sport and commercial fisheries in the Inlet. The Deshka River king salmon runs were extremely low in 2008 and 2009, resulting in closures. The Susitna River sockeye salmon runs failed to meet minimum escapement goals for 5 of 7 years between 2001 and 2007. Sockeye commercial harvests for the Northern District of Cook Inlet fell from an average of 180,000 fish in the 1980s to an average of 29,000 fish in 2002. The Alaska Department of Fish and Game forecasts Kenai River sockeye runs to be below average for 2010, citing management decisions leading to over-escapement as a contributing factor.

Comment 3: The final rule should acknowledge the riparian protections under the State’s forest practices, as well as other regulations that protect water quality and other protections.

Response: While there exist myriad environmental and conservation laws, restrictions, and practices at State and local levels, these are not pertinent to this designation unless they concern whether the identified essential features of that habitat “may require special management or protection.” The fact that the State and local governments have instituted such measures is some evidence that these essential features do in fact require special management.

Comment 4: NMFS should provide supporting evidence for its identification of the tendency for belugas to occur in high concentrations, predisposing them to harm from events such as oil spills, as reason for designation of Area 1. The statement is speculative. This commenter also challenged our evidence that oil spills are a threat to beluga whales or predisposes them to harm, that these areas are susceptible to oil spills, or that spills are likely to occur here.

Response: We had not proposed this fact to be a “reason” for designating critical habitat. We disagree this statement is speculative, as there are multiple lines of evidence, including NMFS’ 2008 Conservation Plan for Cook Inlet Beluga Whale. We reviewed studies, that beluga whales occur seasonally in high densities within specific areas of the upper Inlet. Our purpose in these statements was not to provide an exhaustive assessment or analysis of oil spills, but to indicate the ecological attributes of Area 1 to Cook Inlet belugas and to recognize the sensitivities imposed by their habit of occupying relatively small, enclosed areas for feeding and other purposes during the open water months. The occurrence of these whales in high densities here not only predisposes them to potential harm from hazardous material releases, but also disease outbreaks, harassment, poaching, and other factors.

Comment 5: Additional research is needed to support proper management of the Cook Inlet beluga whales including this critical habitat designation.

Response: We agree generally that additional research is needed, and we identified in the 2008 Conservation Plan the need to “improve our understanding of the biology of Cook Inlet beluga whales and the factors limiting the population’s growth.” See: Conservation Plan for the Cook Inlet Beluga Whale (Oct. 2008) at 63. We disagree, however, that additional research is needed to support the designation of critical habitat. The ESA requires NMFS to designate critical habitat concurrently with the listing decision, 16 U.S.C. 1533(a)(3)(A)(i), and to base that decision on the “best scientific data available.” Id., section 1533(b). We have used the best scientific data available in designating critical habitat.
for the Cook Inlet beluga whale. We are not required to conduct field research prior to designating critical habitat.  

Comment 6: NMFS must link its critical habitat determinations to credible threats, and must fully explain its rationale for designating Area 2 as critical habitat.  

Response: There is no requirement to link designation of critical habitat with threats. We are required to base critical habitat designations on physical or biological features essential to the conservation of the species and which may require special management considerations or protection, as we have done in this rule. Our discussion of potential threats to critical habitat was provided so the reader might better understand the proposed designation in context of the biology of the Cook Inlet beluga whales and the various stressors that may occur in these areas. Such a discussion also assists in the description and evaluation of those activities which may adversely modify the critical habitat.  

We identified several essential physical and biological features of critical habitat for Cook Inlet beluga whales, established that those features were found within Area 2, and confirmed that they may require special management or protections, as required by the ESA. We agree that present knowledge of the habitat characteristics of Area 2 is less than that of Area 1, and that it is desirable to gather additional data to better understand the habitat needs of beluga whales here. However, we do not find that the existing information, nor the discussion and analysis of the area within the Proposed Rule, were insufficient. None of the commenters provided data or information contradicting the data on which the proposed rule relied.  

Physical or Biological Features Essential for Conservation (PCEs)  

Comment 7: We received many comments concerning the PCEs, or essential features, indicating some confusion and uncertainty regarding their function and significance. Others felt that our identification of PCEs was flawed because these are not presently impeding the recovery of Cook Inlet beluga whales, or that the PCE thresholds are set unreasonably. Still others believe that a PCE equates to adverse modification or other objectionable standard by which various activities and projects would be prohibited.  

Response: The ESA defines critical habitat in terms of essential physical or biological features, and Federal regulations require us to focus on these features in the designation process. It is not necessary that a feature be presently impaired or limiting, only that it provide an essential service or function to the conservation of the listed species and may require special management considerations or protection. Also, a PCE is not meant to describe a threshold condition beyond which critical habitat would be adversely modified or destroyed. Rather, potential threats to the PCEs will often be the factors evaluated in making determinations regarding whether a proposed Federal action will adversely modify or destroy critical habitat. For example, we believe an essential physical feature to be the unrestricted passage and movement of beluga whales among critical habitat sites. A project, such as a dam, could potentially isolate parts of the whales’ critical habitat and prevent movement among the sites. In evaluating the effects of such a project under section 7 of the ESA, we would consider whether this isolation would impact beluga whales to a degree that critical habitat was no longer functional to the conservation of the species. If it caused the loss of either of these fundamental values, we would consider this adverse modification. However, the mere fact that the project may isolate parts of the critical habitat or prevent movement among those sites would not, in itself, constitute adverse modification or destruction of critical habitat. Similarly, a project that caused whales to abandon critical habitat may not necessarily result in a determination of adverse modification or destruction of critical habitat, unless such abandonment would preclude the conservation of these whales.  

Comment 8: The proposed rule identifies some of the PCEs as inadequate because they are not specifically defined. This is not true. NMFS identifies PCEs at least as general as those identified in the proposed rule. We rely on the best scientific data available to support our identification of PCEs as including, but not limited to, roost sites, nesting grounds, spawning sites, water quality or quantity, tides, and vegetation types. Clearly, these descriptions are general in nature and, we believe, far less descriptive than those presented in the proposed rule. We relied on the best scientific data available to provide as much specificity as possible. None of the commenters have provided data allowing us to further refine our description of the PCEs. The condition of adverse modification will be determined, in part, on whether an activity impairs the functional value of the essential features to the point that they cannot provide for the conservation of the species. In adding as much description to these features as permitted by the best scientific data available (e.g., not just “pollutants,” but the “absence of toxins or other agents of a type or amount harmful to beluga whales”) it is our intent to avoid the situation where any activity that may be associated with one or more essential feature would be considered as causing the adverse modification or destruction of critical habitat. We have also modified the wording of this PCE in the final rule to improve clarity.  

Comment 9: The identified PCEs lack specificity (e.g., “the absence of toxins or other agents of a type or amount harmful to beluga whales”). NMFS should identify threshold values for all PCEs as it has for in-water noise.  

Response: The ESA requires that we premise the designation of critical habitat on essential features, and the regulations at 50 CFR 424.12(b) describe the PCEs as including, but not limited to, roost sites, nesting grounds, spawning sites, water quality or quantity, tides, and vegetation types. Clearly, these descriptions are general in nature and, we believe, far less descriptive than those presented in the proposed rule. We relied on the best scientific data available to provide as much specificity as possible. None of the commenters have provided data allowing us to further refine our description of the PCEs. The condition of adverse modification will be determined, in part, on whether an activity impairs the functional value of the essential features to the point that they cannot provide for the conservation of the species. In adding as much description to these features as permitted by the best scientific data available (e.g., not just “pollutants,” but the “absence of toxins or other agents of a type or amount harmful to beluga whales”) it is our intent to avoid the situation where any activity that may be associated with one or more essential feature would be considered as causing the adverse modification or destruction of critical habitat. We have also modified the wording of this PCE in the final rule to improve clarity.
Response: Relying on the best scientific data available, the proposed rule explains the habitat attributes and importance of nearshore areas to Cook Inlet beluga whales. These whales selectively occupy these areas during the ice-free months, and may display year-round association with the nearshore zones of Cook Inlet. We believe this affinity is due to feeding strategies and perhaps breeding, calving, molting, and predator avoidance. Research on beluga whales elsewhere has found beluga distribution may be associated with depth and bottom structure, as well as prey abundance. Using these data, we next considered the results of Goetz et al. (2007) which found significant associations between summer distributions of Cook Inlet belugas, mudflats, and flow accumulation. The Goetz et al. (2007) paper is important in that it provides the first spatial representation of this habitat attribute, and supports the observations of other research as well as the TEK of Alaskan Natives. The paper does not incorporate data on other factors potentially relevant to beluga distribution in Cook Inlet such as water temperatures, turbidities, salinities, or the fish species and strength of fish runs for these waters. That paper states “The occurrence of beluga whales near stream mouths may reflect a feeding strategy whereby belugas take advantage of highly-concentrated fish runs in shallow channels where they are easy to catch”, and found the majority of sightings were within 11.5 km of medium flow accumulation inlets. The Goetz et al. (2007) paper, however, is not the sole scientific basis for our determination, nor is it necessarily the most significant. It is clear that many of the areas identified as in the Goetz et al. (2007) paper as “mudflats,” are rarely associated with beluga sightings. In reviewing the best scientific data available, we found that whereas the Goetz et al. (2007) paper’s use of “mudflats” implies a condition of the seafloor material, this feature is best described by its tidal exposure. Therefore, in identifying the PCE, we used the qualifier of waters less than 30 feet (9.1 m) in depth to clarify what was described as “mudflats” by Goetz et al. (2007). We also felt that, while this feature covers a range of over 7 miles (11.5 km) in which most whales have been found, a radial distance of 5 miles (8.0 km) from the high and medium flow distribution inlets is more descriptive of the actual distribution of these whales and the essential feature, in consideration of the best aerial and satellite data available. Response: We relied on the best scientific data and information available, including models such as the one developed by Goetz et al. (2007), in preparing the proposed rule. We did not develop new models as part of the rulemaking, and the ESA does not require us to do so or to conduct fixed research. Rather, we are required to designate critical habitat on the basis of the best scientific data available. Goetz et al. (2007)’s research and paper were not conducted to define critical habitat. Goetz et al. (2007) exists as one of several sources we considered during this rulemaking. Both NMFS and the paper itself recognize the paper’s limitations from not including various physical and biological variants, most notably anadromous fish species and run strengths. Despite this information, the list of high and medium flow accumulation waters reported in the paper indicate that all such rivers are anadromous fish waters and that flow accumulation has some association, and may be a reasonable proxy, for anadromous fish. The inclusion of fish species or numbers of anadromous fish utilizing these waters would not change the list, but could only add another descriptive layer to this essential feature. The utility of such additional description is unclear and probably non-existent.

Comment 12: NMFS has incorrectly used Goetz et al. (2007) to identify PCEs within Area 2, particularly for winter periods for which this paper did not include data. Applying this model to winter has resulted in NMFS incorrectly identifying habitats that are impossible or highly improbable for belugas to inhabit.

Response: While we included the Goetz et al. (2007) paper in our consideration of scientific research and literature related to critical habitat and adopted its conclusions as representative and supportive of our proposed designation, we are not necessarily in agreement with every statement made within the paper. This is particularly true for the paper’s assertion that sea ice in winter makes inhabiting shallow waters too hazardous for marine mammals. While the paper does not define what depths were considered to be “shallow,” there is ample evidence that beluga whales occur in such areas during winter. Indeed, beluga whales are variously described as “ice associated” or “ice dependent” species, and we know of no beluga population that is not found within areas subject to seasonal ice formation. Satellite tagging data (see NMFS’ 2008 NMFS Conservation Plan for the Cook Inlet Beluga Whale) from Cook Inlet beluga whales indicates that these whales are found in nearshore areas during winter; in fact these data show whales occupying the heads of Turnagain and Knik Arms during periods in which maximum ice coverage would be expected. While Goetz et al. (2007) did not include (or have access to) distribution data for winter months, Goetz et al. (2007) presents other information demonstrating the importance of nearshore areas proximate to anadromous fish streams as an essential habitat attribute. This attribute within Area 2 exists during the late summer and fall months, as whales move west and south transitioning from summer habitat in the upper Inlet to winter habitats. During this time, we believe the whales take advantage of the late coho runs along the west side of Cook Inlet. This behavior occurs well before seasonal ice formation (sea ice is much less prevalent in the lower Inlet), and we believe it is reasonable to assume the physical qualities of nearshore feeding habitat near salmon streams in July are similar to those for nearshore feeding habitat near salmon streams in October.

The 2008 NMFS Conservation Plan for the Cook Inlet Beluga Whale includes sighting data of beluga whales in the lower Inlet, and suggests these areas were important habitat sites when the beluga whales were abundant.

Finally, we emphasize the critical habitat boundaries are not drawn around the essential features/PCEs. Rather, these features delineate critical habitat from non-critical habitat. The best scientific data available indicates that the critical habitat area referred to as Area 2 contains anywhere from one to all of the identified physical or biological features essential to the whales’ conservation.

Comment 13: NMFS should list all the waters it considers to be high and medium flow accumulation rivers for purposes of describing the PCEs.

Response: We have included this list on our Regional website (see ADDRESSES above).

Comment 14: NMFS should include pink salmon, Pacific herring, and long-finned smelt as PCEs.

Response: We identified important prey species as essential biological features or PCEs based on the results of research on fatty acid signatures and stable isotope analysis from beluga whale tissue, stomach samples from...
Cook Inlet belugas, and traditional knowledge. We did not find the proposed species were well-supported by these sources and cannot determine that they are essential based on current knowledge.

Comment 15: NMFS’ proposed PCE “The absence of toxins or other agents of a type or amount harmful to beluga whales” is too vague. There are readily available data defining the types and amounts of contaminants that would be harmful to beluga whales, but NMFS has not used this information.

Response: Please see our earlier response to comment #9 regarding specificity within the definitions of essential features and PCEs. We relied on the best scientific data available in designating critical habitat for the Cook Inlet beluga whale. We are not aware of any existing data that would allow for greater specificity concerning harmful contaminant levels in beluga whales, and none of the commenters provided any or indicated a specific source of such data. We recently contracted for an assessment of risks to beluga whales from chemical exposures (URS, 2010), that found “reliable and quantitative information that related measured body burdens to observed adverse effects is lacking, especially within a dose-response context.” Information relating to the presence of persistent organics, measured primarily in the whales’ blubber, exists, and there are some studies on the presence of methylmercury and other metals, but very little or no toxicity information is available for beluga whales and other marine mammals regarding the majority of harmful chemicals. The assessment report goes on to state that, even for those few studies in which some threshold values are presented for other species, such studies are fraught with uncertainty and should be viewed only as a preliminary comparison to determine whether further evaluation is warranted.

We believe that, had we employed threshold values of chemicals which arguably cause “harm” to other species, we would have created an assessment methodology for adverse modification of critical habitat that could be both insufficiently protective of these whales and unnecessarily restrictive. The toxin PCE as promulgated provides the best level of specificity possible in light of the best scientific data available. This PCE does not simply include all pollutants; it includes only those of a type and quantity/concentration harmful to beluga whales. Moreover, it is important to note that the introduction of any pollutants that are harmful to beluga whales would require the evaluation of the effect of such pollutants on the PCE, but it would not necessarily equate to adverse modification. We would evaluate the proposal by considering the implications of the harmful pollutants to the PCEs and to the conservation of Cook Inlet beluga whales.

Comment 16: Unrestricted passage between habitat areas is consistent with the knowledge of the spatial and temporal dynamics of the primary beluga prey species, yet NMFS has shown no evidence that passage is being restricted to the extent of limiting productivity or recovery.

Response: Please refer to our earlier response to comment #7 concerning limiting aspects of habitat and their relation to essential features and PCEs. We agree that no evidence currently exists indicating that passage among critical habitat areas is impeded to the extent of preventing recovery. The validity of this condition as a PCE is not dependent on whether it is limiting to the population. The Conservation Plan includes discussion of various threats to these whales, many of which could impede access among critical habitat sites. An action that would result in restricted passage would not necessarily result in a finding of adverse modification. Under section 7 of the ESA, we will evaluate a proposed Federal action’s potential to destroy or adversely modify critical habitat by considering the implications of any restriction on the movement among critical habitat sites to the conservation of Cook Inlet beluga whales.

Comment 17: NMFS’ proposed PCE “The absence of in-water noise at levels resulting in the abandonment of habitat by Cook Inlet whales” is too vague. NMFS should provide an objective, measurable noise level in the definition of this PCE.

Response: We developed each PCE based on the best scientific data available. Because empirical data exist to help us understand the noise levels at which beluga whales may react behaviorally or become injured, it is reasonable to assume quantified standards could be developed in the future for this PCE. Existing data, however, are based on relatively few animals held in captivity and the qualitative results of various field observations and research. We currently recognize in-water noise exceeding 120 dB re 1 μPa as the threshold for harassment of marine mammals presented with a continuous noise source, and 160 dB re 1 μPa for impulse noise. Ambient (background) in-water noise levels in lower Knik Arm presently exceed 120 dB, and we felt it unnecessarily restrictive to describe this standard as a PCE. Similarly, the 160 dB threshold relates to harassment. We do not have a standard value for the level of noise above which beluga whales may permanently abandon habitat. From research and monitoring of in-water work in Cook Inlet, it is apparent that beluga whales have not abandoned habitat areas due to temporary exposures to noise at this level. Therefore, this numeric standard may also be too restrictive. There exists considerable variability in the reaction of whales to noise, depending on the nature of the noise, life history, behavior, sex, context, tolerance, and adaptation. The science of marine mammal acoustics is very complex and made more difficult within the dynamic setting of Cook Inlet. As a result, we can only assign a qualitative standard to this PCE unless and until data become available allowing us to assign a quantitative standard.

Comment 18: NMFS should describe the PCE addressing in-water noise as “the absence of in-water noise that results in adverse impacts to the species’ survival and recovery.” The commenter points out that noise below levels that may cause whales to abandon habitat areas could still have severe impacts on these animals.

Response: The commenter’s proposed PCE is not that functionally different from the one proposed in one important respect. When we evaluate a Federal action under section 7 of the ESA, we will consider whether the action will introduce noise that will result in the abandonment of critical habitat and whether such abandonment will, in turn, affect the whales’ conservation. We will also consider whether the noise would affect the whales’ survival because section 7 directs Federal agencies to ensure that their actions do not (a) result in the destruction or adverse modification of critical habitat or (b) jeopardize the continued existence of the species. The commenter’s proposed PCE combines these two standards (and conflates them, a formulation which the Ninth Circuit struck down in Gifford Pinchot Task Force v. U.S. Fish & Wildlife Serv., 378 F.3d 1059 (9th Cir. 2004)).

Comment 19: The PCE concerning noise should be re-worded to reduce the noise levels permitted to 120 dB or lower, reduce the duration of allowable noise, and reduce the frequency of anthropogenic noise.

Response: The identified essential features or PCEs are not intended to be limitations or stipulations. They describe various features of the
environment that we consider essential to the conservation of these whales. We do not believe in-water noise levels below 120 dB re 1 µPa are necessary to conserve these whales in all cases. In fact, ambient noise in areas in which these whales occur, such as lower Knik Arm, often exceeds 120 dB. Similarly, behavioral reaction and other consequences of noise exposure (duration and frequency) are difficult to predict. For this reason, we describe this PCE in terms of its effect (abandonment of habitat) rather than a finite quantity or level.

Comment 20: NMFS fails to identify the existing empirical data, or explain the science and rationale used in establishing the noise PCE, and must provide this information along with an additional public comment period.

Response: See previous response. The proposed rule stated that empirical data exist on the reaction of beluga whales to in-water noise for harassment and injury, but are lacking regarding reactions such as avoiding certain areas. The NMFS’ 2008 Conservation Plan (pp. 58–60, 66–67) provides a detailed description of the issue of noise and Cook Inlet belugas, and includes references to applicable research and traditional knowledge accounts which support the proposed rule’s assessment of the importance of sound to beluga whales.

Comment 21: NMFS needs to acknowledge that beluga whales have co-existed with anthropogenic noise in Cook Inlet for decades and that there is no information or data to indicate noise is a threat or contributing factor to their abundance.

Response: Our discussion on the effects of noise in the proposed rule is consistent with the 2008 Conservation Plan, which identified noise as a potential threat. That plan presents several reasons why noise may be considered a threat, including the facts that noise is known to cause injury or behavioral changes to beluga whales, and that TEK observations associate diminished presence of belugas with in-water noise. The commenter is correct in stating that no data currently exist to place in-water noise as a contributing factor in the decline of the Cook Inlet belugas.

Comment 22: NMFS needs to provide further specificity and thresholds in its description of the PCEs for this critical habitat.

Response: As discussed above, we defined each PCE as specifically as we could, in light of the best scientific data available. Specific, quantitative threshold values would be useful in the formulation of any PCE (e.g., a PCE is gravel between 3.0cm and 7.0cm in diameter, as opposed to spawning material). We are not aware, and none of the commenters provided sources of, any existing data that would allow for greater specificity in the formation of the PCEs for the Cook Inlet beluga whales than that which we used. The ESA does not require us to conduct field research to obtain such data. In light of the time lines for the designation of critical habitat, such research was not feasible.

Comment 23: NMFS has taken a simplistic approach to designating critical habitat by drawing a line around the primary, currently occupied habitat. NMFS should develop a more discrete approach based on the actual presence of PCEs.

Response: The critical habitat identified in the proposed rule was not developed by drawing lines around the Cook Inlet beluga whales’ currently occupied habitat. To the contrary, large portions of the occupied habitat were not included with the designation because we concluded that those areas do not contain features essential to the Cook Inlet beluga whales’ conservation which may require special management considerations or protection. We determined the critical habitat boundaries by confirming the presence of one or more of the identified PCEs/essential features within the critical habitat area, as required by the ESA. We are not required to designate as critical habitat all areas in which a PCE may occur, only that those critical habitat areas contain one or more of the PCEs.

Comment 24: The presence of the identified PCEs is not uniform throughout Cook Inlet, and NMFS should identify those specific areas that actually contain the important habitat features as critical habitat, rather than the areas in their entirety.

Response: We included in the designation of critical habitat only those critical habitat areas that contain one or more of the PCEs. The distribution of the identified PCEs is not uniform. However, we believe the ESA provides some latitude to the designating agency here. The implementing regulations at 50 CFR 424.12 discuss the criteria for designating critical habitat. Part 424.12(d) states that “When several habitats, each satisfying the requirements for designation as critical habitat, are located in proximity to one another, an inclusive area may be designated as critical habitat.” Many of the identified PCEs occur throughout Cook Inlet and the proposed critical habitat is distributed in large areas near median and high flow waters that may be more discretely distributed, and are also so numerous as to be nearly a continuous feature. It simply would not be practical or effective in the conservation of the Cook Inlet beluga whale to designate its critical habitat by circumscribing discrete, individual areas around the PCEs.

Comment 25: The list of PCEs NMFS has identified implies other elements are not necessary for the conservation and recovery of Cook Inlet beluga whales, leaving important gaps that are critical to these whales. NMFS should include as a PCE waters deeper than 30 feet (9.1m) in depth, or demonstrate these are not “essential.”

Response: While we acknowledge beluga whales are distributed throughout the Inlet, we believe discrete habitat areas exist that are, in fact, “critical” in the sense that they meet the ESA definition and provide an essential feature (e.g., feeding or calving sites) not necessarily found throughout the occupied range of this species/DPS. Further, scientific data, surveys, and TEK provide support for the identification of such discrete areas, but data are lacking which would support the inclusion of all waters of Cook Inlet. The addition of a PCE of waters deeper than 30 feet (9.1m) would likely not result in the inclusion of any additional areas as critical habitat; rather, it would merely confirm the designation of the existing areas. Future revisions to this critical habitat may be made as new scientific data become available that may alter the list of PCEs or the boundaries of this critical habitat.

Comment 26: NMFS has not provided sufficient rationale to support designation of critical habitat in the nearshore area along the west coast of the lower Inlet nor Kachemak Bay. NMFS should only designate those areas along the west side of the Inlet and in Kachemak Bay that actually contain the habitat features important for belugas.

Response: We disagree. The west side of the Inlet and Kachemak Bay contain one or more of the identified PCEs, and the habitat value and importance of Area 2, which includes these areas, are described in the rule. The offshore boundary for Area 2 of 2 nautical miles (3.2km) reflects the data gathered in Goetz et al. (2007), which found the majority of whale locations to be within 2.7 km of mudflats and 11.5 km of medium flow rivers. While the 11.5 km zone around medium flow rivers would argue for an offset similar to that used in the PCE to describe nearshore waters proximate to certain anadromous waters (5 miles, or 8km), we felt that a distance of 2 nautical miles (3.2km) was more reflective of the actual habitat use based upon the Goetz et al. (2007) model,
expertise and observations of NMFS researchers, and the reports and observations of whales in this area by the Alaska Department of Fish and Game, National Park Service, and private parties. Please note also that the 5-mile (8km) distance around these (high and medium flow) anadromous waters describes the PCE, and not the boundary of the critical habitat.

Comment 27: There are discrepancies between the depiction and boundaries of critical habitat within the proposed rule, in that there are differing definitions of Areas 1 and 2 in different sections. The map accompanying the rule was not at sufficient resolution to be useful.

Response: The proposed rule contained several discrepancies in the coordinates and mapping conventions used to describe the boundaries of the critical habitat. Corrections have been made within the final rule. A higher resolution map of this critical habitat will be added to our regional Web site at https://www.fisheries.noaa.gov.

Comment 28: NMFS’ statement that “there remain additional and unmet management needs owing to the fact that none of these management regimes is directed at the conservation and recovery needs of Cook Inlet beluga whales” is objectionable. There is no evidence that supports a lack of effectiveness of any of the management regimes in place in Cook Inlet or that any management or regulatory gap contributed to the endangered listing of Cook Inlet beluga whales, or limits its recovery.

Response: The quoted statement does not assert that the lack of effective management in Cook Inlet contributed to the whale’s listing or limits its recovery. As explained in the proposed rule, the ESA defines critical habitat as areas on which are found those physical or biological features essential to the conservation of the species and which may require special management considerations or protection. For each essential feature we identified, we determined that it may require special management considerations or protection. One of the reasons for this finding is the lack of any existing laws, regulations, or practices that provide for the management or protection of these features for the conservation of Cook Inlet beluga whales. It is therefore foreseeable, if not likely, that through the ESA section 7 consultation process, we will offer recommendations to protect the essential features, which would otherwise remain without such protection, in order to ensure the conservation of the beluga whale. We agree that existing laws and regulations provide some benefit to these whales and to their conservation. We disagree with the statement that the endangered status of these whales is unrelated to a lack of effective management. In fact, we believe much of the decline in this DPS is attributable to unregulated subsistence harvest practices prior to regulation and management of these hunts.

Comment 29: Those areas that do not require special management consideration or protections are not critical habitat and are not to be designated as such under the ESA. Existing state and Federal environmental management and regulatory regimes already protect habitat for beluga whales, justifying a more narrow identification of areas as critical habitat.

Response: We disagree. The definition of critical habitat (16 U.S.C. 1533(5)(A)) requires that the physical or biological essential features may require special management considerations or protection rather than that the area require such protections. Any area may be designated as critical habitat provided it contains one or more of these features, and provided that those features may require special management or protection.

Comment 30: NMFS unjustifiably disregarded comments made during proposed rulemaking identifying the many existing refuges, sanctuaries, state critical habitat areas, legal protections, and mitigative requirements that provide protection to beluga whales and their habitat.

Response: We recognize that many conservation and environmental actions occur through the efforts of the State of Alaska, local governments, and private concerns. These all contribute to a conservation ethic, undoubtedly benefit the Cook Inlet region environment, and can be beneficial to Cook Inlet beluga whales and their habitat. The ESA provides that, when considering a species for listing as a threatened or endangered species, consideration be given to efforts by any State, or any political subdivision of a state, to protect such species. Generally, a species that would otherwise qualify for listing may be excluded from listing if there are formalized conservation efforts that are sufficiently certain to be implemented and effective so as to have contributed to the elimination or adequate reduction of one or more threats to the species identified through a threats analysis conducted pursuant to section 4(a)(1) of the ESA. However, no such provision exists for the designation of critical habitat. If such provisions existed, it would still be difficult to demonstrate they were effective in providing for the conservation of the Cook Inlet beluga whales, as many of these efforts were in place during the periods in which these whales experienced significant declines, leading to the 2008 listing.

The ESA allows for critical habitat not to be designated if such designation would not benefit the species. Congress intended, however, that in most situations NMFS will designate critical habitat at the same time that a species is listed as either endangered or threatened. It is only in rare circumstances where the specification of critical habitat concurrently with the listing would not be beneficial to the species. See H.R. Rep. No. 95–1625 at 17 (1978), reprinted in 1978 U.S.C.C.A.N. 9453, 9467. In this instance, we have determined that the designation of critical habitat for the Cook Inlet beluga whale would be beneficial to the species by providing specific protections against Federal actions that would otherwise destroy or adversely modify that habitat. We also identify other benefits, as discussed in the following comment.

Comment 31: Contrary to statements in the Proposed Rule, section 7 consultations are not a benefit accruing from the action, but will only add additional layers of administrative process without additional effective protections for beluga whales or their habitat.

Response: As our analysis of economic impacts from the proposed designation indicates, many, if not most, of the future consultations on Federal actions pursuant to section 7 of the ESA would otherwise be required because of section 7’s requirement that Federal agencies not take actions that jeopardize the continued existence of the species (the jeopardy standard). However, the characterization of this designation as an additional layer of process ignores the tangible benefits that will accrue from it.

The designation of critical habitat and identification of essential physical and biological features will provide procedural and substantive protections, thereby promoting the conservation of the Cook Inlet beluga whale. Procedurally, the designation of critical habitat will focus future consultations on key habitat attributes and avoid unnecessary attention to other, non-essential habitat features. Designation of critical habitat will also provide clarity to the process by alerting Federal agencies to the specific areas and features that should be considered and addressed during those consultations. The designation also educates the public as well as State and local
governments, and affords them the opportunity to participate in the designation. Substantively, the designation of critical habitat for the Cook Inlet beluga whale establishes a uniform protection plan prior to consultation. In the absence of such designation, the determination of the importance of the whale’s environment would be made piecemeal.

Comment 32: Education and outreach are not justifiable benefits accruing from the proposed designation. In fact, there is concern that this designation will result in a backlash that will undermine conservation efforts generally. NMFS should provide the references for statements regarding the benefits of critical habitat designation as described in the proposed rule, otherwise the list is speculative and should be removed from the final rule.

Response: Education and outreach are qualitative benefits of designation. It is almost certain, however, that the process to date has greatly added to the knowledge of beluga whales and their critical habitat needs within Southcentral Alaska, and probably extending to much larger geographical and societal divisions. We do not believe such education and awareness has been or will be destructive or undermine conservation efforts. Moreover, courts have recognized the education and outreach benefits accruing from the designation of critical habitat. See, e.g., Conservation Council for Hawaii v. Babbitt, 2 F.Supp.2d 1280 (D. Haw. 1998).

Comment 33: One commenter strongly objects to the stated benefit of reduced levels of pollution in Cook Inlet, with associated benefits accruing to a suite of ecological services, culminating in an improved quality of life (in the Cook Inlet region). This statement mischaracterizes Cook Inlet, whose waters offer pristine habitat for beluga whales.

Response: We agree that water quality within Cook Inlet is generally high, and that approximately 98 per cent of the shoreline remains undeveloped. However, any characterization of these waters as pristine might be tempered by the facts that the largest communities in the State exist along its shore, municipal wastes and other effluents from these communities are often discharged into the receiving waters of Cook Inlet, numerous fish plants discharge processing wastes into the Inlet, minor and major fuel spills have occurred here, and offshore oil platforms regularly discharge drilling muds, cuttings, produced waters into the Inlet. We believe it is reasonable to project improvements in pollution as a benefit of critical habitat designation even though a portion of such benefits may be realized in the future.

Comment 34: NMFS should adopt minimum escapement goals for eulachon and salmon. A minimum density of prey is relevant to the intent of designating critical habitat.

Response: While the importance of these prey species to Cook Inlet belugas is supported by stomach analysis of stranded and harvested whales, TEs, fatty acids, and stable isotope analysis, we do not believe sufficient information exists to determine the energetic requirements of Cook Inlet belugas or to adopt escapement levels, and any attempt to do so would be speculative. We anticipate future research will add to our knowledge of the energetic requirements of these whales and allow some insight into prey selectivity, caloric requirements, feeding behavior and speciation, and run strength within tributary waters that may support a determination of prey requirements. At this time, the available information to suggest prey availability is or has been a factor in the decline or is in need of improvement to promote recovery of the Cook Inlet beluga whale. We hope to continue to work with the State of Alaska to ensure these whales are considered in fish management planning for Cook Inlet.

Comment 35: NMFS should delete the term “absence of toxins and other agents” in its PCE concerning toxins, which implies that a pristine environment is essential to the conservation of these whales. NMFS should continue to rely on State and Federal water quality standards until specific agents are identified to be detrimental to beluga whales.

Response: We qualify these terms in the definition of the PCE with the clause “of a type or amount harmful to beluga whales,” which we believe avoids creating the implication described by the commenter. The commenter correctly points out that the current exposure of these whales to various pollutants and tissue analysis have not indicated that Cook Inlet beluga whales carry significant body burdens of many common contaminants and toxins. But beluga whales are top level predators with potential to bio-accumulate toxic substances. Further, the juxtaposition of high densities of Cook Inlet belugas and Alaska’s most populated and industrialized region raises a concern for the introduction of pollutants into the Inlet. We believe a PCE that addresses the essential feature of water quality is required, and the qualification we added to it will avoid unnecessary restrictions on most approved discharges. Existing water quality standards may or may not be protective of marine mammals including small whales. Also, many pollutants with the potential to harm these animals are not currently regulated or addressed under these standards.

Comment 36: The PCE for toxins should reflect concern for the type and amount of a constituent, rather than for a type or amount. One commenter suggests re-wording this PCE as “The absence of non-naturally-occurring toxins or other agents of a type and amount that would kill or injure Cook Inlet beluga whales or cause prolonged abandonment of their critical habitat areas,” providing the rationale that these changes would clarify that Federal agencies are not required to eliminate naturally-occurring harmful substances and replace the vague standard of harm with the effects-based language from PCE number 5 (in-water noise).

Response: While many compounds and agents may be of a type harmful to animals, the actual threat or significance of any exposure is also dependent on their concentrations. We agree with the comment and have changed the wording of the final rule to reflect this. We disagree with the suggested changes to the remainder of this PCE because these qualities or thresholds are more appropriate in defining the condition of this PCE that equates to adverse modification of the critical habitat. That is, while the PCE is generally defined as waters free of harmful substances, adverse modification will occur when an action results in the addition of substances of a type and amount that causes mortality or other consequences impeding the conservation of the whale. Also, some substances occur naturally in the environment (e.g., mercury), but are also a concern regarding anthropogenic introduction into Cook Inlet. Therefore, we chose not to exclude naturally occurring toxins or other agents, as suggested.

Comment 37: The PCE for in-water noise should be changed to read “The absence of in-water noise that results in adverse impacts to the species survival and recovery” because many noise impacts may adversely affect the species but not result in abandonment of habitat.

Response: The commenter’s proposed language attempts to set the threshold for this essential feature or PCE at a level defining adverse modification or destruction of the critical habitat. We disagree with this approach. A PCE describes an essential feature of water quality as water within a certain temperature range. During a section 7 consultation,
we would consider the effects of an action with regard to this PCE and evaluate if those changes would appreciably reduce the conservation value for the species. Defining the PCE to equate to adverse modification would be circular and by-pass this analytical approach. Moreover, the definition espoused by the commenter conflates the standards for jeopardy and adverse modification, a formulation the Ninth Circuit struck down in *Gifford Pinchot Task Force v. U.S. Fish & Wildlife Serv.*, 378 F.3d 1059 (9th Cir. 2004). We have modified the description of this PCE in the final rule to improve clarity.

**Comment 38:** The PCE for in-water noise should be removed. This finding is inconsistent with that made in the final rule to designate critical habitat for the southern resident killer whale (71 FR 69054; November 29, 2006) which found that noise is an effect to the animal and not to its habitat.

**Response:** In our final rule to designate critical habitat for the southern resident killer whale, we lacked sufficient information to include noise as a PCE, but noted that we would continue to consider sound in any future revisions of that critical habitat (71 FR 69054; November 29, 2006). We consider in-water noise to be both an effect on these endangered whales and a habitat attribute. It is clear that noise has the potential to alter behavior in whales in a manner that may have biological significance (i.e., to result in a “take” by harassment or injury). We find that noise (or its absence) is also an important characteristic of the habitat within which these whales exist, and is appropriately identified here as an essential feature. We also agree with our previous rule for the southern resident killer whale that current scientific information is not sufficient to quantify the noise levels that may alter habitat to the extent that whales would abandon such areas. However, neither the ESA nor regulations require quantifiable thresholds to be known before any habitat attribute may be considered an essential feature. Rather, the ESA requires that we designate critical habitat based on the best scientific data available, which we have done. Indeed, the regulations (50 CFR 424.12) describe essential physical and biological features to include generically “Food, water, air, light, minerals” without further quantification.

**Comment 39:** The proposed “noise” PCE does not define or explain what constitutes “abandonment of habitat” and “continuous noise.”

**Response:** Generally, critical habitat includes those areas necessary to conserve the beluga whale, which broadly means those areas that will promote its recovery. To determine the boundaries of critical habitat, we identified the specific areas within the geographical area occupied by the whale at the time it was listed on which are found those physical or biological features essential to the conservation of the whale and which may require special management considerations or protection. This process resulted in a proposed designation and, through the notice-and-comment procedure, we refined the critical habitat designation. Our analysis indicates that the inclusion of areas only where the whales are most concentrated would be too narrow. The critical habitat designation does not include areas outside the geographical area occupied by the species as of 2008 because we do not believe that any such area is essential for the whale’s conservation.

**Comment 40:** Critical habitat should be reduced to areas where the beluga whales are most concentrated and should not include areas of historical use.

**Response:** We received many comments requesting exclusion from critical habitat. These requests concerned excluding navigation corridors, portions of the west and east sides of Cook Inlet, the site of the Knik Arm bridge, the POA, Port Mackenzie, commercial fishing areas, the City of Kenai, Kachemak Bay, and State legislatively-created sites (see below). We prepared an analysis to assess, among other things, the economic impacts attributable to the designation of critical habitat for the Cook Inlet beluga whale. We have determined that, based upon economic impact considerations, there are no proposed critical habitat areas or sites for which the benefits from excluding the area or site outweigh the benefits from designating that area or site. As a result, we have not proposed to exclude any sites on economic grounds. We have not provided a specific response to each individual request that was received and considered here, but we have included responses to all significant issues raised in the comments. We also considered requests for exclusion based on national security and other relevant impacts, and as discussed below, we are excluding a small area connected with the POA from the designation. In light of the impacts to national security, we determined that the benefits of excluding that small area outweigh the benefits of including it.

**Comment 41:** The POA should be excluded from designation in recognition of it being one of nineteen National Strategic Ports whose functions include the mobilization and embarkation of military vessels for quick deployment around the world.

**Response:** We have considered this request and find that, in light of the impacts to national security, the benefits of exclusion outweigh the benefits of designating the POA and a small area adjacent to it as critical habitat. The POA supports certain military functions and requirements which cannot be met elsewhere in the State. While air shipment of goods and materials present some alternatives as far as supply lines to military interests in Alaska, many other demands cannot be met without the support of large supply ships calling at this port facility. The POA also serves as the conduit for all of the jet JP-8 fuel now used at Elmendorf Air Force Base.

We believe that the POA’s function in military readiness and role as a National Strategic Port could be negatively affected by designation it and surrounding waters as critical habitat. Therefore, in keeping with the provisions of the ESA, the POA and waters of Knik Arm in front of the Port (i.e., the navigation channels and turning basin) are not designated as critical habitat. We have determined this exclusion will not result in the whale’s extinction.

**Comment 42:** Any exclusion of the POA for reasons of national security should be strictly limited to military activities, and not extend to non-military activities.
Response: Section 4(b)(2) of the ESA provides that the Secretary of Commerce may exclude “any area” from designation as critical habitat for reasons of national security. We did not find any authority to limit these exclusions to a particular activity or entity. Also, certain non-military functions which support the operational readiness of the port, such as maintenance dredging, could impact military operations if they were delayed or otherwise impacted by designation.

Comment 43: Port MacKenzie is significant to national security in providing the ability to efficiently transfer military units, munitions, and general cargo between land and marine modes, and should be excluded from designation.

Response: Port MacKenzie is not currently identified as a strategic port, nor is it adjacent to military lands, accessed by a major road system, utilized for munitions transfers, or serviced by rail. We received no support for this exemption from the Department of Defense (DOD), and did not find reasonable evidence of the need to exclude Port MacKenzie based on national security interests.

Comment 44: The Department of Defense (DOD) reminds us that Congress has mandated that Fort Richardson and Elmendorf Air Force Base be combined into a single facility by October 2010, and that the proposed landward boundary of critical habitat (Mean Higher High Water) would overlap the seaward military boundaries for these lands, which have been established as Mean High Water. They request clarification on this boundary issue.

Response: Because the areas between mean higher high water (MHHW) and mean high water (MHW) are predominately unvegetated mudflats, and because all lands of Fort Richardson and Elmendorf AFB (now combined, Joint Base Elmendorf-Richardson) are administered under an Integrated Natural Resources Management Plan (INRMP) which we found to provide benefit to Cook Inlet beluga whales, these areas are ineligible for designation as critical habitat. Modifications have been made within the final rule to reflect this change.

Comment 45: The commercial and subsistence fisheries for the Native Village of Tyonek (NVT) should be excluded from critical habitat designation.

Response: We believe the commenter is requesting exclusion of those waters which support commercial and subsistence fisheries in and surrounding the Chuitna River, near the NVT under section 4(b)(2) of the ESA. We have considered economic impacts, impacts to national security, and other relevant impacts, including impacts to tribal interests. We conclude that the benefits of excluding any particular area do not outweigh the benefits of specifying such area as critical habitat, except for a small area associated with the POA which we excluded in light of impacts to national security. We emphasize that where no Federal authorization, permit, or funding is required (i.e., no Federal action exists), the activity is not subject to section 7 of the ESA. Therefore, there would be no section 7 consultations costs associated with that activity. Further, we do not believe impacts to tribal interests indicate that the benefits of excluding the areas that cover the NVT subsistence and commercial fisheries outweigh the benefits of specifying these areas as critical habitat. We have not received comments that indicate tribal interests would be harmed by this action.

Comment 46: The State of Alaska requests exclusion under section 4(b)(2) of the ESA for all legislatively-designated areas, such as refuges, sanctuaries, and critical habitat areas.

Response: We have considered this request. The Secretary of Commerce may use his discretion to exclude areas from critical habitat if the Secretary determines the benefits of such exclusion outweigh the benefits of designation of the area, provided the exclusion would not result in the extinction of the species. The areas in question include the Goose Bay and Anchorage Coastal Refuges, and the Redoubt Bay, Kalgin Island, and Kachemak Bay State Critical Habitat Areas. As stated in an earlier response to comment, we recognize the contribution of such sites to the conservation of the Cook Inlet region, and the direct and indirect benefits they provide to Cook Inlet beluga whales and their habitat. In this case, the State is arguing the benefits we place on including in the designation these legislatively-designated areas be reduced by their existing benefit/value owing to their function in conserving these whales. All of these areas include important ecological and environmental attributes, especially for fish and wildlife. Also, several of these sites include important beluga whale habitats and may have large numbers of beluga whales within their boundaries at various times of the year. Despite the ecological values of these areas and the presence of beluga whales and their habitat, we believe of no such State area whose purpose specifically includes the conservation of beluga whales or their habitat. Moreover, neither the Cook Inlet beluga whale nor its habitat is included on the State of Alaska’s endangered species list. We believe that the benefits from designation, described in this final rule, will accrue to the conservation of the Cook Inlet beluga whale, even in those areas currently protected for other purposes by the State of Alaska, such as refuges and sanctuaries.

We also considered the economic impacts associated with the designation as critical habitat of the State legislatively-designated areas. Our economic analysis indicates that the majority of those impacts are associated with the requirement to consult on Federal actions under section 7 of the ESA. Often times, however, such costs are minimal, because the consultation would already be required because the proposed Federal action has the potential to affect beluga whales. Any Federal action that “may affect” an endangered or threatened species requires consultation, regardless of the existence of critical habitat. Because land use and management plans exist for these sites, and many of these areas are remote, there are fewer Federal actions occurring or proposed here than may be expected outside of these refuges, sanctuaries, and critical habitat areas. We, therefore, do not expect the demand for Federal actions in these sites to increase markedly in the future. Additionally, any costs that may be attributable to critical habitat designation would be unlikely to be borne by the State of Alaska, but rather by the Federal action agency or any private entity proposing work here that requires Federal authorization, permits, or funding. Also, any “costs” such as increased consultation on actions that may impair the function of habitat (critical habitat for beluga whales) in these areas may be viewed as a benefit, rather than a cost, in that it may add to the values for which these areas were established.

Therefore, after considering the economic impacts and other relevant impacts described above, we have determined that the benefits of designation of critical habitat outweigh the benefits of excluding those areas currently designated by the State of Alaska as refuges, sanctuaries, and critical habitat areas from this designation.

Comment 47: NMFS can exclude areas to preserve partnerships and existing protections if the designation risks losing important protection for beluga whales.

Response: The ESA requires that the designation process take into consideration the economic impact “and
any other relevant impact” of specifying an area as critical habitat, but neither the ESA nor the implementing regulations provide clarity on the provisions for the Secretary of Commerce to exclude from designation any areas for which the benefits of exclusion outweigh the benefits from designation. We are not entirely clear as to what is meant by the comment’s reference to critical habitat designation posing risks to existing protective measures. Nonetheless, we believe that the designation will result in an increase in protection or conservation measures.

Comment 48: Electric energy for the Anchorage area is supplied by underwater cables from a generating plant near Beluga, Alaska. The cable field and overlying waters should be excluded from critical habitat as any delays in maintenance or repairs would present significant economic costs and threat to the reliability of the region’s electrical system. The possible requirement to stop water operations if a whale is sighted closer than 2,000 feet would have very negative impacts on cable laying. Similarly, barge operations in support of power generation could be negatively impacted by this designation, and these barge landing areas should also be excluded.

Response: After preparing an economic impact analysis and considering those economic impacts and the ones raised in public comments on the proposed rule, we have determined that the benefits of exclusion do not outweigh the benefits of including any particular area. The economic analysis assesses power generation projects and general commercial activities in the upper Inlet. Thus, we believe the findings in the economic analysis are applicable to this comment. Whenever practicable, the analysis sought to identify the incremental costs unique to critical habitat designation. The analysis found that the impacts from a designation decision will often be co-extensive with the ones from the listing decision. That is, in many instances, costs arising from the need to consult because of the potential to destroy or adversely modify critical habitat will be co-extensive with the costs arising from the need to consult because of the potential to jeopardize the species.

In the specific example the commenter provides (stopping operations when a whale was near the work boat), consultation costs would be entirely attributable to ESA jeopardy considerations stemming from the listing, not critical habitat designation, because the hypothetical scenario involves the direct interaction between a whale and the work activity referenced (i.e., a potential “fake”). This interaction is, in no way, influenced by the designation of critical habitat. In other instances, for example, actively laying submarine cable in Cook Inlet, the incremental cost of evaluating the potential of a proposed action to “destroy or adversely modify” critical habitat during a consultation would be largely indistinguishable from the costs attributable to evaluating that activity’s potential to jeopardize the species. Moreover, the commenter provided no specific information indicating that this work would even require Federal authorization, permits, or funding (i.e., Federal action). Absent a Federal action, the critical habitat designation would not impose section 7 consultation obligations on the commenter’s hypothetical activity. We are aware of no Federal permit requirements to maintain or repair submarine cable, or to operate a barge. Based upon the information provided, we did not find a compelling reason to exclude these areas from critical habitat.

Comment 49: NMFS has not presented sufficient information to justify the inclusion of the lower Inlet areas as critical habitat. Hobbs et al. (2005) is cited as describing dive behavior in winter, yet no such data are reported in that paper. Winter behavior and habitat use may differ from that of summer months, and NMFS habitat models are primarily based on observations during June.

Response: The Proposed Rule incorrectly referenced Hobbs et al. in describing dive behavior; that paper did not include analysis of dive patterns. That work did, however, establish the distribution of tagged beluga whales during winter months as including offshore waters of the mid Inlet which are consistently deeper than those areas typically occupied by whales during the summer. At this time, we do not have a complete understanding of the specific attributes that support winter beluga habitat within Cook Inlet. Because we are required to consider the best scientific data available in designating critical habitat, we reviewed non-systematic sighting reports from State and private sources, aerial surveys of winter beluga distribution, and TEK in assessing the value of the lower Inlet as critical habitat. Also, we believe the use of the southwest Inlet during late summer and fall may be an extension of the feeding behavior (and distribution) which occurs in the upper Inlet as whales take advantage of late spawning returns of coho salmon.

This habitat use and behavior would support the use of the results in Goetz et al. (2007) as descriptive of habitat values in the southwest Inlet. While there is some evidence that beluga whales may be overwintering in an offshore area south of Kalgan Island, these areas were not included as critical habitat because we felt information was not adequate to describe this use or identify any essential features.

Comments for Inclusion

We received many comments recommending additional areas be included in the critical habitat designation. These include all of Cook Inlet, corridors connecting habitat areas, upper and lower Cook Inlet, historically-used areas, Iniskin Bay, the mouths of tributary streams entering the Inlet, the Eagle River Flats firing range, the POA, and Hudson Bay near Churchill, Canada. We have considered all such comments and respond below to the significant issues they raise.

Comment 50: The critical habitat should include important feeding areas at the mouths of the Matanuska River, Knik River, and Cottonwood Creek.

Response: The described boundaries for this critical habitat generally include areas such as these. While there is often a poorly-defined division between Cook Inlet and a tributary stream or river, our proposed river boundaries would extend critical habitat into the lower reaches of many streams. Tidal influence may extend a considerable distance up these tributary waters, but represents areas in which we have very few observations or reports of belugas. We identified several waters where beluga whales are known or suspected to utilize such up-river areas for feeding, and specifically extend critical habitat into these reaches.

Comment 51: Critical habitat must include the habitat of prey species of beluga whales, such as the Susitna River system and other waters above tidal influence.

Response: The ESA requires that critical habitat be located within the geographic area occupied by a species, or within specific areas outside of occupied habitat determined to be essential to the conservation of the species. The areas described are outside the geographic areas occupied by the species at the time of its listing, and in light of the areas we are designating and the best scientific data available, we have determined that the unoccupied areas are not essential to the whale’s conservation. We agree that habitat for prey species such as salmon and eulachon is a necessary component to their existence in the wild, but we do not have adequate scientific information
to identify specific areas that would be essential to the conservation of these beluga whales with respect to habitat values of prey species.

Comment 52: Critical habitat boundaries should be extended to incorporate all of the described range of these whales. Both the nearshore and offshore areas of lower Cook Inlet should be designated as critical habitat.

Response: We carefully considered designation of these areas as critical habitat, but we did not find sufficient justification to do so. These areas have been used by beluga whales in the past, during periods in which their abundance was much higher than today, and beluga whales are still observed in these areas. However, both the current and historical accounts of beluga whales in these areas do not indicate they supported important numbers/concentrations of whales, or that they served important habitat functions. Existing habitat models describe open water values that are likely very important attributes to feeding and, perhaps, calving habitat needs and preference. Such modeling does not indicate high habitat values are present in the areas in the lower Inlet that are not included in the designation. We acknowledge more information is needed to understand the winter habitat needs of the Cook Inlet belugas, and that other areas may be found to be important as new data arrives. But presently, we do not find sufficient support for inclusion of these areas.

Comments To Extend Public Comment

Comment 53: NMFS received several comments and requests to extend or re-open the comment period for this action, or to conduct additional hearings in the State.

Response: On consideration, we believe the public process, which has included the publication of an Advance Notice of Proposed Rulemaking with a 30-day public comment period (74 FR 17131; April 14, 2009), publication of a proposed rule with 60-day public comment period (74 FR 63080; December 30-day extension of the comment period for the proposed rule, and four public hearings held in the major population centers in the Cook Inlet region (Kenai, Soldotna, Wasilla, and Anchorage), was sufficient and proper. Therefore, we have determined not to extend or re-open the comment period, or to hold additional hearings for this final rulemaking.

Comments on the Need To Designate Critical Habitat

Comment 54: Designation of critical habitat was unnecessary, and will not add any meaningful protection to these whales. The regulations at 50 CFR 424.12 provide that critical habitat may not be prudent, and therefore would not be designated, when that designation would not be beneficial to the species. The consultation provisions of the ESA provide reasonable protection to these whales under the jeopardy standard. NMFS has used circular logic in saying the benefit of designating critical habitat is that it will require (Federal agencies) to ensure their actions do not destroy or adversely modify critical habitat. The remaining functional benefit of public education and outreach would be more effectively met through a dedicated public education program rather than the less direct means of designating critical habitat.

Response: We disagree. The ESA provides that critical habitat shall be designated "to the maximum extent prudent and determinable." 16 U.S.C. 1533(a)(3)(A). The ESA does not define "prudent." NMFS/USFWS regulations, however, provide that a designation of critical habitat is not prudent when the "designation of critical habitat would not be beneficial to the species." 50 CFR 424.12(a)(1)(ii). This means that in the rare situation where there is zero benefit from designation, we need not designate. If there is any benefit, we must designate. Congress intended that in most situations the Secretary will designate critical habitat at the same time that a species is listed as either endangered or threatened. It is only in rare circumstances where the specification of critical habitat concurrently with the listing would not be beneficial to the species. See H.R.Rep. No. 95–1625 at 17 (1978), reprinted in 1978 U.S.C.C.A.N. 9453, 9467. See also Enos v. Marsh, 769 F.2d 1363, 1371 (9th Cir.1985) (holding that the Secretary “may only fail to designate a critical habitat under rare circumstances”); Northern Spotted Owl v. Lujan, 758 F.Supp. 621, 626 (W.D.Wash.1991) (“This legislative history leaves little room for doubt regarding the intent of Congress: The designation of critical habitat is to coincide with the final listing decision absent extraordinary circumstances.”).

In short, if there will be any benefit from the designation, we must designate. Even if many consultations will occur because of the combined potentialities that proposed Federal actions will adversely modify critical habitat and jeopardize the species, if some will occur only because of the potential for adverse modification, there still is benefit to the species (see response to comment 54). Further, courts have recognized benefits beyond the need to consult. See Conservation Council for Haw. v. Babbitt, 2 F.Supp.2d 1280, 1288 (D. Haw. 1998) (substantively, the designation establishes a uniform protection plan prior to consultation, and procedurally, the designation educates the public as well as state and local governments, and affords them the opportunity to participate in the designation). We do not believe this situation is the rare one allowing us to avoid the ESA’s strong mandate to designate critical habitat.

As for the arguments that the Marine Mammal Protection Act (MMPA) protection is enough, critical habitat must be designated regardless of whether other laws or provisions arguably provide adequate protection. See Natural Resources Defense Council v. U.S. Dept. of the Interior, 113 F.3d 1121, 1127 (9th Cir. 1991) (“Neither the Act nor the implementing regulations sanctions nondesignation of habitat when designation would be merely less beneficial to the species than another type of protection”). Lastly, while the term “take” includes harm, the USFWS’ definition of harm includes habitat modification, it applies only when such modification “actually kills or injures” the species (50 CFR 17.3). Under section 7 of the ESA, we may find that an action will adversely modify critical habitat and propose reasonable and prudent alternatives without having to also make the higher evidentiary determination that the adverse modification will kill or directly injure the species.

Legal and Regulatory Comments

Comment 55: Existing State and Federal regulation and associated mitigation measures are adequate to protect Cook Inlet beluga whales and the critical habitat designation is not necessary. One commenter also asserts that NMFS has disregarded the information it submitted concerning existing laws and regulations that protect Cook Inlet beluga whales and their habitat. One commenter also asserts that there is no evidence that a lack of effectiveness of any of the management regimes in place in Cook Inlet or that any management or regulatory gap contributed to the endangered listing of Cook Inlet beluga whales or limits its recovery.

Response: The ESA defines critical habitat, in part, as “the specific areas * * * on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection.” 16 U.S.C. 1532(5)(A)(i). The phrase “may require” indicates that critical habitat includes features that
may now, or at some point in the future, be in need of special management considerations or protection. As explained in the proposed rule, we determined that each PCE may require special management considerations or protection. The commenter is correct that certain laws and regulatory regimes already protect, to different degrees and for various purposes, the waters of Cook Inlet and, therefore, to a certain extent, the physical or biological features identified as essential to the conservation of the species. The fact that there are relevant state and Federal regulations which aim to protect these waters and features from a variety of sources and actions indicates that each feature currently is in need of special management considerations or protection. The existing laws and regulations do not, however, ensure that current and proposed actions will not adversely modify or destroy beluga whale critical habitat in Cook Inlet. It is therefore probable, if not likely, that the PCEs essential to the conservation of the Cook Inlet beluga whale will require special management considerations or protection in the future. The consultation process is one mechanism through which we can ensure that those features are afforded such consideration or protection.

With regard to the comment that we disregarded information submitted on existing laws and regulations, we disagree with the commenter because we have considered this information in the proposed rule and in this final rule. Finally, with regard to the comment about whether the lack of effectiveness of any of the current management regimes contributed to the endangered listing, the designation of critical habitat for any listed species does not necessarily indicate that existing laws are responsible for the species’ decline. Similarly, the fact that there are existing laws that protect different aspects of a listed species’ critical habitat does not, per se, preclude the designation of critical habitat. The inquiry is whether there are physical or biological features that are essential to the conservation of the species and which may require special management considerations or protection. Congress envisioned that, except in extraordinary circumstances, the Secretary would designate critical habitat. There are no extraordinary circumstances that would allow us to avoid the designation of critical habitat for the Cook Inlet beluga whale.

Comment 56: The critical habitat designation should not be finalized until pending legal rulings on the status of the Cook Inlet beluga whales are made.

Response: We disagree. The ESA requires us to designate critical habitat concurrently with the listing decision to the maximum extent prudent and determinable (16 U.S.C. 1533(a)(3)(A)(i)). If such designation is not determinable, we may extend the deadline by one year. In the extraordinary situation where the designation of critical habitat is not prudent, we may decide not to do so. See response to comment 54 above. Section 424.12(a)(1) of 50 CFR presents two circumstances when a designation is not prudent, but neither one is applicable here. Accordingly, whichever “pending legal rulings on the status of Cook Inlet beluga whales” the commenter is referring to, they do not constitute cognizable grounds under the ESA for delaying the designation of critical habitat. If the State of Alaska prevails in its lawsuit challenging our decision to list the Cook Inlet beluga whale, we will determine at that time what effect such a ruling has on this final rule.

Comment 57: Because NMFS has not yet complied with all of the applicable directives, such as the National Environmental Policy Act, Executive Order 13211, and Public Law 108–199, the proposed rule is unlawful.

Response: We disagree. We have complied with Executive Orders 13211 and 13175, as modified by Public Law 108–199 (74 FR 63,080, 63,093–94; Dec. 2, 2009). NEPA does not apply to decisions to designate critical habitat. See Douglas County v. Babbitt, 49 F.3d 1495, 1503 (9th Cir. 1995).

Comment 58: NMFS must provide justification for the designation of critical habitat inconsistent with comments provided to it by the State of Alaska and its political sub-divisions.

Response: Section 4(i) of the ESA provides that if the Secretary issues a final regulation which is in conflict with the comments of a State agency, the Secretary must provide a written justification for his failure to adopt regulations consistent with the agency’s comments. We have complied with this section by submitting a letter to the Alaska Department of Fish & Game and the Governor’s Office.

Comment 59: There is a direct Federal nexus with the critical habitat designation through the Magnuson-Stevens Act to anadromous species. These anadromous species include hooligan, smelt, and salmon.

Response: We are uncertain as to what this commenter means by “direct Federal nexus with the critical habitat designation” to the extent that this commenter is referring to potential ESA section 7 consultations, we note that section 7 of the ESA requires each Federal agency, in consultation with NMFS, to ensure that “any action authorized, funded, or carried out” by the agency is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of the species’ habitat (16 U.S.C. 1536(a)(2)). Our regulations provide that action “means all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States or upon the high seas” (50 CFR 402.02). Accordingly, if or when there is a Federal action that may affect a listed species or its habitat, the Federal action agency must consult with NMFS. At this time, we are unaware of any proposed Federal actions pertaining generally to hooligan, smelt, or salmon that would require consultation.

Economic Comment

Comment 60: Many comments suggest that the Draft RIR/4(b)(2)PA/IRFA did not consider changes in development projects stemming from the critical habitat designation, such as added costs and operational and permitting delays to projects resulting from the ESA section 7 consultation process, and the attendant economic consequences. Some comments, such as those by Chugach Electric Association and ConocoPhillips, also estimated the costs associated with these modifications and delays. According to these comments, in addition to the ESA process, project delays could also be caused by environmental lawsuits, once the critical habitat is designated.

Response: The Cook Inlet beluga whale was listed as endangered in October 2008. Since the listing, all Federal agencies have had the obligation to consult with NMFS to ensure that any action authorized, funded, or carried out by them (i.e., Federal action) is not likely to jeopardize the continued existence of the species. Consultations in accordance with this obligation must be conducted in the future, regardless of whether critical habitat is designated. The statute contains timelines for section 7 consultations, and Federal agencies should plan their activities accordingly to avoid delay. Non-Federal entities that require Federal permits for development projects should also be aware of the consultation requirement, and factor the time needed for consultations into their plans and schedules. As consultations are already required under the jeopardy standard, the additional consultation standard of section 7 is only triggered if the designation of critical habitat is not anticipated to result in significant, additional project...
Comment 63: A number of comments assert that, contrary to some perspectives in Alaska, the critical habitat designation will not hamper responsible development. Based on tens of thousands of reviews across the nation on development projects in areas containing endangered species, less than one percent of projects are significantly curtailed, because responsible development and endangered species protection can and do go hand in hand. The vast majority of projects entering the consultation process are resolved informally with a determination that no listed species will be impacted, nor designated critical habitat destroyed or adversely modified. Even where a formal consultation is required in instances of an identified potential threat, the agencies more often than not conclude that no such threat exists, or work with the action agency to design project alternatives. Only in extremely rare instances are projects terminated because of probable impacts on listed species.

The comments further state that critical habitat designation does not affect private activities that do not require Federal permits. Nor is it undertaken in a vacuum: Federal agencies are already required to consult under section 7 of the ESA if their action could jeopardize the continued existence of an endangered or threatened species. Critical habitat designation simply adds another question for the agency to consider as part of the consultation: Whether the Federal agency action could result in the destruction or adverse modification of critical habitat. Any incremental cost of critical habitat designation is, therefore, small and limited.

Response: We agree with the commenters. The economic analysis conducted in support of the Final RIR/4(b)(2)PA/FRFA is based on the same premise as that outlined in these comments.
the costs, resulting in a net gain to society. Impact measures (e.g., income and employment multipliers) reflect relative economic “activity” in a specified locale, relative to a baseline condition.

The commenters have confused these crucial economic concepts. With, for example, specific reference to comments on the FRFA, the purported “costs” identified are not relevant to the traditional cost-benefit analysis. And, with respect to the ESA, we considered the economic impacts cited in these comments, but do not believe that they change the conclusion that the benefits of exclusion (principally monetary) do not outweigh the benefits (economic, ecological, educational, biological) of specifying the areas as critical habitat.

Comment 65: A few comments point out that the proposed critical habitat area overlaps geographically with Alaska’s highest human population density and its primary economic base. Yet, the economic analysis conducted in support of the Draft RIR/4(b)(2)PA/FRFA cites the added costs for evaluating future projects in the proposed critical habitat at a mere $187,000 to $571,000.

Response: Some commenters have expressed concern about the designation of critical habitat in areas of high population density and human activities. The concerns are related to the perceived potential economic costs that may be imposed by critical habitat designation. The Final RIR/4(b)(2)PA/FRFA concludes that the economic cost of critical habitat designation that can be reasonably “monetized,” at present, is estimated to have a discounted net present value of approximately $187,000 to $571,000, assuming a 3 percent real discount rate and 10-year planning horizon; and about $157,000 to $472,000, using a 7 percent real discount rate and 10-year period. “Applicants” associated with section 7 consultations on the various activities that could be potentially impacted are only expected to bear $900 to $3,500 per consultation in administrative costs related to the incremental costs of critical habitat designation for formal consultations, while they are not responsible for any incremental costs related to informal consultation. It is important to recall that section 7(a)(2) of the ESA applies only to Federal actions (i.e., actions authorized, funded, or carried out by a Federal agency). Absent such Federal action, activities undertaken in or adjacent to Cook Inlet are not subject to the provisions of section 7 consultation on critical habitat and with attributable or quantifiable costs or other encumbrances due to the designation of critical habitat. Even for proposed Federal actions, “applicants” associated with consultations on activities such as oil and gas exploration and development, power projects, mining, water quality, port expansion and development, transportation and other infrastructure projects are not expected to bear any significant costs uniquely attributable (i.e., incremental) to the designation of critical habitat for the Cook Inlet beluga whale. Every Federal agency must consult under section 7 of the ESA to ensure that its action will not jeopardize the continued existence of the whale. Formal consultation is required if the proposed action “may affect” the whale (50 CFR 402.14(a)). Whether the consultation may proceed informally, as opposed to formal consultation, will depend on whether the action is likely to adversely affect the species (50 CFR 402.14(b)).

Comment 66: Some commenters point out that the period employed for the analysis, 2009 to 2018, may be insufficient, particularly when dealing with significant resource and community infrastructure operations and development. Firms in these industrial sectors must balance disparate time horizons for capital life, field life, field extension, and field depletion rates that are rarely as short as 10 years.

Response: As mentioned in Section 3.4 of the Final RIR/4(b)(2)PA/FRFA, an interval of 10 years is widely employed in the policy analysis arena. This time-frame allows sufficient scope over which longer-cycle trends may be observed (e.g., progress towards population recovery for the Cook Inlet beluga whale), yet is short enough to allow “reasonable” projections of changes in use patterns in an area, as well as shifts in exogenous factors (e.g., world supply and demand for petroleum, U.S. inflation rate trends) that may be influential.

Comment 67: An independent study commissioned by the Resource Development Council (RDC) asserts that the Cook Inlet beluga whale critical habitat designation has the potential to result in economic impacts on RDC’s members ranging from $39.9 million and $399 million, annually. Over a 10-year period (the length of time utilized by the Draft RIR/4(b)(2)PA/FRFA) the present value of that lost production at a three percent discount rate is claimed to be $340.3 million to $3.4 billion, and at a seven percent discount rate is $280.2 million to $2.8 billion. These numbers are asserted to be conservative and do not account for additional costs. For example, the $400 million-$600 million that the Anchorage Water and Wastewater Utility (AWWU) may be required to spend to upgrade its facilities. According to RDC, even the most conservative estimate of $280.2 million over 10 years, representing an impact of only a one percent reduction in Cook Inlet region output, is sufficiently significant to warrant broad exclusions.

Response: The independent study commissioned by RDC considers potential “impacts” of the proposed critical habitat designation to five key industries: oil and gas, mining, POA, commercial fishing, and sport fishing. Further, qualitative discussions of impacts on other projects/sectors/entities are also provided, though not quantified. These include tourism, Knik Arm Bridge and Toll Authority, community development projects, Anchorage Water and Wastewater Authority (AWWU) discharges, Port McKenzie, vessel traffic, and energy infrastructure.

We reviewed and considered this report. While the RDC’s Economic Analysis states that it “monetizes, quantifies, or qualitatively assesses the incremental costs and benefits to entities directly attributable to the CHD,” it is unclear if the analysis excludes the conservation measures already underway or which may be taken due to the listing of the Cook Inlet beluga whale. Economic impacts from these measures are not attributable to the designation of critical habitat. Further, given the time periods when most of the six studies relied upon in the RDC Economic Analysis for identifying the range of reductions were conducted, the impacts identified are likely co-extensive, not incremental. Therefore, the RDC Economic Analysis appears to significantly over-estimate the economic costs that are attributable to the designation of critical habitat.

In terms of specific study outcomes, the impacts to mining in the RDC Economic Analysis are based on the premise that both the Chuitna Coal Project and the Pebble Project will likely be completed. While this may be true for the Chuitna Coal Project, the Pebble Mine project is in the planning/pre-permitting/pre-development stage, and does not have an approved project description. At this time, there is reasonable uncertainty regarding the likelihood of this project (Pebble Project) occurring at all, let alone within the next 10 years. Also, many AWWU facilities may be required to upgrade for Clean Water Act (CWA) compliance, regardless of the designation of critical habitat for the Cook Inlet beluga whale. These costs, if incurred, are not
attributable to the critical habitat designation.

As noted in response to a previous comment, the misunderstanding and resulting confounding of fundamental concepts of “economic costs and benefits” with “measures of economic activity” (e.g., employment multipliers) has led the commenters to derive vastly inflated projections of the attributable “economic costs” of critical habitat designation. Input/output multipliers do not reflect, and are not equivalent to, economic costs or economic benefits. They are correctly interpreted as location-specific “activity measures” reflecting the rate of turnover and the path of exchange, for example, of a dollar created within the identified economic unit (e.g., county, region, state), before it leaks out into the wider economy. Emphasizing that such relative economic activity impacts are not relevant to the assessment of “net benefits to the Nation,” we did describe and evaluate the temporal and geographical impacts that may accrue to local and economic activity, to the extent practicable.

Comment 68: One commenter has provided suggestions to improve the presentation of results in the Draft RIR/4(b)(2)PA/IRFA as follows:

Regarding the analysis of costs, the overriding conclusion from the [economic] analysis is that impacts on the private sector will be minimal. This point should be highlighted and the public sector costs should be clarified. In particular, Table 7.1 outlining the total costs (all based on “consultation” costs) is misleading. The numbers indicated are for a 10-year period total and that should be represented in the table itself.

Footnote 374 is crucial to the analysis and yet unfortunately is buried. It should be part of the main text. The only discount rate is 3 percent as the “social discount rate,” because this is a public/social policy choice. This is accepted practice in the economics profession. If total costs are averaged over the 10-year period, they only come out to between $18,700 to $57,000 per year.

In Section 7 of the Draft RIR/4(b)(2)PA/IRFA, there is no statement of the methods used to calculate costs. Once more, these are national averages only.

Response: We appreciate the suggested improvements, and considered them when we completed the Final RIR/4(b)(2)PA/FRFA.

Comment 69: A handful of comments assert that lost development opportunities resulting from the critical habitat designation will result in declines in both State and local tax revenue, and reduce the number of jobs. An example cited is that of Alaska’s already struggling oil and gas operations, where hundreds of oil field workers and professionals have been laid off in recent months. The comment asserts that critical habitat designation will have a further crippling effect on such industries.

Response: As stated in more detail in response to an earlier comment and in the Final RIR/4(b)(2)PA/FRFA, the designation of critical habitat is not anticipated to hamper development in the vicinity of Cook Inlet, and thus would not result in declines in State and local tax revenues nor lost jobs. The additional costs incurred by industry that can be reasonably monetized at present and are uniquely attributable to the critical habitat designation, would be the negligible third party costs of section 7 consultations (i.e., $900 to $3,500 per consultation in administrative costs related to the incremental costs of critical habitat designation; no costs to industry incurred for informal consultations). The project modifications and associated costs that may be requested, expressly due to consultation over potential destruction or adverse modification of critical habitat, are anticipated to be minimal and rare, given that most of any such modifications would already be required under ESA section 7’s jeopardy standard. Moreover, the nature of any such modification is speculative and, as a result, whether the modification ultimately increases or decreases project costs (and, by how much) cannot be determined at this time.

Comment 70: Comments by the Chugach Electric Association, Inc. and the Resource Development Council of Alaska, Inc. point out that the Draft RIR/4(b)(2)PA/IRFA does not mention the existing high voltage submarine cable fields that cross Knik Arm, connecting the Anchorage area, as well as the Kenai Peninsula, to Chugach’s existing generation plant near the Beluga gas fields. These cables must be maintained and occasionally replaced. Chugach spelled out for NMFS the potential economic impact of any delays in maintaining and repairing those cables, explaining that these delay-related costs are in addition to any administrative costs associated with ESA consultation, and any increased costs incurred by Chugach in altering its projects to benefit the whales.

Response: As discussed in more detail in response to previous comments regarding exclusion of cable fields and overlying waters from the critical habitat designation, we are not aware of any Federal actions in connection with the maintenance or repair of submarine cables, and the commenters have not indicated the existence of such Federal action. Therefore, absent Federal action, the proposed critical habitat designation would impose no compliance requirements (e.g., no delays, direct or indirect costs) on maintaining, repairing, or occasionally replacing submarine cables in Cook Inlet.

Comment 71: One comment states that while the Draft RIR/4(b)(2)PA/IRFA analyzed cost impacts of critical habitat designation for two other tidal energy projects, it should be revised to include the potential costs of critical habitat designation to the Turnagain Arm Tidal Energy Generation project, as well. The Turnagain Arm Tidal Energy Corporation filed an application with the Federal Energy Regulatory Commission (FERC) on November 17, 2009, for a preliminary permit to study the feasibility of a tidal energy generation system on the Turnagain Arm of Cook Inlet.

Response: The Final RIR/4(b)(2)PA/FRFA analyzed economic impacts of critical habitat designation on projects that are reasonably likely to occur during the 10-year period of analysis. In November 2009, the Turnagain Arm Tidal Energy Corporation filed for a preliminary permit pursuant to section 4(f) of the Federal Power Act, proposing to study the feasibility of the Turnagain Arm Tidal Energy Generation project. According to the December 4, 2009 Federal Register document, “the sole purpose of a preliminary permit, if issued, is to grant the permit holder priority to file a license application during the permit term. A preliminary permit does not authorize the permit holder to perform any land disturbing activities or otherwise enter upon lands or water owned by others without the owners’ express permission.” Therefore, while it appears from the proposed project description that the project, if approved, may affect the whale’s critical habitat, the project is still sufficiently ill-defined, presumably undergoing design and feasibility assessments, that further progress towards development and submission of the next series of applications remain in pre-permitting stages. Absent more definitive design, siting, and construction information, it would be impossible to do more than offer uninformed speculation on the interaction, if any, between this potential development and designated critical habitat and whether the project may also affect the whale, requiring a consultation under section 7 due to the listing of the whale as an endangered...
species. As such, it is not considered among the impacts contained in the Final RIR/4(b)(2)/PA/FRFA’s analysis.  

Comment 72: One comment states that Section 7.7 of the Draft RIR/4(b)(2)/PA/IRFA did not analyze the Mt. Spur Geothermal Power Plant because a decision to go forward with the plant has not been made. Further, Table 6–28 of the Draft RIR/4(b)(2)/PA/IRFA describes the status of the project as “pre-decisional, go no place, no permits have been requested.” The comment further states that given Ormat Technologies’ (the major lease holder for the Mt. Spur Geothermal development) better record of success than any of the tidal energy companies whose projects were analyzed in the Draft RIR/4(b)(2)/PA/IRFA, Section 7.7 should be revised to include the potential costs of critical habitat designation to the project.  

Response: As per Sections 6.4.7 and 7.7 of the Final RIR/4(b)(2)/PA/FRFA, based on the best scientific data available, Ormat Technologies was reviewed, but determined not to have a connection with the critical habitat. In light of the fact that Ormat Technologies will have to submit a site design and transmission line corridor proposal and get the necessary permits, and secure funding to develop this project, any analysis of the economic impacts to the potential project arising exclusively from the designation of critical habitat would be highly speculative.

Comment 73: A commenter notes that Section 6.4.7 of the Draft RIR/4(b)(2)/PA/IRFA states that the Chakachamna Hydropower Plant project was reviewed, but determined not to have a connection with the critical habitat designation, due to its inland location and lack of physical connection with Cook Inlet. However, the project description clearly describes the project’s planned measures to protect salmon, which are designated as a PCE of the critical habitat. The project would discharge water flow from the facility into the MacArthur River near its confluence with Cook Inlet. The power transmission lines may need to cross the MacArthur River, and potentially Cook Inlet, to reach Anchorage or the Kenai Peninsula. Chakachamna Power has identified the North Forelands Dock and Industrial Area as its logistics base for construction and operation of this project, which would result in an increase in vessel traffic through this area. A preliminary permit application for this project was filed with FERC on December 10, 2009. Because this project may affect a small portion of Cook Inlet beluga whales’ habitat, but is highly unlikely to jeopardize the existence of the whales, project modification costs should be estimated. Section 7.7 of the Final RIR/4(b)(2)/PA/IRFA should be reviewed to include the potential costs of critical habitat designation to the Chakachamna Hydropower Plant project.  

Response: Based on the project description provided in the preliminary permit application for this project, filed with the Federal Energy Regulatory Commission (FERC) on December 10, 2009, the Chakachamna Hydropower Plant project is located inland of Cook Inlet, including the proposed transmission lines that would connect to the Chugach Electric Association’s Beluga substation, which is also inland of Cook Inlet. The commenter has not provided any supporting information or empirical documentation to indicate a clear physical connection of the project with the waters of Cook Inlet, the beluga whale, or its critical habitat. If, as the commenter asserts, the North Forelands Dock and Industrial Area is proposed as the construction staging site and permit authorizations are sought for that activity, a section 7 consultation may be required. Given currently available information, however, no conclusive determination of critical habitat designation can be made; thus, the potential economic impact to the potential Chakachamna Hydropower Plant project is not analyzed in the Final RIR/4(b)(2)/PA/IRFA.

Comment 74: One comment by Chugach Electric Association notes that the Draft RIR/4(b)(2)/PA/IRFA acknowledges NMFS’ obligation under Executive Order 13211, regarding “Actions Concerning Regulations that Significantly Affect Energy Supply. Distribution, or Use,” to evaluate the impact of critical habitat designation on energy supply. However, the Draft RIR/4(b)(2)/PA/IRFA appears to be devoid of any such analysis.


Comment 75: Two comments state that the proposed designation of critical habitat to protect beluga whales in the Cook Inlet does not describe the economic impacts of the designation on the North Slope to Lower 48 through Canada gas pipeline project (also referred to as Alaska natural gas transportation project), nor how impacts of the designation on the economic, environmental, energy, and national security interests of the nation, relative to this project, which Congress has endorsed, were taken into consideration and balanced in accordance with Section 4 of the ESA.

Response: Research conducted by NMFS through the development of the Final RIR/4(b)(2)/PA/FRFA revealed that the proposed North Slope to Lower 48 through Canada gas pipeline project, if permitted, would not affect the Cook Inlet beluga whales’ critical habitat. No new information or empirical documentation has been provided by the commenter with which to evaluate how the project would impact the critical habitat or vice versa.

Comment 76: A commenter notes that the Draft RIR/4(b)(2)/PA/IRFA should analyze the Alaska North Slope Natural Gas Development Authority (ANGDA) spur pipeline to Cook Inlet. ANGDA is planning a $2 billion pipeline to divert a portion of the gas from the North Slope to Lower 48 through Canada pipeline project to Cook Inlet, to replace dwindling local reserves and provide processed natural gas liquids for export from a to-be-developed facility, through Cook Inlet. This pipeline would run from Delta, through Glennallen, to the Beluga gas facility near Wasilla.

Response: Section 6.4.1 of the Final RIR/4(b)(2)/PA/FRFA discusses the subject proposed pipeline, referred to as Beluga to Fairbanks Natural Gas Pipeline Project. Potential impacts to this project are included in Table 6–28. Comment 77: Two comments state that Ecopeta Oil’s Kitchen Lights Unit project to bring a jack-up rig to the Cook Inlet this spring and drill the #1 Kitchen Lights Unit by the Federal Government, it will lose its significant investment in Alaska, and the State of Alaska and its people will also lose a long-term supply of natural gas and the jobs and revenues created from the Kitchen Lights Unit development program. Further, should an oil and gas company desire to perform the costly...
proposition of drilling an offshore well in the Cook Inlet with this designation, it will have to budget millions of dollars for additional consultations, duplicative permits, delays, legal fees, and litigation—without any guarantee of drilling the first well.

Response: Section 6.4.1 and 7.1.1 and Table 6–28 of the Final RIR/4(b)(2)PA/FRFA discuss the status and impacts to Escopeta Oil’s Kitchen Lights Unit. Additional research conducted by NMFS reveals that the Kitchen Lights Unit project has a history of delays due to the company not being able to fulfill several commitments required not only for technically exploring its prospects, but also for meeting the legal terms of the State of Alaska’s oil and gas leases. The latest available information suggests that, as part of its agreement with the State of Alaska to hold onto its Kitchen Lights leases, Escopeta Oil has to drill an exploration well in the unit by the end of 2010. However, following the proposed designation, the company asked the State of Alaska in a December 16, 2009, letter to guarantee no Federal interference in the company’s Cook Inlet oil and gas drilling activities planned for 2010 (Petroleum News, December 20, 2009). The State did not offer such a guarantee (Petroleum News, December 27, 2009). It is anticipated that, while the project’s potential to affect critical habitat could trigger the section 7 consultation process and may result in project modifications, there is no evidence suggesting that the potential loss of initial investment in Cook Inlet activities by the company due to the project being put on hold is attributable to the designation. Future economic impacts may arise from the need to consult under section 7 to avoid jeopardy and/or to avoid destroying or adversely modifying critical habitat. However, the commenter did not present any evidence indicating that there would be impacts attributable only to the critical habitat designation, nor when in the future such renewed activity might be expected.

Response: Research conducted by NMFS suggests that Enstar’s Enstar Natural Gas, is now being coordinated by the Alaska Governor’s office. The preparation of an Environmental Impact Statement has been initiated. Given that the project alternatives have not been finalized yet, it is unclear whether the pipeline itself will reach the waters of Cook Inlet; however, it is possible that some associated facilities may be located in the vicinity. Because the project is in such preliminary stages, what activities it may stimulate in Cook Inlet and how those activities would be impacted by the designation of the beluga whales’ critical habitat is too speculative for consideration in the economic analysis.

Comment 79: The Tyonek Native Corporation states that impacts of the proposed critical habitat designation on the following two projects should be considered in the analysis:

The Corporation is developing plans to mine and export high quality aggregate from its North Forelands Dock and Industrial Area using the existing adjacent pier, which would require modification (see http://www.tyonek.com/Presentations/tnc-wci08.pdf). According to the commenter, the project would result in increased vessel traffic through this area. This project is expected to have a total construction cost of approximately $20 million.

Alaska Natural Resources to Liquids recently completed a $1.5 million preliminary feasibility study with the help of the Alaska Industrial Development and Export Authority (see http://www.aidea.org/PDF%20files/BelugaCTLoverview9-20-06.pdf) on the Beluga Coal to Liquids Plant. Plans call for using coal from the Chuitna coal fields to produce 80,000 barrels per day of diesel and naphtha for U.S. West Coast markets. In addition, the facility would produce jet fuel and petrochemical feedstocks. This fuel would be shipped out of the existing North Forelands Dock, which would require modification, and result in increased vessel traffic through this area. This project is expected to have a total construction cost, including supporting infrastructure, of approximately $12 billion.

Because these projects may affect a small portion of Cook Inlet beluga whale habitat, but are highly unlikely to jeopardize the existence of the whales, project modification costs should be estimated. The Corporation has requested that Sections 6.4.2, 7–2, and 9–2–1.1 and the Draft RIR/4(b)(2)PA/IRFA be revised to include the potential cost impacts of critical habitat designation to these projects.

Response: The commenter has not provided sufficient information regarding the current stages of the projects, or the likelihood of these occurring in the next 10 years, with which to conduct an evaluation of the economic impacts on these project proposals from the designation of critical habitat. Even if the projects were reasonably likely to occur during the time period under analysis, the modification of the North Forelands Dock would require a Federal permit, likely from the U.S. Army Corps of Engineers (ACOE), which would likely trigger a section 7 consultation (possibly two—one for each project). The consultation could be formal if the dock modification requires pile driving or informal otherwise. However, the costs associated with the consultation to ensure that the project does not destroy or adversely modify critical habitat would be co-extensive with those arising from the consultation to ensure that the project does not jeopardize the whales’ existence. Such consultation is required if a Federal action may affect the endangered Cook Inlet beluga whale (50 CFR 402.14).

As for the increase in vessel traffic, it would be considered an indirect, interrelated, or interdependent action under the consultation. Given that it is unclear at this point if the increase in vessel traffic associated with the projects would create enough noise to cause abandonment of habitat, the increased vessel traffic would likely raise questions concerning whether the action would result in takings of the whale. Accordingly, economic impacts associated with the consultation over that action would be co-extensive between the jeopardy and destruction/adverse modification of critical habitat standards.

Comment 80: A commenter notes that the proposed critical habitat designation is likely to have a significant impact on exploration for and production of natural gas in the Cook Inlet region, which could directly affect the cost of electricity to Chugach Electric Association’s customers. Chugach generates most of its electricity from natural gas produced in the Cook Inlet region. Designating the upper half of Cook Inlet, South to below Kalgan Island, as beluga whale critical habitat sweeps in all of the existing offshore oil and gas fields in the Inlet. This is likely to have an impact on all future oil and gas exploration in the region. The Draft RIR/4(b)(2)PA/IRFA contains no meaningful discussion of the impact this will have on future oil and gas
exploration and development in Cook Inlet, and no discussion of the resulting impact on the cost of electricity in the Railbelt region, where most of Alaska’s population is located. These economic impacts should have been part of the Draft RIR/4(b)(2) PA/IRFA. When these costs are given their proper weight, it should be readily apparent that the potential benefits to the whales of an unfocused and overly broad critical habitat designation are outweighed by the resulting economic impacts.

Response: As has been explained in more detail in responses to other similar comments above, oil and gas exploration activities are already required to comply with ESA section 7’s jeopardy standard due to the listing of Cook Inlet beluga whale. It is the additional economic impacts that stem from the designation of critical habitat that comprise the economic impacts of section 7 consultations analyzed pursuant to section 4(b)(2) of the ESA.

The comment suggests that future oil and gas development in Cook Inlet will be adversely impacted by the critical habitat designation, with resulting costs imposed on electricity users throughout the Railbelt region of Alaska, in the form of (implicitly) higher costs. We do not agree with these assertions for the following reasons. First, the incremental cost uniquely attributable to the critical habitat designation as it pertains to project review within Cook Inlet has been demonstrated to be very small. Economic impacts arising from the need to consult under section 7’s jeopardy standard are not considered to be economic impacts arising from the designation of critical habitat. After review of the best scientific data available regarding the status of the beluga whale and the nature of the reasonably foreseeable Federal actions in and around Cook Inlet, we concluded that a substantial portion of the economic impacts associated with the designation of critical habitat are co-extensive with those arising from the listing decision. Second, the empirical data and commercial information (much of which is cited by numerous commenters referenced above) suggest that supplies of gas in Cook Inlet are nearing exhaustion. This conclusion is also evidenced in the marketplace by the several competing proposals to supply North Slope gas to the Cook Inlet region via pipeline. If, as asserted by the region’s oil and gas industry sector representatives (see submitted comments on gas pipelines and critical habitat designation, above), tens of millions to hundreds of millions of dollars have been invested by several competing interests in efforts to build a gas delivery system to “move available gas into the Cook Inlet region” in response to dwindling local supplies, it appears that the marketplace and nature of supply and demand are having, and will continue to have, significant economic impacts on future Cook Inlet gas exploration.

Comment 81: Several comments state that the proposed designation of the entire Cook Inlet as critical habitat for the beluga whale creates an additional stigma towards future exploration and development in the Cook Inlet region. The negative impact created by this designation creates an anti-development stigma that is contrary to the national energy policy and prejudices Alaska’s ability to responsibly explore and develop its natural resources for the benefit of all Alaskans.

Potential investors may withdraw their support for projects in the Cook Inlet region because of increased project costs. The additional costs include: compliance costs, litigation costs related to suits initiated by NGOs, and perhaps the greatest of all, lost opportunity costs resulting from loss of investment. The evaluation of the economic costs of critical habitat must include a complete evaluation of these factors by independent investigators from outside the agencies involved in the listing and habitat designation process.

Response: While substantial areas of Cook Inlet are proposed for inclusion in this designation action, critical habitat does not extend to the entire inlet. Indeed, the vast majority of the lower inlet is not proposed for inclusion. We cannot speculate on “stigma” or “loss of investor interest” as no empirical evidence or analysis of such effects for Cook Inlet exists. Moreover, as our economic impact analysis indicates, most of the economic impacts on future natural resource exploration and development in Cook Inlet arising from ESA compliance requirements would exist even without the designation of critical habitat.

Comment 82: A number of commenters note that the proposed critical habitat designation may affect barge and vessel activity in Cook Inlet, resulting in impacts to their projects. Critical habitat designations could increase costs by requiring observers on board, decrease efficiency by setting speed limits or time and area restrictions, and ultimately raise the cost of all goods, and subsequent services, paid for by Alaskans. Any shipping delays will have particularly significant consequences for this area, because vessels are affected by tides, and delays are compounded by the fact that Anchorage has minimal storage capacity for goods and must carefully coordinate shipping schedules. Certain planned projects are anticipated to significantly increase vessel traffic, and commenters request these impacts be included in the Draft RIR/4(b)(2) PA/IRFA.

Response: Section 7 of the ESA does not apply generically to vessel movement or activity. As explained previously, section 7’s consultation requirements apply only when there is a Federal action (actions authorized, funded, or carried out by a Federal agency). The designation of critical habitat for the Cook Inlet beluga whale is not anticipated to require any additional restrictions on barge and vessel movement, above and beyond any such restrictions already being imposed following section 7 consultations to avoid jeopardy.

Generally, where a proposed Federal action will result in increases in vessel traffic, such increases are considered indirect effects or arising from interrelated or interdependent actions under section 7 consultation regulations (50 CFR 402.02). Given that it is unclear at this point if the potential increases in vessel traffic associated with projects in Cook Inlet could create enough noise to result in the abandonment of critical habitat areas, the increased vessel traffic, if it were to represent a concern, would likely be considered a take issue. Accordingly, the economic impacts from that consultation would be attributable to the listing of the whale as an endangered species.

Comment 83: Some comments suggest that in order to conform to the critical habitat designation, the Anchorage Water and Wastewater Authority (AWWU) must upgrade its sewage treatment plant, which would cost between $400 million and $1 billion. This could potentially triple Anchorage residents’ wastewater bills. Nowhere is this reflected or accounted for in the Draft RIR/4(b)(2) PA/IRFA, which is clearly contrary to the requirements of the ESA.

Response: Sections 6.4.6 and 7.6 and Table 6–28 of the Final RIR/4(b)(2) PA/FRFA describe the potential costs of the proposed critical habitat designation to AWWU. The costs that can appropriately be attributed to critical habitat designation are anticipated to stem solely from a formal section 7 consultation. It is expected that in compliance with the CWA, AWWU may be required by the Environmental Protection Agency (EPA) to upgrade its John Asplund Wastewater Treatment Plant (AWWTP) to meet national wastewater discharge standards. The compliance exemption for the facility
has expired and EPA is currently reviewing the facility’s operating permit. Therefore, any resulting cost associated with the upgrade or improvement of the plant to meet CWA mandates would not be attributable to the designation of Cook Inlet beluga whale critical habitat.

Comment 84: One comment notes that the City of Kenai operates a wastewater treatment plant at the mouth of the Kenai River. The permitted discharge is into Cook Inlet. We expect, but cannot confirm, that the City will have to comply with new effluent standards, as a result of the designation. The cost of plant upgrades could range from $250,000 to $500,000,000.

Response: The Final RIR/4(b)(2)PA/FRFA discusses the Kenai Wastewater Treatment Facility in Section 6.4.6. The facility is considered a major discharger under EPA standards. As discussed in the response to the previous comment regarding John Asplund WWTP, any required upgrades to the facility in order to comply with CWA standards would not be attributable to the critical habitat designation.

Comment 85: One commenter states that there is increasing demand for coal in Pacific Rim countries. After many years of lackluster demand in the export coal market, prospects are looking better for development of a coal export business, and Cook Inlet could play a key role in that development. Critical habitat designation in the Port MacKenzie area and for the shipping lanes through upper Cook Inlet could be a serious impediment to coal and other export opportunities. Clearly, there are many opponents to coal development, and critical habitat designation would provide them with a powerful tool to hamper and potentially stop coal and other bulk commodity exports, with no corresponding benefit to the beluga whales.

Response: As explained above, the designation of critical habitat for the Cook Inlet beluga whale is not anticipated to require any additional restrictions on barge and vessel movement in Cook Inlet, above and beyond those already being imposed following section 7 consultations to avoid jeopardy.

Comment 86: Several comments suggest that the proposed critical habitat designation could affect tourism in Southcentral Alaska. Holland America Cruise Lines is planning to bring numerous cruise ships into the POA and Homer. Future moorings by the industry could be decreased or eliminated as a result of the habitat designation. Subsequently, decrease in the number of visitors to Southcentral Alaska could transpire as limitations are placed on sport fishing, sightseeing cruises, and other operations. Local communities will be significantly impacted through decreased bed and rental taxes.

Response: As discussed in an earlier response, the POA is not included in the proposed critical habitat designation because of impacts to national security. Therefore, future moorings at POA are not likely to be affected by the designation of critical habitat for the Cook Inlet beluga whale.

Comment 87: A large number of comments provided both written letters and orally during the public hearings assert they place a very great value upon, and derive substantial personal utility and enjoyment from, watching Cook Inlet beluga whales and having the opportunity to interact with the species in a wild environment. Further, some commenters made special note of the need to preserve this experience for future generations.

Response: We acknowledge these comments on the benefits accruing to area residents, tourists, and other visitors to Cook Inlet, and the value experienced by those interested in maintaining for future generations the opportunity to encounter the Cook Inlet beluga whale in its native habitat in such close proximity to a large population center. We provided an extensive treatment of the theoretical foundations, technical considerations, and empirical methodologies that have been developed and applied to quantitatively measure and evaluate economic benefits attributable to non-market use and passive-use values, as reflected in these comments. We believe that the designation of critical habitat will play a major role in ensuring the conservation of the Cook Inlet beluga whale to the benefit of current and future generations.

Comment 88: Several comments question the benefits of the proposed critical habitat designation (due to preserving the natural beauty of Cook Inlet) in attracting and retaining workers, and in adding value to visitors who recreate in the area. Concern is expressed that benefits in retaining workers are hypothetical and that Cook Inlet is one of the most pristine areas of the United States, such that workers would not reasonably be affected by the proposed critical habitat designation in their location decision. One commenter also suggested that these benefits can only be realized if there are jobs present that enable people to live and work in the Cook Inlet area.

Response: We have documented that quality of life factors, including environmental quality and recreation opportunities, enter into employee and business location decisions (see Love and Crompton, 1999; Florida, R., 2000; Granger and Blomquist, 1999). To the extent that the proposed critical habitat designation preserves the environmental quality, natural resource amenities, and recreation opportunities in Cook Inlet, visitors and residents alike will benefit. It is not known how the incremental improvement in environmental quality, due to the proposed critical habitat designation, will affect the ability of any particular business or industry to attract and retain employees; hence, the Final RIR/4(b)(2)PA/FRFA notes that these benefits are likely to be “relatively small” and are not quantified in the analysis. Regarding job growth, recreation and tourism industries depend on aesthetic amenities, environmental quality, access to fish and wildlife (e.g., fishing, hunting, viewing, photographing), etc., and it is precisely these aspects and attributes that are expected to benefit due to the proposed critical habitat designation in Cook Inlet.

Comment 89: Several comments expressed concern about the lack of quantification of benefits of the proposed critical habitat designation. According to some comments, this leads to an overstatement of speculative or hypothetical benefits, and an arbitrary and biased conclusion that the proposed critical habitat designation results in a net benefit to the Nation. Additional concern is expressed that the net benefit finding is not replicable, and that there is no evidence or factual basis for these benefits. One comment also notes that well-being, as a measure of benefit, is ill-defined, and questions what ‘goods and services’ would be provided to the public due to the proposed critical habitat designation that would increase well-being. Other comments assert that, by not quantifying benefits, the analysis understates the benefits of the proposed critical habitat designation.

Response: The principal benefit of the proposed critical habitat designation is the avoidance of destruction or adverse modification of the critical habitat of the Cook Inlet beluga whale, supporting the conservation and recovery of this endangered species, as provided for under the ESA. These benefits are biological. Ancillary economic, socioeconomic, cultural, educational, and procedural benefits are also expected to accrue, associated with the designation and related preservation and possible incremental improvement of the inlet’s environmental quality.

Quantifying economic benefits requires identifying the net change in environmental amenities and service
flows, such as air quality, water quality, or fish and wildlife populations (among others), specifically attributable to, in this instance, the proposed Cook Inlet beluga whale critical habitat designation. While the degree of biological, environmental, and economic benefit is not readily amenable to quantification, it is known that relatively small changes in environmental quality and wildlife abundance can provide significant economic benefits (also referred to as increased well-being or utility) through both use and non-use values. Evidence of these types of values is documented in the Final RIR/4(b)(2)PA/FRFA. Thus, while it is not possible to monetize, or even quantify these benefits, the best economic data available provide substantial evidence that the magnitude of anticipated benefits outweigh the anticipated costs. This is supported by the fact that we have determined, based upon the best scientific data available, the incremental cost attributable to the proposed critical habitat designation is likely small, relative to the expected benefits.

Comment 90: Several comments note that NMFS has stated it has little specific empirical information with which to predict how consultations initiated by critical habitat considerations might lead to any particular project modification, yet the stated primary benefit in the Draft RIR/4(b)(2)PA/IRFA of critical habitat is the requirement for consultations to ensure that action agency actions do not modify or destroy critical habitat. These comments assert that NMFS has not shown how the measurable improvement would be attributable to the proposed critical habitat designation and, thus, lacks a factual basis for estimating benefits. Similarly, several comments note that it is important to distinguish the incremental benefits of the proposed critical habitat designation from the baseline benefits of listing the Cook Inlet beluga whale, as well as other existing management and regulatory requirements.

Response: The comments are correct that we have stated that the primary benefit of critical habitat designation is the biological benefit that will accrue from consultations that result in avoiding or minimizing adverse modification or destruction of critical habitat. As stated in the Final RIR/4(b)(2)PA/FRFA, “The primary driver for benefits from [the critical habitat designation] is a potential change in the quality or condition of the critical habitat absent the critical habitat designation.” Critical habitat designation is, fundamentally, an action to promote the conservation of the species. Ancillary economic, socioeconomic, educational, procedural, cultural, and aesthetic benefits (among others) also accrue from the critical habitat designation, contributing to the aggregate benefit measure. While the exact number of affected projects and the precise types of project modifications that may be uniquely attributable to the critical habitat designation (and not the listing of the Cook Inlet beluga whale) cannot be known, we reasonably assume that whatever modifications occur, they will contribute to the conservation of Cook Inlet beluga whales and generate biological benefits that yield associated economic value.

We agree that, in assessing the benefits arising from the designation of critical habitat, we must focus on those incremental benefits that are uniquely attributable to the designation and not to the endangered listing. Our analysis endeavored to distinguish between such incremental and co-extensive benefits.

Comment 94: Numerous comments emphasize the social and cultural importance of the beluga whale to the region, as indicated by the naming of places, such as Beluga Lake, in the region and the traditional ways that are centered on the Cook Inlet beluga whale. Several comments indicate that the dollar value of the social and cultural benefits is very high.

Response: The Final RIR/4(b)(2)PA/FRFA discusses the cultural use and passive use importance of the Cook Inlet beluga whale and notes such examples as the traditional subsistence and cultural harvesting by Alaska Native groups, the naming of places, public educational displays, numerous technical and popular books, and the utility accruing to individuals from the knowledge that Cook Inlet beluga whales persist within their natural habitat in Cook Inlet. Cultural use values are recognized as real and potentially significant benefits deriving from the proposed critical habitat designation, but have not been estimated in dollar terms, owing to the complexity, high cost, and controversy associated with estimation of such values. Cultural values have been asserted by some to be unique to each group of people and, as such, do not readily lend themselves to monetary approximation. Similarly, cultural passive use values are not quantified, as there are not appropriate studies available upon which to base rigorous, quantitative estimates.

Comment 95: A number of comments note that it is important to distinguish the incremental benefits of the proposed critical habitat designation from the baseline benefits of listing the Cook Inlet beluga whale, as well as other existing management and regulatory requirements.

Response: The volume of public comments received on the Draft RIR/4(b)(2)PA/IRFA indicates the level of public awareness of this process and the potential for education and outreach benefits. Furthermore, the consultation process, itself, serves to increase...
awareness and sensitivity in design, execution, and operation of proposed projects.

Comment 94: Several comments note that the Alaska tourism industry, including activities such as whale watching, are important to the Alaskan economy and may benefit from the proposed critical habitat designation. These comments note that tourists are attracted to Alaska because of the scenic beauty and wildlife viewing opportunities, and protecting these assets has direct economic benefit.

Response: As noted in the Final RIR/4(b)(2)PA/FRFA, numerous peer-reviewed studies, such as those referred to in the comments, which provide estimates that provide nonmarket value of species and habitat. As discussed in Appendix A of the Final RIR/4(b)(2)PA/FRFA, we have determined that the values from these studies are not directly applicable to the Cook Inlet beluga whale, beyond confirming that non-market and passive-use values exist with respect to the designation of critical habitat for the Cook Inlet beluga whale.

Response: There are numerous peer-reviewed studies, such as those referred to in the comments, which provide estimates that provide nonmarket value of species and habitat. As discussed in Appendix A of the Final RIR/4(b)(2)PA/FRFA, we have determined that the values from these studies are not directly applicable to the Cook Inlet beluga whale, beyond confirming that non-market and passive-use values exist with respect to the designation of critical habitat for the Cook Inlet beluga whale.

Response: The Executive Order stipulates that market values attributable to Cook Inlet beluga whale critical habitat designation, including studies from Japan, regarding the value of beluga whales, a study on the benefits of expanding California’s sea otter population, and a study of the benefits of designating critical habitat for the lynx. Another comment asserted that “benefits transfer” estimation techniques can be applied to the estimation of non-market values attributable to Cook Inlet beluga whale critical habitat designation, using a value function.

Response: Non-market valuation of species, habitats, and environmental amenities is an accepted and standard practice in the economics profession and endorsed for use by Federal agencies, when and where market prices do not exist. According to Office of Management and Budget guidelines for economic analysis of Federal regulations under Executive Order 12866, all benefits to society should be measured in cost-benefit analyses of Federal regulations, including non-market benefits that are not traded directly in the marketplace. The Executive Order stipulates that estimation of the monetary value of goods or services indirectly traded in the marketplace (such as whale watching trips and scenic views from residential homes) should be based on willingness-to-pay valuation methodology, using actual market transactions where possible. For goods that are not traded directly or indirectly in the marketplace, the Executive Order recommends the use of contingent-valuation methods to estimate economic value. At present, no such empirical studies have been completed for the Cook Inlet beluga whale or its critical habitat. We have, however, initiated just such an analysis. Its results are not expected to be available for several years. Until that time, it must suffice to observe that non-market, non-use, and passive-use economic values represent relevant, and very often significant, aspects of the benefits deriving from Federal actions pertaining to ESA listings and critical habitat designation. These estimation techniques, such as the contingent valuation method, have been reviewed and approved by peer review scientific panels and sanctioned by Federal courts.

Comment 96: A few comments cite additional economic studies that could be used to develop value estimates of the proposed critical habitat designation, including studies from Japan, regarding the value of beluga whales, a study on the benefits of expanding California’s sea otter population, and a study of the benefits of designating critical habitat for the lynx. Another comment asserted that “benefits transfer” estimation techniques can be applied to the estimation of non-market values attributable to Cook Inlet beluga whale critical habitat designation, using a value function.

Response: There are numerous peer-reviewed studies, such as those referred to in the comments, which provide estimates that provide nonmarket value of species and habitat. As discussed in Appendix A of the Final RIR/4(b)(2)PA/FRFA, we have determined that the values from these studies are not directly applicable to the Cook Inlet beluga whale, beyond confirming that non-market and passive-use values exist with respect to the designation of critical habitat for the Cook Inlet beluga whale.

Response: There are approaches to quantitatively estimating the value of critical habitat designation, such as outlined in Kroeger (2004), a study referenced in the comments. Kroeger outlined a meta-analysis approach (which is regression analysis of several studies’ results) for determining the per-acre net benefits for critical habitat conservation for lynx habitat conservation areas. Kroeger points out that generating benefit transfer estimates through meta-analysis could be error prone, if the studies used in the meta-analysis differ from the study site in perceived resource quality. Another study recommended in the comments used a meta-analysis approach to derive the benefits to California households of an increased southern sea otter population. Based on existing valuation literature on the species (and other rare and endangered species), this study estimates the non-market benefits of the species itself. This study thus values species based on population increases, rather than habitat designation. This differs from the policy context for estimating benefits of beluga whale proposed critical habitat designation, as there are no quantitative estimates available for how the proposed critical habitat designation will affect Cook Inlet beluga whale population estimates.

Cultural values of species habitat conservation inherently differ by culture. Values derived in Japan, while an indicator of potential value, are not used in this analysis.

Comment 97: Several comments concern the assumptions regarding the current environmental conditions in Cook Inlet, or regarding the effects of the proposed critical habitat designation on environmental conditions. Specifically, some comments assert that the analysis erroneously assumes that degradation of habitat is inevitable in the absence of the proposed critical habitat designation, while others allege that the analysis mistakenly assumes that the proposed critical habitat designation will improve the quality of the natural environment in Cook Inlet, or to the benefit of the species. The aim of the critical habitat designation is to bring about the conservation of the Cook Inlet beluga whale through the creation of the benefits described above. The analysis does assume that, in the absence of the designation, the risk of degradation is unacceptably high and that through consultations the risk of degradation otherwise occurring in connection with Federal actions in Cook Inlet will be reduced.

Critical Habitat

4(b)(2) of the ESA requires us to designate critical habitat for threatened and endangered species “on the basis of the best scientific data available and after taking into consideration the economic impact, the impact on national security, and any other relevant

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impact, of specifying any particular area as critical habitat. This section also grants the Secretary of Commerce (Secretary) discretion to exclude any area from critical habitat if he determines “the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat.” The Secretary’s discretion is limited, as he may not exclude areas that “will result in the extinction of the species.”

The ESA defines critical habitat under section 3(5)(A) as: “(i) the specific areas within the geographical area occupied by the species, at the time it is listed * * *, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed * * * upon a determination by the Secretary that such areas are essential for the conservation of the species.”

Once critical habitat is designated, section 7 of the ESA requires Federal agencies to ensure they do not fund, authorize, or carry out any actions that will destroy or adversely modify that habitat. This requirement applies along with the section 7 requirement that Federal agencies ensure their actions do not jeopardize the continued existence of listed species.

Physical and Biological Features Essential for Conservation

ESA section 3(5)(A)(ii) defines critical habitat to include those “specific areas within the geographical area occupied by the species at the time it is listed * * * on which are found those physical or biological features * * * (I) essential to the conservation of the species and (II) which may require special management considerations or protection.” Joint NMFS/FWS regulations for listing endangered and threatened species and designating critical habitat at section 50 CFR 424.12(b) state that the agency “shall consider those physical and biological features that are essential to the conservation of a given species and that may require special management considerations or protection” (also referred to as “Essential Features” or “Primary Constituent Elements”).

Pursuant to the regulations, such requirements include, but are not limited to, the following: (1) Space for individual and population growth, and for normal behavior; (2) food, water, air, light, minerals, or other nutritional or physiological requirements; (3) cover or shelter; (4) sites for breeding, reproduction, rearing of offspring, germination, or seed dispersal; and (5) habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of a species. These regulations go on to emphasize that the agency shall focus on essential features within the specific areas considered for designation. These features “may include, but are not limited to, the following: roost sites, nesting grounds, spawning sites, feeding sites, seasonal wetland or dryland, water quality or quantity, geological formation, vegetation type, tide, and specific soil types.”

Scientific research, direct observation, and TEK indicate fish are the primary prey species of the Cook Inlet beluga whale, and that certain species are especially important. This importance may be due to feeding strategies of the whales, physical attributes of the prey (e.g., size), the caloric value of the prey, the availability of the prey, and the life-history aspects of the whales, among other considerations. Two fish species that are highly utilized by Cook Inlet beluga whales are king (Chinook) salmon and Pacific eulachon (hooligan). Both of these species are characterized as having very high fat content, returning to the upper Inlet early in the spring, and having adult (spawning) returns which occupy relatively narrow timeframes during which large concentrations of fish may be present at or near the mouths of tributary streams. Analysis of stomach contents and research of fatty acid signatures within beluga blubber indicate the importance of other species of fishes and invertebrates to the diets of these whales. The most prominent of these are other Pacific salmon (sockeye, chum, and coho), Pacific cod, walleye pollock, saffron cod, and yellowfin sole. Beluga whales are also known to feed on a wide variety of vertebrate and invertebrate prey species. However, the aforementioned fish species occupy a prominent role in their foraging and energetic budgets and are considered essential to the beluga whales’ conservation.

NMFS research has considered the distribution of the Cook Inlet beluga whale and its correlations with behavior, habitat function, and physical parameters (Goetz et al. 2007). While these whales are highly mobile and capable of ranging over a large portion of Cook Inlet on a daily basis, in fact they commonly occupy very discrete areas of the Inlet, particularly during summer months. These areas are important feeding habitats, whose value is due to the presence of certain species of prey within the site, the numbers of prey species within the site, and the physical aspects of the site which may act to concentrate prey or otherwise facilitate feeding strategy. In upper Cook Inlet, beluga whales concentrate offshore from several important salmon streams and appear to use a feeding strategy which takes advantage of the bathymetry in the area. The channels formed by the river mouths and the shallow waters act as a funnel for salmon as they move past waiting belugas. Dense concentrations of prey may be essential to beluga whale foraging. Hazard (1988) hypothesized that beluga whales were more successful feeding in rivers where prey were concentrated than in bays where prey were dispersed. Fried et al. (1979) noted that beluga whales in Bristol Bay fed at the mouth of the Snake River, where salmon runs are smaller than in other rivers in Bristol Bay. However, the mouth of the Snake River is shallower, and hence may concentrate prey.

Research on beluga whales in Bristol Bay suggests these whales preferred certain streams for feeding based on the configuration of the stream channel (Frost et al., 1983). This study theorized beluga whales’ feeding efficiencies improve in relatively shallow channels where fish are confined or concentrated. Bathymetry and fish density may be more important than sheer numbers of fish in beluga whale feeding success. Although beluga whales do not always feed at the streams with the highest runs of fish, proximity to medium to high flow river systems is also an important descriptor in assessing importance to feeding habitats. Research has found beluga whale distribution in Cook Inlet is significantly greater near mudflats and medium and high flow accumulation rivers. (These waters were categorized in Goetz et al. (2007) using a digital elevation model, similar to drainage basins. A complete list of these waters may be found on our Web site http://www.fakr.noaa.gov/). Beluga whales are seldom observed near small flow tributaries.

Cook Inlet beluga whales are preyed upon by killer whales, their only known natural predator. We have received reports of killer whales throughout Cook Inlet, and have responded to several instances of predation within Turnagain Arm, near Anchorage.

Given the small population size of the Cook Inlet beluga whale, predation may have a significant effect on beluga whale recovery. In addition to directly reducing the beluga whale population, the presence of killer whales in Cook Inlet may also increase stranding events. We consider killer whale predation to
be a potentially significant threat to the conservation and recovery of these whales. Beluga whales may employ several defense strategies against killer whale predation. One strategy is to retreat to shallow estuaries too shallow for the larger killer whales. These areas might also provide acoustical camouflage due to their shallow depths, silt loads, and multiple channels.

Because of their importance in the Cook Inlet beluga whales’ feeding strategy, as predator escape terrain, and in providing other habitat values, we consider “mudflats,” identified here as shallow and nearshore waters proximate to certain tributary streams, to be a physical feature essential to the conservation of the Cook Inlet beluga whale.

For purposes of describing and locating this feature, and after consultation with the author of the model presented in Goetz et al. (2007), we determined spatial extent of this feature may best be described as being within the 30-foot (9.1-m) depth contour and within 5 miles (8.0 km) of medium and high flow accumulation rivers. These accumulation rivers are also waters with populations of anadromous fish that are important prey to Cook Inlet belugas.

It appears Cook Inlet beluga whales have lower levels of contaminants stored in their bodies than other populations of belugas. Because these whales occupy the most populated and developed region of the state, they must compete with various anthropogenic stressors, including pollution. These whales often occur in dense aggregations within small nearshore areas, where they are predisposed to adverse effects of pollution. Beluga whales are apex predators, occupying the upper levels of the food chain. This predisposes them to illness and injury by biomagnification of certain pollutants. Another population of beluga whales found in the Gulf of St. Lawrence in Canada is characterized by very high body burdens of contaminants. There, high levels of PCBS, DDT, Mirex, mercury, lead, and indicators of hydrocarbon exposure have been detected in beluga whales. These substances are well-known for their toxic effects on animal life and for interfering with reproduction and resistance to disease. Many of these contaminants are transferred from mother to calf through nursing.

Given present abundance levels, the impact of any additional mortalities to the extinction risk for this DPS, the sensitivity of these whales to certain pollutants, their trophic position and biomagnifications, the fact that large numbers of Cook Inlet beluga whales typically occupy very small habitats, and that their range includes the most populated and industrialized area of the state, we consider water quality to be an important aspect of their ecology, and essential to their conservation within both areas 1 and 2.

Cook Inlet beluga whales do not occupy an extensive range, and are not known to undertake migrations. Within their occupied range, however, these whales move freely and continuously. The range of the Cook Inlet beluga whale is neither biologically nor physically uniform. It ranges between shallow mudflats, glacial fjords, deep waters with marine salinities, vegetated shallows of predominantly freshwaters, and areas of the upper Inlet in which heavy ice scour, extreme tidal fluctuations, high silt content, low temperatures, and high turbidity work to limit any intertidal or persistent nearshore organisms. Beluga whales have adapted here by utilizing certain areas over time and space to meet their ecological needs. While much remains to be understood of their ecology and basic life history, it is apparent a large part of their movement and distribution is associated with feeding. Feeding habitat occurs near the mouths of anadromous fish streams, coinciding with the spawning runs of returning adult salmon. These habitats may change quickly as each species of salmon, and often each particular river, is characterized as having its individual run timing. Calving habitat is poorly described, but may depend on such factors as temperatures, depths, and salinities. Predator avoidance may be a very important habitat attribute, and is likely to exist only in shallows within Turnagain and Knik Arms of the upper Inlet. Causeways, dams, and non-physical effects (e.g., noise) can interfere with whale movements. It is essential to the conservation of Cook Inlet beluga whales that they have unrestricted access within and between the critical habitat areas.

Beluga whales are known to be among the most adept users of sound of all marine mammals, using sound rather than sight for many important functions, especially in the highly turbid waters of upper Cook Inlet. Beluga whales use sound to communicate, locate prey, and navigate, and may make different sounds in response to different stimuli. Beluga whales produce high frequency sounds which they use as a type of sonar for finding and pursuing prey, and likely for navigating through ice-laden waters. In Cook Inlet, beluga whales must compete acoustically with natural and anthropogenic sounds. Man-made sources of noise in Cook Inlet include large and small vessels, aircraft, oil and gas drilling, marine seismic surveys, pile driving, and dredging.

Anthropogenic noise above ambient levels may cause behavioral reactions in whales (harassment) or mask communication between these animals. The effects of harassment may also include abandonment of habitat. At louder levels, noise may result in temporary or permanent damage to the whales’ hearing. Empirical data exist on the reaction of beluga whales to in-water noise (harassment and injury thresholds) but are lacking regarding levels that might elicit more subtle reactions such as avoiding certain areas. Noise capable of killing or injuring beluga whales, or that might cause the abandonment of important habitats, would be expected to have consequences to this DPS in terms of survival and recovery. We consider “quiet” areas in which noise levels do not interfere with important life history functions and behavior of these whales to be a necessity. Therefore, we consider the assurance of in-water noise levels that do not cause beluga whales to abandon or fail to access important critical habitat areas, such as foraging sites at river mouths, to be an essential feature. This feature is found in both areas 1 and 2.

Based on the best scientific data available of the ecology and natural history of Cook Inlet beluga whales and their conservation needs, we have determined the following physical or biological features are essential to the conservation of this species:

1. Intertidal and subtidal waters of Cook Inlet with depths less than 30 feet (MLLW)(9.1 m) and within 5 miles (8 km) of high and medium flow anadromous fish streams.

2. Primary prey species consisting of four species of Pacific salmon (Chinook, sockeye, chum, and coho), Pacific eulachon, Pacific cod, walleye pollock, saffron cod, and yellowfin sole.

3. Waters free of toxins or other agents of a type and amount harmful to Cook Inlet beluga whales.

4. Unrestricted passage within or between the critical habitat areas.

5. Waters with in-water noise below levels resulting in the abandonment of critical habitat areas by Cook Inlet beluga whales.

One or more of these features is found or identified within the designated critical habitat.

Special Management Considerations or Protection

An occupied area may be designated as critical habitat only if it contains...
physical and biological features that “may require special management considerations or protection.” It is important to note the term “may require special management considerations or protection” refers to the physical or biological features, rather than the area proposed as critical habitat. Neither the ESA nor NMFS regulations define the “may require” standard. We interpret it to mean that a feature may presently or in the future require special management considerations or protection. 50 CFR 424.02(j) defines “special management considerations or protection” to mean “any methods or procedures useful in protecting physical and biological features of the environment for the conservation of listed species.” We considered whether the PCEs identified for Cook Inlet beluga whales may require special management considerations or protection. In our initial determination, we considered whether there is: (a) Presently a negative impact on the feature(s); (b) A possible negative impact on the feature in the future; (c) Presently a need to manage the feature(s); or (d) A possible need to manage the feature(s) in the future.

Intertidal and subtidal waters of Cook Inlet with depths less than 30 feet (MLLW)(9.1 m) and within 5 miles (8 km) of high and medium flow anadromous fish streams support important beluga feeding habitat because of their shallow depths and bottom structure which act to concentrate prey and aid in feeding efficiency by belugas. The physical attributes of this PCE could be modified or lost through filling, dredging, channel re-alignment, dikes, and other structures. Within navigable waters, the ACOE has jurisdiction over these actions and structures and administers a permit program under the Rivers and Harbors Act and CWA. In establishing these laws, it was the intent of the U.S. Congress to regulate and manage these activities. The CWA was created to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters. Section 404 of the CWA regulates the discharge of fill materials into these waters, noting concerns with regard to water supplies, shellfish beds, fishery areas, and spawning and breeding areas. The intent of Congress to protect these features indicates that they may require special management considerations or protection. Further, through the ESA section 7 consultation process, we may identify reasonable and prudent measures to minimize impacts to these features.

Four species of Pacific salmon (Chinook, sockeye, chum, and coho), Pacific eulachon, Pacific cod, walleye pollock, saffron cod, and yellowfin sole constitute the most important food sources for Cook Inlet beluga whales as identified through research and as held by the traditional wisdom and knowledge of Alaska Natives who have participated in the subsistence hunting of these whales. Stomach analysis of Cook Inlet beluga whales has found these species constitute the majority of consumed prey by weight during summer/ice free periods. All of these species are targeted by commercial fisheries, and some are prized by sport fishermen. The recognition of harm due to overexploitation and the need for continued management underlie the efforts of the state and Federal government to conserve these species. The fisheries in State waters of Cook Inlet are managed under various management plans. In addition to commercial fisheries, State plans manage subsistence, sport, guided sport, and personal use fisheries. Federal fisheries management plans provide for sustainable fishing in Federal waters of lower Cook Inlet. These regulatory efforts indicate that these four fish species may require special management considerations or protection.

Cook Inlet is the most populated and industrialized region of the state. Its waters receive various pollutant loads through activities that include urban runoff, oil and gas activities (e.g., discharges of drilling muds and cuttings, production waters, treated sewage effluent discharge, deck drainage), municipal sewage treatment effluents, oil and other chemical spills, fish processing, and other regulated discharges. The EPA regulates many of these pollutants, and may authorize certain discharges under their National Pollution Discharge Elimination System (section 402 of the CWA). Management of pollutants and toxins is necessary to protect and maintain the biological, ecological, and aesthetic integrity of Cook Inlet waters. Accordingly, ensuring the absence of toxins or other agents of a type or amount harmful to beluga whales may require special management considerations or protection.

Certain actions may have the effect of reducing or preventing beluga whales from freely accessing the habitat area necessary for their survival. Dams and causeways may create physical barriers, while noise and other disturbance or harassment might cause a behavior barrier, whereby the whales reach these areas with difficulty or, in a worst case, abandon the affected habitat areas altogether due to such stressors. Most in-water structures would be managed under several on-going Federal regulatory programs (e.g., CWA). Regulation for behavior barriers is less clear. Any significant behavioral reaction with the potential to injure whales may be prohibited under the provisions of the ESA and MMPA. However, it is unclear whether these two acts could manage this proposed feature in the absence of designation of critical habitat and recognition of this PCE. The unrestricted passage within or between critical habitat areas may require special management considerations or protection.

We have discussed the importance of sound to beluga whales, and concern for man-made noise in their environment. There exists a large body of information on the effects of noise on beluga whales. Research on captive animals has found noise levels that result in temporary threshold shifts in beluga whale hearing. Based on this research and empirical data from beluga whales in the wild, we have established in-water noise levels that define when these animals are harassed or injured. We consider the threshold for acoustic harassment to be 160 dB re: 1 μPa for impulsive sounds (e.g., pile driving) and 120 dB re: 1 μPa for continuous noise. No specific mechanisms presently exist to regulate in-water noise, other than secondarily through an associated authorization. Even then, there is some question whether the authorizing state, local, or Federal agency has the authority to regulate noise. Because of the importance of the ability to use sound to Cook Inlet beluga whales, the in-water noise essential feature is clearly one that may require special management considerations or protection.

While these PCEs are currently subject to the aforementioned regulatory management, there remain additional and unmet management needs owing to the fact that none of these management regimes is directed at the conservation and recovery needs of Cook Inlet beluga whales. As a result, through the ESA section 7 consultation process, we may identify reasonable and prudent measures designed to minimize impacts to the PCEs. This supports the finding that each of the identified PCEs “may require special management considerations or protection.”

Specific Areas Within the Geographical Area Occupied by the Species

We previously identified the range of Cook Inlet belugas as of the time of listing (74 FR 63080; December 2, 2009).
to be waters of Cook Inlet north of a line from Cape Douglas to Cape Elizabeth. We reviewed all available information on Cook Inlet beluga whale distribution, habitat use and requirements, and features essential to the conservation of these whales. Within the occupied geographical area we identified two specific areas that contain essential physical or biological features (Areas 1 and 2).

**Area 1:** Area 1 encompasses 1,909 square kilometers (738 sq. mi.) of Cook Inlet northeast of a line from the mouth of Three mile Creek to Point Possession. This area is bounded by the Municipality of Anchorage, the Matanuska-Susitna Borough, and the Kenai Peninsula borough. The area contains shallow tidal flats and river mouths or estuarine areas, and it is important as foraging and calving habitats. Mudflats and shallow areas adjacent to medium and high flow accumulation streams may also provide for other biological needs, such as molting or escape from predators (Shelden et al., 2003). Area 1 also has the highest concentrations of beluga whales from spring through fall as well as the greatest potential for adverse impact from anthropogenic threats.

Many rivers in Area 1 habitat have large eulachon and salmon runs. Two such rivers in Turnagain Arm, Twenty-mile River, and Placer River are visited by beluga whales in early spring, indicating the importance of eulachon runs for beluga whale feeding. Beluga whale use of upper Turnagain Arm decreases in the summer and then increases again in August through the fall, coinciding with the coho salmon run. Early spring (March to May) and fall (August to October) use of Knik Arm is confirmed by studies by Funk et al. (2005). Intensive summer feeding by beluga whales occurs in the Susitna delta area, Knik Arm, and Turnagain Arm.

Beluga whales have been regularly sighted in Cook Inlet were in Knik Arm (Rugh et al., 2000, 2005). The Chickaloon Bay area also appears to be used by beluga whales throughout the year.

Beluga whales are particularly vulnerable to impacts in Area 1 due to their high seasonal densities and the biological importance of the area. Because of their intensive use of this area (e.g., foraging, nursery, predator avoidance), activities that restrict or deter use of or access to Area 1 habitat could reduce beluga whale calving success, impair their ability to secure prey, and increase their susceptibility to predation by killer whales. Activities that reduce anadromous fish runs could also negatively impact beluga whale foraging success, reducing their fitness, survival, and recovery. Furthermore, the tendency for beluga whales to occur in high concentrations in 1 habitat predisposes them to harm from such events as oil spills.

**Area 2:** Area 2 consists of 5,891 square kilometers (2,275 square miles) of less concentrated spring and summer beluga whale use, but known fall and winter use areas. It is located south of Area 1, and includes nearshore areas along the west side of the Inlet and Kachemak Bay on the east side of the lower inlet.

Area 2 is largely based on dispersed fall and winter feeding and transit areas in waters where whales typically occur in smaller densities or deeper waters. It includes both near and offshore areas of the mid and upper Inlet, and nearshore areas of the lower Inlet. Due to the role of this area as probable fall feeding areas, Area 2 includes Tuxedni, Chinitna, and Kamishak Bays on the west coast and a portion of Kachemak Bay on the east coast. Winter aerial surveys (Hansen, 1999) sighted belugas from the forelands south, with many observations around Kalgan Island. Based on tracking data, Hobbs et al. (2005) document important winter habitat concentration areas reaching south of Kalgan Island.

Beluga whales have been regularly sighted at the Homer Spit and the head of Kachemak Bay, appearing during spring and fall of some years in groups of 10 to 20 individuals (Speckman and Piatt, 2000). Beluga whales have also been common at Fox River Flats, Muddy Bay, and the northwest shore of Kachemak Bay (NMFS unpubl. data), sometimes remaining in Kachemak Bay all summer (Huntington, 2000).

Deeper mid Inlet habitats may also be important to the winter survival and recovery of Cook Inlet beluga whales.

**Unoccupied Areas**

Section 3(5)(A)(ii) of the ESA defines critical habitat to include specific areas outside the geographical area occupied by the species at the time of listing only if the Secretary determines that they are essential for the conservation of the species. Section 3(1) of the ESA defines conservation as “the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary.” NMFS’ ESA regulations at 50 CFR 424.12(e) state that the agency “shall designate as critical habitat areas outside the geographical area presently occupied by a species only when a designation limited to its present range would be inadequate to ensure the conservation of the species.” We are not including the unoccupied areas because there is no information available indicating that any such area may be essential to the conservation of the species.

**Activities That May Be Affected**

Section 4(b)(8) of the ESA requires that we describe briefly and evaluate, in any proposed or final regulation to designate critical habitat, those activities that may destroy or adversely modify such habitat, or that may be affected by such designation. A wide variety of activities may affect critical habitat and, when carried out, funded, or authorized by a Federal agency, require consultation under section 7 of the ESA. These same activities may also be affected by the designation. Such activities include: Coastal development; pollutant discharge; navigational projects (dredging); bridge construction; marine tidal generation projects; marine geophysical research; oil and gas exploration, development, and production; DOD activities; and hydroelectric development. We do not propose to include in critical habitat any manmade structures and the land on which they rest within the described boundaries that were in existence at the time of designation. While these areas would not be directly affected by designation, they may be affected if a Federal action associated with the area/structure (e.g., a discharge permit from the EPA) might have indirect impacts to critical habitat.

We assessed those actions that may destroy or adversely modify this critical habitat by considering recent agency guidance on conducting adverse modification analyses. Here we apply the statutory provisions of the ESA, including those in section 3 that define “critical habitat” and “conservation,” to...
determine whether a proposed action might result in the destruction or adverse modification of critical habitat. We have not relied on the regulatory definition of “destruction or adverse modification” at 50 CFR 402.02 because that definition has been struck down by courts. See Gifford Pinchot Task Force v. U.S. Fish & Wildlife Serv., 378 F.3d 1059 (9th Cir. 2004). As discussed in our economic report on this designation, each action is reviewed on a case-by-case basis. Without knowledge of, or ability to predict, the specifics of a particular action or activity, it is not possible to list all those that may adversely modify critical habitat. Depending on the specific details of any action, any of the aforementioned activities that may affect critical habitat might also result in its adverse modification.

**ESA Section 4(a)(3)(B)(i) Analysis**

The ESA was amended by the National Defense Authorizations Act for Fiscal Year 2004 (Pub. L. 108–136) to address the designation of military lands as critical habitat. ESA section 4(a)(3)(B)(i) states: “The Secretary shall not designate as critical habitat any lands or other geographical areas owned or controlled by the DOD, or designated for its use, that are subject to an integrated natural resources management plan prepared under section 670a of this title [section 101 of the Sikes Act], if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation.”

The Eagle River Flats Impact Area (ERFIA), a military live-fire practice range on Joint Base Elmendorf-Richardson, near Anchorage, provides training in artillery such as mortars. While the boundaries for the ERFIA (i.e., the MHHW line) do not overlap with the proposed critical habitat, the firing range includes the lower reaches of Eagle River which could have been included in the designation (similar to the Susitna and Little Susitna Rivers). Research by the DOD has documented beluga whale use, including feeding behavior, within this portion of Eagle River. Having consulted with the U.S. Army Garrison, Alaska, and reviewed its 2007–2011 INRMP, we have determined and set forth in writing here that the plan provides benefit to the Cook Inlet beluga whale. The INRMP establishes coordination and consultation mechanisms with NMFS on issues which may affect Cook Inlet beluga whale. Specific measures to reduce potential harm due to military actions on the garrison. Some of these benefits include restrictions on access to habitat areas utilized by beluga whales, mitigation measures to reduce potential harassment or injury to beluga whales from activity at the ERFIA, and implementation of research programs regarding the habitat use of Cook Inlet belugas in and adjacent to DOD property at Joint Base Elmendorf-Richardson, Alaska. For the foregoing reasons, we have determined pursuant to section 4(a)(3)(B)(i) that the beluga habitat areas occurring here (specifically: within the ERFIA) do not qualify as critical habitat.

In response to the ANPR, we received a request from the U.S. Air Force to exempt other portions of Joint Base Elmendorf-Richardson from the designated critical habitat. The Air Force sought this exemption based on the existence of an INRMP, consistent with Public Law 108–136.

The landward boundary of critical habitat (MHHW) would overlay the seaward military boundaries for Joint Base Elmendorf-Richardson, which have been established as MHW. Because the areas between MHHW and MHW are predominately unvegetated mudflats at relatively high elevations (or shallow depths) rarely used by beluga whales, and because all lands of Joint Base Elmendorf-Richardson are administered under an INRMP which we found to provide benefit to Cook Inlet beluga whales, these areas were also determined to be ineligible for designation as critical habitat.

**ESA Section 4(b)(2) Analysis**

Section 4(b)(2) of the ESA states that the Secretary must designate and revise critical habitat on the basis of the best scientific data available after taking into consideration the economic impact, the impact on national security, and other relevant impacts of specifying any particular area as critical habitat. The Secretary of Commerce may exclude an area from critical habitat if he determines that the benefits of such exclusion outweigh the benefits of specifying such area as critical habitat, unless he determines that failure to designate that area would result in the extinction of the species. In making that determination, the legislative history is clear that the Secretary has broad discretion regarding which factors to use and how much weight to give any factor. Because the authority to exclude is discretionary, exclusion is not required for any area. The section 4(b)(2) considerations are more fully described in the proposed rule. In the following section we address the issues relevant to our determinations under this section.

**Economic Analysis**

We conducted an analysis of the economic impacts of the proposed designation of critical habitat for the Cook Inlet beluga whale, under the mandates of the ESA, Executive Order 12866, Regulatory Flexibility Act, and other applicable law. Each prescribes the analytical frame-of-reference, methodology, interpretive context, and threshold criteria that must be adhered to. These include, but are not limited to, a national accounting stance, use of traditional cost/benefit analytical techniques, emphasis on changes in domestic surplus measures, whether and how impacts accrue to, and distribute across, specific populations of concern (e.g., small entities, minority communities, tribal authorities). The economic analyses were further required to (and, to the fullest extent practicable, do) employ the best scientific data and commercial information available. The analyses underwent a series of systematic technical reviews by agency scientists, attorneys, and administrators, resulting in significant revisions and refinements, both prior to, and after formal public presentation and comment periods. The draft analysis report was made available for public review and comment on our regional Web site. Substantive comments and information received on the analysis are summarized above and are incorporated into the final 4(b)(2) analysis, as appropriate. Taking into account all new and relevant information, we have completed a final economic analysis. That analysis is also available on our Web site (see ADDRESSES above). NMFS considered the conservation benefits to the Cook Inlet beluga whale of designating two areas; the economic benefits of excluding particular areas within the two areas; and the national security benefits of excluding particular military sites and associated assets owned, heavily utilized, highly depended upon, or controlled by the DOD; and other relevant impacts or benefits, such as impacts to tribal interests, raised through the public comment process.

**Benefits of Designation**

The primary benefit of designating critical habitat for any endangered species is that, upon designation, section 7 of the ESA requires all Federal agencies to ensure actions they authorize, fund, or undertake are not likely to destroy or adversely modify habitat critical for the conservation and recovery of the listed species. This is in addition to the ESA’s requirement that all Federal agencies ensure their actions...
are not likely to jeopardize the species’ continued existence. Another benefit of designation is that it provides notice of areas, PCEs, and features important to species conservation, and information about the types of activities that may reduce the conservation value of the habitat. Such notice will focus future consultations on key habitat attributes and avoid unnecessary attention to other, non-essential habitat features.

Critical habitat designation may also trigger complementary protections (i.e., benefits) under state or local regulations. In addition to the direct benefits of critical habitat designation accruing to Cook Inlet beluga whales, there are indirect benefits. These benefits may be economic in nature (whether market or non-market, consumptive, non-consumptive, or passive), educational, cultural, and sociological, or they may be expressed through beneficial changes in the ecological functioning and service flows of Cook Inlet, which themselves yield ancillary welfare gains (e.g., improved quality of life) to the region’s human population.

All these benefits are also relevant to the evaluation of the “net benefit to the Nation” attributable to critical habitat designation for the Cook Inlet beluga whale. For example, Cook Inlet is one of the “premier tourist destinations” in Alaska, and local economies throughout the inlet and surrounding region provide support services to, and benefit directly from, tourism. Beluga whales are widely identified with Cook Inlet and aggressively promoted as a “unique” and high value component of the Cook Inlet tourism experience. In addition, many local residents express strong affinity for the beluga whales and place significant “value” on the opportunity to encounter this whale in the wild. Federal, state, regional and local governments, Alaska Native peoples, civic groups, non-governmental organizations, and private citizens in the region have invested considerable money, time, and effort to promote, educate, inform, and advocate for the Cook Inlet beluga whale population (e.g., roadside visitor’s centers and interpretive sights focusing public attention on, and enjoyment of, the resident beluga whale population). It follows that conservation and recovery of the Cook Inlet beluga whale population, resulting, in part, from designation of its critical habitat, would enhance the “value” tourists (and other travelers) to the inlet receive from visiting and simultaneously benefit the tourism, hospitality, and affiliated services sectors.

Residents of Cook Inlet communities and surrounding areas who value the beluga whale would also be expected to experience a welfare gain, as conservation of the whale’s critical habitat results in an enhanced beluga whale population, in turn, making opportunities for sightings and observation more probable and frequent. With sufficient recovery, subsistence users could benefit from the restoration of their traditional uses of Cook Inlet beluga whales. Another benefit of designation could be the increased abundance and sustained viability of Cook Inlet salmon populations, if the environmental and ecological functions of the inlet upon which they depend are sustained or enhanced by beluga whale critical habitat designation.

Cook Inlet salmon runs support a myriad of uses and users, including: commercial fisheries and associated support sectors; recreational anglers, guides, lodges and lodging, transportation, support and affiliated businesses; subsistence communities; and personal use fishermen. Salmon constitute a critical resource for non-human users, as well. Four of the five Pacific salmon species native to the region are listed as PCEs of Cook Inlet beluga whale critical habitat. At various life stages, salmon support many other marine and terrestrial organisms (i.e., mammals, birds, and fishes) as prey species. Ancillary benefits from Cook Inlet beluga whale critical habitat designation may accrue through protection and enhancement of vital components and characteristics of the critical habitat relied upon and exploited by a vast array of species.

It is not presently feasible to monetize, or even quantify, each and every component part of the comprehensive benefit accruing from designation of critical habitat for the Cook Inlet beluga whale. We augmented the quantitative measurements that have been presented with qualitative and descriptive assessment techniques, as provided for in Executive Order 12206 and OMB Circular A-4.

With respect to the qualitative elements of this impact analysis, we have systematically assessed the expected benefit of designating the two critical habitat areas based upon their individual physical, ecological, and biological features and functions. Each area was evaluated on the basis of frequency, duration, seasonality, and behavioral characteristics (e.g., foraging, predatory avoidance, breeding, calving) of use by the beluga whales. These were (to the extent practicable) correlated with site-specific human activity mappings in each area that, through an assumed need for Federal authorization, permits, or funding, might require one or more future ESA section 7 consultations stemming from this critical habitat designation. Based upon available information pertaining to specific structural design elements, physical attributes, construction materials and techniques, development scheduling and duration, etc., for each such identified federally authorized activity, the likelihood and nature of any substantial physical, design, or schedule modification (or other accommodation) of an anticipated Federally authorized activity were analyzed.

The benefit of a comprehensive designation also depends on the inherent conservation value arising from the complementary contribution each area makes to the whole. The two identified critical habitat areas for the Cook Inlet beluga whales are unique and irreplaceable. It is difficult to isolate the value contributed by one area, as each of the two areas supports a distinct and crucial aspect of the Cook Inlet beluga whales’ life history. The designation of each particular area (i.e., Area 1 and Area 2) is essential to the conservation function of the whole. On the collective basis of these assessments, evaluations, and analyses, we conclude that there is substantial and compelling evidence that the aggregate (i.e., monetized, quantifiable, and qualitative) conservation benefits of designating the two particular areas identified as critical habitat for Cook Inlet beluga whales is high. By contrast, the expected costs, including those we could monetize, as well as those that can only be qualitatively characterized at this time, such as unspecified design modifications to potential projects, are relatively modest in comparison. Based on past experience and our professional judgment, we expect design modifications attributable solely to the designation of critical habitat will occur rarely. In the event that such a modification was to occur, it could require substantial costs, but it is also possible that the modifications would decrease overall project costs. There is no information available at this time to provide any reasonable estimate of costs for the rare and speculative project modifications attributable solely to the designation of critical habitat.

Economic Benefits of Exclusion

The economic impact analysis and preparatory 4(b)(2) assessment, prepared in connection with the designation of critical habitat, describe the actions and activities within Cook Inlet that we estimate have some potential to be
impacted by the designation; the potential nature of modifications that might be required to avoid adversely modifying or destroying critical habitat; and the expected economic impacts that may accompany such modifications.

Consideration of Benefits of Exclusion Versus Benefits of Designation of Particular Areas

After directing NMFS to consider the economic impact, the impact to national security, and other relevant impacts of specifying a particular area as critical habitat, section 4(b)(2) of the ESA provides that the Secretary may exclude any area from critical habitat if he determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless such exclusion will result in the extinction of the species. The benefit to the species of designation depends upon the inherent conservation value of the area, the seriousness of the threats to that conservation, and the extent to which an ESA section 7 consultation or other aspects of designation will ameliorate those threats. If a particular action or activity, which is authorized, funded, or carried out by the Federal Government, may destroy or adversely modify critical habitat (as distinct from the “jeopardy” prohibition under section 7), one may isolate and measure the incremental benefit of designation, beyond those protections also provided by virtue of the listing.

We have endeavored to identify the categories of actions and activities within each of the two proposed designated areas that may have the potential to destroy or adversely modify critical habitat. Based upon these categorical lists, the analysis has, to the extent possible in light of the best scientific data and commercial information available, identified and analyzed project-specific impacts attributable to the proposed designation. With a few notable exceptions identified in the analyses, detailed engineering design, construction methods, materials, and schedules, and financing/investment/cost information are not readily available on a project-by-project basis, particularly for plans that are far off into the future. Notwithstanding these empirical data limitations, we have systematically and objectively evaluated the likely economic impact to future development and use uniquely attributable to the beluga whale critical habitat designation in Cook Inlet.

We have determined that designation of critical habitat serves the nation’s welfare by augmenting the Federal Government’s ability to conserve this endangered species and ensuring Federal actions do not destroy or adversely modify habitat critical to that end. This outcome would be facilitated through ESA section 7 consultations and through ongoing public involvement, outreach, information, and education.

The benefits of exclusion of any particular area, as contemplated under section 4(b)(2), involve many of the same considerations identified in assessing the benefits of designation. Among these would be the likelihood or expectation of a Federal action occurring within the particular area under scrutiny. Should such an action or activity be identified, it could trigger one or more of the ESA section 7 consultation requirements. If any such consultation resulted in the determination that the action would destroy or adversely modify critical habitat (or jeopardize the continued existence of the species), we would attempt to identify reasonable and prudent alternatives that allow the project to go forward but avoid adverse modification/jeopardy by changes to design, construction practices, or scheduling. For the benefit-of-designation side of the equation, it is the incremental cost of designation incurred (or, if exclusion of any particular area is justified, the incremental cost avoided), uniquely attributable to designation, that should, to the extent practicable, be evaluated. By disentangling the sources of section 7 consultation effects, we can more appropriately weigh those incremental costs against the designation, distinct from the cost associated with listing and the jeopardy prohibition.

In balancing the potential costs of designation, we considered the nature of the threats to critical habitat and the relevance to these threats of ESA section 7’s requirement that Federal actions avoid causing the destruction or adverse modification of critical habitat. Because in the present case the condition of adverse modification is likely to be associated with certain work along the Cook Inlet shoreline (and in-water construction and development), and because some modifications to design, construction practices, or scheduling of such projects are possible as a result of consultation, we gave these costs of designation moderately high weight. Such construction and development has the potential to alter several of the identified PCEs of beluga whale habitat, including, but not limited to, in-water noise levels, access to passage corridors, and access to shallow areas for feeding, breeding, or predator escape use. Further, we recognize that the adverse modification/ destruction of critical habitat criterion bears a strong relationship to water quality management (e.g., municipal waste water discharge, oil spills, gas and oil drilling discharges, dredge spoils disposal, bilge and ballast discharges), but we lack sufficient point-source and project-specific data to quantitatively estimate any potential attributable economic impact. Nonetheless, we recognize their significance and qualitatively assigned these costs of critical habitat designation a moderate weight.

However, our analysis found few cases where these costs were not co-extensive. We evaluated these incremental costs (i.e., costs beyond those associated with the jeopardy standard), and concluded that the economic benefits of excluding any particular area do not outweigh the conservation benefits of including each particular area within the critical habitat designation, given the endangered status of the whales, the uniqueness and irreplaceable attributes of the habitat, and the fact that designation will enhance the ability of an ESA section 7 consultation to facilitate cost effective and successful protection of this critical habitat.

Exclusion for National Security Reasons

We received a request from the Port of Anchorage to exclude both the Port of Anchorage and Port MacKenzie from critical habitat designation based on national security considerations. While the DOD itself did not make a request to exclude the POA, DOD has designated the POA as one of nineteen Strategic Ports, which forms the basis for our exclusion. NMFS conferred with the Alaska Command after the request from the POA for the exclusion and the Alaska Command confirmed that the POA is a strategic port that could be excluded from critical habitat designation. Both the Port of Anchorage and Port MacKenzie are within the boundaries we proposed for critical habitat designation and include docking facilities, nearshore areas and structures such as docks, piers, and wharfs, and offshore navigational channels, turning basins, anchorage areas, and areas with security restrictions enforced by the U.S. Coast Guard (USCG).

In making its request for an exclusion, the POA asserts that it is strategically important for military readiness. The DOD did not request the exclusion of the POA, but confirmed, through the Alaskan Command, that the U.S. Army’s worldwide deployment of Alaska go through the POA, and that since 2005, over 18,000 pieces of military-related
cargo-combat vehicles, weaponry, and support equipment have passed through the POA on their way to and from the Middle East and training grounds in the Lower 48 and the Western Pacific.

In addition, the POA is one of nineteen ports designated by the DOD as a Strategic Port. There are four military bases located in Alaska (Joint Base Elmendorf-Richardson, Eielson AFB, Ft. Wainwright, and Ft. Greely), and the POA supports the U.S. military in Alaska as its primary source of daily operating supplies. Over 33 million gallons of aviation fuel for the military are offloaded annually at this port.

Thus the U.S. military’s ability to deploy to combat theaters around the globe is heavily dependent on sealift through the POA. Particularly in times of active warfare, it is critical that there be no unnecessary delays in deployment or reductions in military readiness. In short, the POA plays a vitally important role in ensuring the readiness of military operations in Alaska.

We have conferred with the Alaskan Command and conclude that the benefits of exclusion outweigh the benefits of inclusion. The principal benefit from excluding the POA is that the designation might impede the POA’s operations or otherwise result in a reduction in military readiness. The costs of including the area as critical habitat generally include the costs (including delays) associated with ESA section 7 consultation under the destruction/adverse modification of critical habitat standard, any change in the POA’s activities or functions necessary to avoid adverse modification or destruction of critical habitat, and any concomitant reduction in military readiness. Given that the DOD has stated the POA is critical to military operations in and deploying out of the State of Alaska, any delays in military movements through the POA could reduce the ability of the military to ensure national security.

By contrast, we believe the benefits to the conservation of the Cook Inlet beluga whale from designating the particular area subject to the exclusion as critical habitat are small. Even with the exclusion, Federal agencies would still have to consult to ensure that their activities do not jeopardize the continued existence of the Cook Inlet beluga whale, which would include any direct, indirect, or cumulative effects of the action on critical habitat adjacent to the excluded area. Moreover, any Federal actions at the POA that may adversely impact critical habitat areas not excluded by this rule would remain subject to all of section 7’s consultation requirements.

Therefore, most of the conservation benefits will accrue despite the exclusion.

In assessing the impacts of this critical habitat designation on national security, we considered the following factors: (1) The size of the particular area requested for exclusion relative to the area proposed for critical habitat designation; (2) the likelihood of a consultation with the DOD, or of a consultation having direct impact on DOD in this area; (3) the intensity of use of the area by the DOD; (4) the likelihood that DOD activities would destroy or adversely modify the critical habitat; (5) the level of protection provided to one or more PCEs by existing DOD safeguards, and (6) the likelihood that other Federal actions may occur in the particular area that would no longer be subject to the critical habitat provisions if the area were excluded from designation.

Factors 1, 3, 4, and 6 weigh in favor of the exclusion. The area excluded is very small in contrast to the area included—less than 1 percent of the habitat proposed for designation in Cook Inlet. It appears unlikely that most DOD activities associated with the POA would require consultation on critical habitat because cargo loading and ship movement should not affect that habitat or the identified essential features. There appears little probability that DOD activities here would be likely to destroy or adversely modify critical habitat. Finally, there are no other Federal actions expected to occur that would no longer be subject to the critical habitat provisions if the area were excluded from designation. As for the remaining factors, factor 2 is neutral, and factor 5 weighs against granting the exclusion since we are unaware of any existing protections provided by DOD to the PCEs within the excluded area.

We also considered the high priority placed on national security, the potential for designation of critical habitat to impact military readiness, and the total habitat value represented by this area. Based on our assessment of these considerations, we conclude that benefits to national security of exclusion outweigh the conservation benefits of inclusion. We, therefore, are not designating the POA, nor its immediately adjacent offshore operational area, as critical habitat. See Figure 1 for the specific areas and excluded area.

While the POA exclusion area contains some of the essential features of this critical habitat, features exist throughout the designated habitat and are not unique to the POA area. The area of the POA is less than 1 percent of the available habitat within Cook Inlet, and its exclusion would not be likely to result in the extinction of this DPS.

Port MacKenzie is not listed as a Strategic Port, nor is it currently adjacent to military lands, accessible by a major road system, utilized for munitions transfers, or serviced by rail. We received no supporting recommendations for this exemption from the DOD, and did not find substantial evidence of impacts to national security because of Port MacKenzie’s inclusion as critical habitat. In light of the conservation benefits described in this rulemaking from its inclusion, we decline to exercise our discretion to exclude Port MacKenzie from the critical habitat designation.

Conclusions

With one exception, we conclude that the benefits from excluding any and each particular area do not outweigh the benefits of designation as critical habitat, upon consideration of: (1) The functional role of critical habitat and its essential features in the conservation of Cook Inlet beluga whales; (2) the benefits of designation to Cook Inlet beluga whales in terms of enhanced ability to protect or conserve this habitat under ESA consultation; and (3) the economic costs borne by any and each particular area’s inclusion. We conclude that, based on consideration of the impact to national security, the benefits from excluding the POA from the critical habitat designation outweigh those for its inclusion, and we have determined not to designate this particular area as critical habitat for the Cook Inlet beluga whale.

Critical Habitat Designation

This final rule will designate as critical habitat for the Cook Inlet beluga whale 7,800 square kilometers (3,013 square miles) of marine and estuarine area in Cook Inlet, Alaska, within the geographical area occupied by this species. In determining this critical habitat, we considered comments received in response to the Advance Notice of Proposed Rulemaking (74 FR 17131; April 14, 2009), the proposed rule (74FR 63080; December 2, 2009), peer review, public hearings; sighting reports, satellite telemetry data, TEK, scientific papers and other research; the biology and ecology of the Cook Inlet DPS of beluga whales; and information that may indicate the presence of one or more of the identified PCEs within certain areas of their range. We designate...
critical habitat within two areas of Cook Inlet. The designated critical habitat does not include two areas for which the military has provided an INRMP that we have determined provides benefits to the Cook Inlet beluga whale pursuant to section 4(a)(3)(B)(i) of the ESA: (1) The Eagle River Flats Range on Fort Richardson; and (2) military lands of Joint Base Elmendorf-Richardson between Mean Higher High Water and Mean High Water. In addition, we have determined that the benefits of excluding the Port of Anchorage and adjacent navigation channel and turning basin outweigh the benefits of including it because of national security reasons, and excluding these areas will not result in the extinction of the Cook Inlet beluga whale. We are not designating any unoccupied geographical areas as critical habitat.

**Classification**

**Regulatory Planning and Review (Executive Order 12866)**

This final rule has been determined to be significant for purposes of E.O. 12866. The economic benefits and costs of this critical habitat designation are described in our economic report supporting this rulemaking.

**Regulatory Flexibility Act (5 U.S.C. 601 et seq.)**

Under the Regulatory Flexibility Act (5 U.S.C. 601 et seq.), as amended by the Small Business Regulatory Enforcement Fairness Act of 1996, whenever an agency is required to publish a notice of proposed rulemaking for any proposed rule, it must either certify that the action is not likely to result in significant adverse economic impacts on a substantial number of small entities; or it must prepare and make available for public comment a regulatory flexibility analysis that describes the effects of the rule on small entities (i.e., small businesses, small organizations, and small government jurisdictions). We have prepared a final regulatory flexibility analysis (FRFA), as part of our economic analysis. Responses to comments on this document are provided above in the preamble to the rule, and any necessary changes were made to the FRFA.

The reasons for the action, a statement of the objectives of the action, and the legal basis for the final rule are discussed earlier in the preamble. A summary of the analysis follows. The small entities that may be directly regulated in this action are those that seek formal approval (e.g., a permit) from, or are otherwise authorized by, a Federal agency to undertake an action or activity that “may affect” critical habitat for the Cook Inlet beluga whale. Submission by a small entity of such a request for a Federal agency’s approval would require that agency (i.e., the “action agency”) to consult with NMFS (i.e., the “consulting agency”).

Consultations vary from simple to highly complex, depending on the specific facts of each action or activity for which application is made. Attributable costs are directly proportionate to complexity. In the majority of instances projected to take place under this critical habitat designation, these costs are expected to accrue solely to the Federal agencies that are party to the consultation. In only the most complex formal consultations, a private sector applicant might incur costs directly attributable to the designation consultation process. For example, if the formal consultation concludes that the proposed activity is likely to destroy or adversely modify critical habitat, the applicant will have to implement modifications to avoid such effects. These modifications have the potential to result in adverse economic impacts, although they need not necessarily do so.

An examination of the Federal agencies with management, enforcement, or other regulatory authority over activities or actions within, or immediately adjacent to, the designated critical habitat area, resulted in the following list: The ACOE, EPA, Minerals Management Service (MMS), Maritime Administration (MARAD), USCG, DOD, NMFS, Federal Highway Administration (FHWA), Federal Energy Regulatory Commission (FERC), and Federal Aviation Administration (FAA). Activities or actions that require Federal authorization, permits, or funding, and which may be expected to require some level of consultation, include: COE permits for structures and work in waters of the United States; EPA permitting of discharges under the National Pollutant Discharge Elimination System; NMFS oil and gas exploration and production permitting in Federal waters of Cook Inlet; MARAD permits for the POA expansion; USCG permits for spill response plans; DOD activities at Joint Base Elmendorf-Richardson facilities; NMFS authorizations of commercial fisheries, and review of subsistence harvest allowances; FHWA funding of highway and bridge improvements along Turnagain Arm; FERC permits for turbine electrical generation projects (wind and hydro); and FAA permitting of regional airport expansions and development.

A 10-year “post-critical habitat designation” analytical horizon was adopted, during which time NMFS may reasonably expect to consult on critical habitat-related actions with one or more of the action agencies identified above. The majority of the consultations are expected to be “informal” (we estimate 90 percent of all consultations would be informal). In each of these, no adverse impacts would accrue to the entity or applicant requesting Federal action. The more complex and costly formal consultations are projected to account for, perhaps, ten percent. Here, NMFS and the Federal action agency may develop alternatives that prevent the likelihood that critical habitat will be destroyed or adversely affected. The extent to which these formal consultations will result in more than de minimus third party costs, as well as whether such third parties constitute small entities for Regulatory Flexibility Act purposes, cannot be predicted. Often, no consultation will be necessary, as all questions can be resolved through the “technical assistance” process. We lack sufficient information to estimate precisely the number of consultations that may result in a determination of destruction or adverse modification to critical habitat. However, on the basis of the underlying biological, oceanographic, and ecological science used to identify the PCEs that define critical habitat for the Cook Inlet beluga whale, as well as the foregoing assumptions, empirical data, historical information, and accumulated experience regarding human activity in Cook Inlet, we believe that various federally authorized activities have the potential to “destroy or adversely modify” Cook Inlet beluga whale critical habitat. While we are unable to predict in advance exactly which activities might result in the destruction or adverse modification of the designated critical habitat, we note that such activities are restricted to those actions impacting the identified essential features, or PCEs. Importantly, however, an action that may adversely affect a PCE is not necessarily one that will result in the destruction or adverse modification of the proposed critical habitat.

**Executive Order 13211**

On May 18, 2001, the President issued an E.O. on regulations that significantly affect energy supply, distribution, and use. E.O. 13211 requires agencies to prepare Statements of Energy Effects (SEE) when undertaking an action that promulgates or is expected to lead to the promulgation of a final rule or
regulation that (1) is a significant regulatory action under E.O. 12866 and (2) is likely to have a significant adverse effect on the supply, distribution, or use of energy.

We have considered the potential impacts of this action on the supply, distribution, or use of energy and finds that designation of critical habitat will not have impacts that exceed the thresholds identified above.

**Unfunded Mandates Reform Act (2 U.S.C. 1501 et seq.)**

In accordance with the Unfunded Mandates Reform Act, we make the following findings:

(a) This final rule will not produce a Federal mandate. In general, a Federal mandate is a provision in legislation, statute or regulation that would impose an enforceable duty upon State, local, tribal governments, or the private sector and includes both “Federal intergovernmental mandates” and “Federal private sector mandates.” These terms are defined in 2 U.S.C. 658(5)–(7). “Federal intergovernmental mandate” includes a regulation that “would impose an enforceable duty upon State, local, or tribal governments” with two exceptions. It excludes “a condition of Federal assistance.” It also excludes “a duty arising from participation in a voluntary Federal program,” unless the regulation “relates to a then-existing Federal program under which $500,000,000 or more is provided annually to State, local, and tribal governments under entitlement authority.” If the provision would “increase the stringency of conditions of assistance” or “place caps upon, or otherwise decrease, the Federal Government’s responsibility to provide funding” and the State, local, or tribal governments “lack authority” to adjust accordingly. (At the time of enactment, these entitlement programs were: Medicaid; AFDC work programs; Child Nutrition; Food Stamps; Social Services Block Grants; Vocational Rehabilitation State Grants; Foster Care, Adoption Assistance, and Independent Living; Family Support Welfare Services; and Child Support Enforcement.)

“Federal private sector mandate” includes a regulation that “would impose an enforceable duty upon the private sector, except (i) a condition of Federal assistance; or (ii) a duty arising from participation in a voluntary Federal program.” The designation of critical habitat does not impose a legally binding duty on non-Federal government entities or private parties. Under the final rule, regulatory effect is that Federal agencies must ensure that their actions do not destroy or adversely modify critical habitat under section 7. While non-Federal entities who receive Federal funding, assistance, permits or otherwise require approval or authorization from a Federal agency for an action may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency. Furthermore, to the extent that non-Federal entities are indirectly impacted because they receive Federal assistance or participate in a voluntary Federal aid program, the Unfunded Mandates Reform Act would not apply, nor would critical habitat shift the costs of the large entitlement programs listed above to State governments.

(b) Due to the prohibition against the take of this species both within and outside of the designated areas, we do not anticipate that this final rule will significantly or uniquely affect small governments. As such, a Small Government Agency Plan is not required.

**Takings**

In accordance with E.O. 12630, the final rule does not have significant takings implications. A takings implication assessment is not required. In accordance with E.O. 12630, the takings implication assessment is not required. The designation of critical habitat affects only Federal agency actions. Private lands do not exist within the designated critical habitat and therefore would not be affected by this action.

**Federalism**

In accordance with E.O. 13132, this final rule does not have significant federalism effects. A federalism assessment is not required. In keeping with Department of Commerce policies, we have requested information from, and will continue to coordinate this critical habitat designation with appropriate state resource agencies in Alaska. This designation may have some benefit to state and local resource agencies in that the areas essential to the conservation of the species are more clearly defined, and the PCEs of the habitat necessary to the survival of Cook Inlet beluga whale are specifically identified. While making this definition and identification does not alter where and what federally sponsored activities may occur, it may assist local governments in long-range planning (rather than waiting for case-by-case ESA section 7 consultations to occur).

**Civil Justice Reform**

In accordance with E.O. 12988, the Department of Commerce has determined that this final rule does not unduly burden the judicial system and meets the requirements of sections 3(a) and 3(b)(2) of the Order. We are designating critical habitat in accordance with the provisions of the ESA. This final rule uses standard property descriptions and identifies the PCEs within the designated areas to assist the public in understanding the habitat needs of the Cook Inlet beluga whale.

**Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.)**

This final rule does not contain new or revised information collection for which the Office of Management and Budget (OMB) approval is required under the Paperwork Reduction Act. This rule will not impose recordkeeping or reporting requirements on State or local governments, individuals, businesses, or organizations. Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with, a collection of information subject to the requirements of the PRA, unless that collection of information displays a currently valid OMB Control Number.

**National Environmental Policy Act**

NMFS has determined that an environmental analysis as provided for under the National Environmental Policy Act of 1969 for critical habitat designations made pursuant to the ESA is not required. See *Douglas County v. Babbitt*, 48 F.3d 1495 (9th Cir. 1995), cert. denied, 116 S.Ct. 698 (1996).

**Government-to-Government Relationship**

The longstanding and distinctive relationship between the Federal and tribal governments is defined by treaties, statutes, executive orders, judicial decisions, and agreements, which differentiate tribal governments from the other entities that deal with, or are affected by, the Federal Government. This relationship has given rise to a special Federal trust responsibility involving the legal responsibilities and obligations of the United States toward Indian Tribes and the application of fiduciary standards of due care with respect to Indian lands, tribal trust resources, and the exercise of tribal rights. E.O. 13175—Consultation and Coordination with Indian Tribal Governments—outlines the responsibilities of the Federal Government in matters affecting tribal interests. Public Law 108-199 (2004), certified in notes to 25 U.S.C. 450, requires all Federal agencies to consult with Alaska Native corporations on the
same basis as Indian tribes under this Executive Order. We have determined that designation of critical habitat for the Cook Inlet beluga whale in Cook Inlet, Alaska, would not have tribal implications, nor affect any tribal governments or Native corporations. Although the Cook Inlet beluga whale may be hunted by Alaska Natives for traditional use or subsistence purposes, none of the designated critical habitat areas occurs on tribal lands, affects tribal trust resources, or the exercise of tribal rights.

References Cited
A complete list of all references cited in this rulemaking can be found on our Web site at http://www.fakr.noaa.gov/ and is available upon request from the NMFS office in Juneau, Alaska (see ADDRESSES section).

List of Subjects in 50 CFR Part 226
Endangered and threatened species.

Dated: April 1, 2011.

John Oliver,
Deputy Assistant Administrator for Operations, National Marine Fisheries Service.

For the reasons stated in the preamble, we amend 50 CFR part 226 as follows:

PART 226—[AMENDED]

1. The authority citation of part 226 continues to read as follows:


2. Add § 226.220, to read as follows:

   § 226.220 Critical habitat for the Cook Inlet beluga whale (Delphinapterus leucas).

   Critical habitat is designated in Cook Inlet, Alaska, for the Cook Inlet beluga whale as described in paragraphs (a) and (b) of this section. The textual description of this critical habitat is the definitive source for determining the critical habitat boundaries. General location maps are provided for general guidance purposes only, and not as a definitive source for determining critical habitat boundaries. Critical habitat does not include manmade structures and the land on which they rest within the designated boundaries described in paragraphs (a)(1) and (2) of this section that were in existence as of May 11, 2011.

   (a) Critical Habitat Boundaries.

   Critical habitat includes two specific marine areas in Cook Inlet, Alaska. These areas are bounded on the upland by Mean High Water (MHW) datum, except for the lower reaches of four tributary rivers. Critical habitat shall not extend into the tidally-influenced channels of tributary waters of Cook Inlet, with the exceptions noted in the descriptions of each critical habitat area.

   (1) Area 1. All marine waters of Cook Inlet north of a line from the mouth of Threemile Creek (61°08.5′ N., 151°04.4′ W.) connecting to Point Possession (61°02.1′ N., 150°24.3′ W.), including waters of the Susitna River south of 61°20.0′ N., the Little Susitna River south of 61°18.0′ N., and the Chickaloon River north of 60°53.0′ N.

   (2) Area 2. All marine waters of Cook Inlet south of a line from the mouth of Threemile Creek (61°08.5′ N., 151°04.4′ W.) to Point Possession (61°02.1′ N., 150°24.3′ W.) and north of 60°15.0′ N., including waters within 2 nautical miles seaward of MHW along the western shoreline of Cook Inlet between 60°15.0′ N. and the mouth of the Douglas River (59°04.0′ N., 153°46.0′ W.); all waters of Kachemak Bay east of 151°40.0′ W.; and waters of the Kenai River below the Warren Ames bridge at Kenai, Alaska.

   (b) A map of the designated critical habitat for Cook Inlet beluga whale follows (Figure 1).
Figure 1. Cook Inlet beluga whale critical habitat.
(c) Primary constituent elements. The primary constituent elements essential to the conservation of the Cook Inlet beluga whale are:

(1) Intertidal and subtidal waters of Cook Inlet with depths <30 feet (MLLW) and within 5 miles of high and medium flow anadromous fish streams.

(2) Primary prey species consisting of four species of Pacific salmon (Chinook, sockeye, chum, and coho), Pacific eulachon, Pacific cod, walleye pollock, saffron cod, and yellowfin sole.

(3) Waters free of toxins or other agents of a type and amount harmful to Cook Inlet beluga whales.

(4) Unrestricted passage within or between the critical habitat areas.

(5) Waters with in-water noise below levels resulting in the abandonment of critical habitat areas by Cook Inlet beluga whales.

(d) Sites owned or controlled by the Department of Defense, or of interest to national security. Critical habitat does not include the following areas owned by the Department of Defense or for which the Secretary has determined to exclude for reasons of national security:

(1) All property and overlying waters of Joint Base Elmendorf-Richardson between Mean Higher High Water and Mean High Water; and

(2) All waters off the Port of Anchorage which are east of a line connecting Cairn Point (61°15.4′ N., 149°52.8′ W.) and Point MacKenzie (61°14.3′ N., 149°59.2′ W.) and north of a line connecting Point MacKenzie and the north bank of the mouth of Ship Creek (61°13.6′ N., 149°53.8′ W.).
Cook Inlet Beluga Critical Habitat

- Critical Habitat Area 1
- Critical Habitat Area 2
- Critical Habitat Exclusion Area
<table>
<thead>
<tr>
<th>Group</th>
<th>Name</th>
<th>Population</th>
<th>Status</th>
<th>Lead Office</th>
<th>Recovery Plan Name</th>
<th>Recovery Plan Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birds</td>
<td>Kittlitz's murrelet</td>
<td>Candidate</td>
<td></td>
<td>Anchorage Fish And Wildlife</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Status, Trends, and Threats

Status
The current abundance of Kittlitz’s murrelets is not accurately known for most of its range.

NatureServe:
Global – G2 (imperiled)
State – S2B, S2N (imperiled, both breeding and nonbreeding populations)

IUCN: Critically Endangered

Endangered Species Act: Candidate

Trends
The U.S. Fish and Wildlife Service determined that this species should be listed as threatened or endangered under the Endangered Species Act, but due to a lack of time and funds, designated the Kittlitz’s murrelet as a Candidate for listing. The basis for this ESA listing decision were reported declines of 38-84% in major population centers, including Prince William Sound, Glacier Bay, and Kenai Fjords. Recent studies suggest a stabilization of population numbers.

Threats
Possible threats to the Kittlitz’s murrelet include a decrease in prey availability, climate change, bycatch in fisheries, and oil spill contamination. There is some concern that this species may be competing with commercial fisheries for some of their prey species. There also may be changes in prey abundance or distribution due to climate change. Climate change may also impact their nesting habitat in positive or negative ways. Kittlitz’s murrelets are generally associated with glacially-fed or other turbid waters, which may change with receding glaciers and altered water flows. Kittlitz’s murrelets are also taken as bycatch in gillnet fisheries due to their foraging style which includes underwater wing pursuit of small fish. The magnitude of this threat is not well understood. This species is susceptible to marine-based oil spills since it spends significant time on the water’s surface.
APPENDIX E

DELEGATION OF AUTHORITY, SUBCONTRACTOR CERTIFICATIONS
SUBCONTRACTOR CERTIFICATION
STORMWATER POLLUTION PREVENTION PLAN

Project Title: ____________________________

Operator(s): ____________________________

As a subcontractor, you are required to comply with the Stormwater Pollution Prevention Plan (SWPPP) for any work that you perform on-site. Any person or group who violates any condition of the SWPPP may be subject to substantial penalties or loss of contract. You are encouraged to advise each of your employees working on this project of the requirements of the SWPPP. A copy of the SWPPP is available for your review at the office trailer.

Each subcontractor engaged in activities at the construction site that could impact stormwater must be identified and sign the following certification statement:

I certify under the penalty of law that I have read and understand the terms and conditions of the SWPPP for the above designated project and agree to follow the BMPs and practices described in the SWPPP.

This certification is hereby signed in reference to the above named project:

Company: ________________________________

Address: ________________________________

Telephone Number: ______________________

Type of construction service to be provided: ________________________________

_______________________________________

Signature: ______________________________

Title: _________________________________

Date: _________________________________
ALASKA POLLUTANT DISCHARGE ELIMINATION SYSTEM

GENERAL PERMIT FOR DISCHARGES FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES
(Construction General Permit) – FINAL

Permit Number: AKR100000

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

In compliance with the provisions of the Clean Water Act (CWA), 33 U.S.C. §1251 et. seq., as amended by the Water Quality Act of 1987, P.L. 100-4, this permit is issued under provisions of Alaska Statutes 46.03, the Alaska Administrative Code (AAC) as amended, and other applicable State laws and regulations.

Operators of large and small construction activities described in Part 1.4 of this Alaska Pollutant Discharge Elimination System (APDES) general permit, except for those activities excluded from authorization to discharge in Part 1.4.4 of this permit, are authorized to discharge storm water associated with construction activity to waters of the U.S., in accordance with the conditions and requirements set forth herein. Permit authorization is required from the “commencement of construction activities” until “final stabilization” as defined in Appendix C.

This permit shall become effective on February 1, 2016.

This permit and the authorization to discharge shall expire at midnight, January 31, 2021.

Signature: Wade Strickland
Date: December 29, 2015
Program Manager:
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   - Notice of Termination (NOT)
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SCHEDULE OF SUBMISSIONS

The Schedule of Submissions (Table 1) summarizes the required submissions and activities the permittee must complete and/or submit to the Alaska Department of Environmental Conservation (DEC or the Department) during the terms of this permit. The operator is responsible for all submissions and activities even if they are not summarized below.

Table 1: Schedule of Submissions

<table>
<thead>
<tr>
<th>Permit Part</th>
<th>Type of Project</th>
<th>Submittal Requirement</th>
<th>Frequency</th>
<th>Due Date</th>
<th>Submit to 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior to Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.4.4.7, 2.1.1, and 2.1.2</td>
<td>Projects that will construct Permanent Storm Water Management Controls</td>
<td>Engineering Plans</td>
<td>Once</td>
<td>At least 30 calendar days before the start of construction or as required by the MS4 Operator</td>
<td>Permitting Program or MS4 Operator</td>
</tr>
<tr>
<td>1.5</td>
<td>Small construction activities that use a waiver in lieu of CGP authorization</td>
<td>Waiver Certification</td>
<td>Once</td>
<td>At least five business days before proposed start of construction</td>
<td>Permitting Program</td>
</tr>
<tr>
<td>2.1.3</td>
<td>Projects that disturb greater than or equal to 5 acres of land and are outside an MS4 area</td>
<td>SWPPP 2</td>
<td>Once</td>
<td>With NOI</td>
<td>Permitting Program</td>
</tr>
<tr>
<td>2.1.4</td>
<td>Projects inside an MS4 area</td>
<td>SWPPP</td>
<td>Once</td>
<td>Depends on requirements of MS4 operator</td>
<td>MS4 Operator</td>
</tr>
<tr>
<td>2.1.5 and 4.6.3.3</td>
<td>Project that use an Active Treatment System</td>
<td>Engineering Plans and Project Details</td>
<td>Once</td>
<td>At least 14 calendar days before use of the system</td>
<td>Permitting Program</td>
</tr>
<tr>
<td>2.1.6</td>
<td>Projects that discharge to an Outstanding Natural Resource Water</td>
<td>Site-Specific Antidegradation Analysis</td>
<td>Once</td>
<td>At least 14 calendar days before filing NOI</td>
<td>Permitting Program</td>
</tr>
<tr>
<td>2.3</td>
<td>Projects that disturb greater than or equal to 1 acre of land</td>
<td>Notice of Intent</td>
<td>Once</td>
<td>At least five business days before the start of construction</td>
<td>Permitting Program</td>
</tr>
</tbody>
</table>
Table 1: Schedule of Submissions

<table>
<thead>
<tr>
<th>Permit Part</th>
<th>Type of Project</th>
<th>Submittal Requirement</th>
<th>Frequency</th>
<th>Due Date</th>
<th>Submit to 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>During Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.4.2 2.6</td>
<td>For an authorized permittee if the permittee intends to continue operations and discharges beyond the term of this permit</td>
<td>Submit a complete and accurate new NOI according to Part 2.3</td>
<td>Once</td>
<td>Within 90 calendar days of the effective date of this permit</td>
<td>Permitting Program</td>
</tr>
<tr>
<td>2.7</td>
<td>To update or correct information on the original NOI</td>
<td>NOI Modification</td>
<td>As needed</td>
<td>As needed</td>
<td>Permitting Program</td>
</tr>
<tr>
<td>3.2, 8.4, and 9.2</td>
<td>If the difference between upstream and downstream samples exceed WQS for turbidity</td>
<td>Corrective Action Report</td>
<td>As necessary</td>
<td>At least 14 calendar days after receiving monitoring results</td>
<td>Compliance Program</td>
</tr>
<tr>
<td>9.1</td>
<td>Projects that disturb greater than or equal to 20 acres of land</td>
<td>Annual Report</td>
<td>As needed for sites meeting Part 3.2</td>
<td>By December 31st or with NOT</td>
<td>Compliance Program</td>
</tr>
<tr>
<td>9.5</td>
<td>All projects with an active NOI</td>
<td>Request for Submittal of Records</td>
<td>As requested by DEC</td>
<td>At least 30 calendar days after receipt of request</td>
<td>As requested by DEC</td>
</tr>
<tr>
<td>Post Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.2</td>
<td>All projects with an active NOI</td>
<td>Notice of Termination (NOT)</td>
<td>Once</td>
<td>Within 30 calendar days of completion of the project</td>
<td>Permitting Program</td>
</tr>
</tbody>
</table>

Note:
1. See Appendix A, Part 1.1 for Permitting and Compliance Program contact information and addresses
2. All projects that require an NOI must prepare a SWPPP. However, only operators who are developing projects that disturb greater than or equal to five (5) acres of land and are outside an MS4 area are required to submit a SWPPP to DEC.
REQUIRED ON-SITE DOCUMENTATION

The Summary of Required On-Site Documentation (Table 2) lists the documents the permittee must have available at the project site or the project management office.

Table 2: Summary of Permit Required On-Site Documentation

<table>
<thead>
<tr>
<th>Permit Part</th>
<th>Document</th>
<th>Frequency</th>
<th>Purpose of Document</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.3</td>
<td>NOI</td>
<td>Once at start of project</td>
<td>Applicant request for authorization to discharge under permit coverage</td>
</tr>
<tr>
<td>2.5</td>
<td>DEC NOI Reply Letter</td>
<td>Once at start of project</td>
<td>To provide permittee with DEC project tracking number indicating project is covered by CGP</td>
</tr>
<tr>
<td>2.7</td>
<td>NOI Modification</td>
<td>As needed</td>
<td>To modify the original NOI if project conditions or personnel change</td>
</tr>
<tr>
<td>5.0</td>
<td>SWPPP</td>
<td>Developed prior to submitting the NOI. Updated as necessary.</td>
<td>To describe the project and the control measures to minimize the discharge of pollutants into waters of the U.S.</td>
</tr>
<tr>
<td>5.4; 6.7</td>
<td>Inspection Reports</td>
<td>Conducted at frequency specified in SWPPP</td>
<td>To monitor compliance with SWPPP and CGP</td>
</tr>
<tr>
<td>5.5; 7.0</td>
<td>Monitoring Plan (if required)</td>
<td>As needed</td>
<td>To describe monitoring of storm water discharge for those projects that disturb more than threshold requirement</td>
</tr>
<tr>
<td>5.6</td>
<td>Permit Eligibility related to Total Maximum Daily Load (TMDL)</td>
<td>Once at start of project</td>
<td>To document compliance with TMDL requirements</td>
</tr>
<tr>
<td>5.7</td>
<td>Permit Eligibility related to Endangered Species Act (ESA)</td>
<td>Once at start of project</td>
<td>To document compliance with ESA requirements</td>
</tr>
<tr>
<td>5.8.1</td>
<td>Copy of this permit</td>
<td>Once at start of project</td>
<td>To include in SWPPP</td>
</tr>
<tr>
<td>5.8.2</td>
<td>Additional Documentation in the SWPPP</td>
<td>Updated as necessary</td>
<td>To maintain summaries of various specific activities at the site to document they were accomplished.</td>
</tr>
<tr>
<td>8.3</td>
<td>Corrective Action Log (if necessary)</td>
<td>Updated as necessary</td>
<td>To list the corrective actions taken at a site</td>
</tr>
<tr>
<td>8.4; 9.2</td>
<td>Corrective Action Report (if necessary)</td>
<td>As needed</td>
<td>To report exceeding the turbidity requirement and describe</td>
</tr>
<tr>
<td>9.1</td>
<td>Annual Report (if required)</td>
<td>Annually or at NOT</td>
<td>To report result of discharge monitoring</td>
</tr>
<tr>
<td>9.4</td>
<td>Records</td>
<td>As needed</td>
<td>To maintain project records</td>
</tr>
<tr>
<td>10.2</td>
<td>NOT</td>
<td>Once at completion of project</td>
<td>To notify DEC that the permittee is terminating permit coverage</td>
</tr>
</tbody>
</table>
1.0 COVERAGE UNDER THIS PERMIT

1.1 Introduction

The Alaska Construction General Permit (CGP) 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 and where those discharges enter waters of the U.S. (directly or through a storm water conveyance system) or a municipal separate storm sewer system (MS4) leading to waters of the U.S. subject to the conditions set forth in this permit. This permit also authorizes storm water discharges from certain construction support activities and some non-storm water discharges commonly associated with construction sites.

The goal of this permit is to minimize erosion and reduce or eliminate the discharge of pollutants, such as sediment carried in storm water runoff from construction sites through implementation of appropriate control measures. Polluted storm water runoff can adversely affect fish, animals, plants, and humans. In order to ensure protection of water quality and human health, this permit describes control measures that must be used to manage storm water runoff during construction activities. This permit replaces the CGP that became effective July 1, 2011, and expired on January 31, 2016.

1.2 Person(s) Responsible for Obtaining Authorization under this Permit

1.2.1 All operators of large or small construction activities that meet the conditions in Part 1.4 must obtain authorization under this permit. For the purposes of this permit, an “operator” is any party associated with a construction project that meets either of the following two criteria:

1.2.1.1 The party has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or

1.2.1.2 The party has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit conditions (e.g., they are authorized to direct workers at a site to carry out activities required by the permit).

Note: Subcontractors generally are not considered operators for the purposes of this permit.

Note: Where there are multiple operators associated with the same project, all operators are required to obtain permit authorization. The following applies in these situations:

- If one operator has control over plans and specifications and a different operator has control over activities at the project site, they may divide responsibility for compliance with the terms of this permit as long as they develop a group storm water pollution prevention plan (SWPPP) (see Part 5.1), which documents which operator has responsibility for each requirement of the permit.

- If an operator only has operational control over a portion of a larger project (e.g., one of four homebuilders in a subdivision), the operator is responsible for compliance with all applicable effluent limits, terms, and conditions of this permit as it relates to the activities on their portion of the construction site, including protection of endangered species, critical habitat, and historic properties, and implementation of control measures described in the SWPPP in the areas under their control.

- An operator must ensure either directly or through coordination with other permittees, that their activities do not render another permittee’s pollutant discharge controls ineffective.
1.3 Permit Area
This general permit covers the State of Alaska, except lands within the Metlakatla Indian Reservation and the Denali National Park and Preserve.

1.4 Eligibility
1.4.1 Eligibility Requirements. To be authorized under this permit, the project must meet the following conditions or be notified by DEC that the site is eligible for permit coverage.

1.4.1.1 The project will disturb one or more acres of land, or will disturb less than one acre of land but is part of a common plan of development or sale that will ultimately disturb one or more acres of land;

1.4.1.2 The site will discharge storm water to waters of the U.S. (directly or through a storm water conveyance system) or a MS4 leading to a waters of the U.S.;

1.4.1.3 The project area is located in an area where DEC is the permitting authority;

1.4.1.4 The project is not already covered under a different APDES permit;

1.4.1.5 The project does not discharge to an impaired waterway with an EPA-approved or established Total Maximum Daily Load (TMDL) that specifically precludes such discharges; and

1.4.1.6 The project is not likely to jeopardize the continued existence or cause a take of any threatened or endangered species protected under the Endangered Species Act (ESA) or their designated critical habitat.

1.4.2 Authorized Storm Water Discharges. Subject to compliance with the terms and conditions of this permit, the following discharges are authorized under this permit:

1.4.2.1 Storm water discharges associated with large and small construction activities, including those that are part of a common plan of development or sale that will ultimately disturb one or more acres of land.

1.4.2.2 Storm water discharges designated by DEC as needing a storm water permit under 40 CFR §122.26(a)(1)(v) or §122.26(b)(15)(ii).

1.4.2.3 Storm water discharges from support activities (such as concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, borrow areas) (as defined in Appendix C), whether on-site, adjacent to, or off-site, provided:

1.4.2.3.1 The support activity is directly related to the construction site required to have permit authorization for discharges of storm water associated with construction activity under this permit;

1.4.2.3.2 The support activity is not a commercial operation serving multiple unrelated construction projects by different permittees;

1.4.2.3.3 The support activity does not operate beyond the completion of the construction activity at the project it supports; and

1.4.2.3.4 Appropriate control measures are identified in the Storm Water Pollution Prevention Plan (SWPPP) and pollutant discharges are minimized in compliance with Parts 3.0 and 4.0 of the permit.

1.4.2.4 Discharges composed of allowable discharges listed in Parts 1.4.2 and 1.4.3 commingled with a discharge authorized by a different APDES permit and/or a discharge that does not require APDES permit authorization.
1.4.3 Authorized Non-Storm Water Discharges. Subject to compliance with the terms and conditions of this permit, the following non-storm water discharges are authorized under this general permit, provided the non-storm water component of that the discharge is in compliance with the SWPPP requirements in Part 5.3.9:

1.4.3.1 Discharges from fire-fighting activities;
1.4.3.2 Fire hydrant flushings;
1.4.3.3 Waters used to wash vehicles where detergents are not used;
1.4.3.4 Water used to control dust;
1.4.3.5 Potable water including uncontaminated water line flushings;
1.4.3.6 Routine external building wash down where detergents are not used;
1.4.3.7 Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used;
1.4.3.8 Uncontaminated air conditioning or compressor condensate;
1.4.3.9 Uncontaminated, non-turbid discharges of ground water or spring water;
1.4.3.10 Foundation or footing drains where flows are not contaminated with process materials such as solvents or contaminated groundwater;
1.4.3.11 Construction dewatering waters that are treated by an appropriate control measure in compliance with Part 4.4.2, or have been treated with treatment chemicals in compliance with Part 4.6; and
1.4.3.12 Landscape irrigation.

1.4.4 Limitations on Coverage. The following discharges are not authorized under this permit:

1.4.4.1 Post-Construction Discharges. Discharges that originate from the project after construction activities have ceased and a Notice of Termination (NOT) has been submitted in accordance to Part 10.0, including any temporary support activity.

1.4.4.2 Discharges that May Exceed Water Quality Standards. Discharges that DEC, prior to authorization under this permit, determines will cause, have the reasonable potential to cause, or contribute to an excursion above any applicable water quality standard (WQS). Where such a determination is made prior to authorization, DEC may notify the applicant that an individual permit application is necessary in accordance with Part 2.8. However, DEC may provide permit authorization after the applicant has included appropriate controls and implementation procedures designed to bring the discharge into compliance with WQS’s in accordance with Part 3.1.

1.4.4.3 Discharges to Water Quality Impaired Waters. Discharges into receiving waters that are listed as impaired waters in the report *Alaska’s Final 2010 Integrated Water Quality Monitoring and Assessment Report*, dated July 15, 2010 (or the most current EPA-approved version), or with an approved or established TMDL analysis, unless the discharges are in accordance with Part 3.2.

1.4.4.4 Comingled Discharges. Discharges that are mixed with non-storm water, unless they are listed as allowable non-storm water discharges in Part 1.4.3.

1.4.4.5 Discharges Currently or Previously Covered by another Permit. Unless the permittee received written notification from DEC specifically allowing these discharges to be authorized under this permit, the permittee is not eligible for coverage under this permit for any of the following:
1.4.4.5.1 Storm water discharges associated with construction activity that have been covered under an individual permit, an alternative APDES general permit, or are required to obtain authorization under an alternative general permit in accordance with Part 2.8.

1.4.4.5.2 Discharges from sites where any APDES permit has been or is in the process of being denied, terminated, or revoked by DEC (this does not apply to the routine reissuance of permits every five years).

1.4.4.6 **Discharges of Dredged or Fill Material.** Discharges of dredged or fill material into waters of the U.S. requiring federal authorization through the U.S Army Corps of Engineers CWA Section 404 Regulatory Program.

1.4.4.7 **Discharges from Nondomestic Treatment Works.** Discharges of storm water to the land or groundwater from a nondomestic wastewater treatment works (as defined in 18 AAC 72) using permanent storm water management controls unless they are in compliance with 18 AAC 72.600 and EPA Underground Injection Control regulations\(^1\).

1.4.5 **Emergency Repairs or Reconstruction of a Facility**

1.4.5.1 Discharges from construction activities conducted in response to a disaster (as defined in Alaska Statute 26.23.900) are conditionally authorized, provided that the operator does the following:

1.4.5.1.1 Submits a Notice of Intent (NOI) and SWPPP (if project disturbs five or more acres in accordance with Part 2.1) to the Department in accordance with Part 2.3 and 2.4 within 30 calendar days of initiating construction activities.

1.4.5.1.2 Implements appropriate control measures as soon as possible after initiating construction activities. For discharges occurring during the initial 30 day period, the permittee must demonstrate compliance with the terms and conditions of this permit to the extent practicable depending on the disaster.

1.5 **Waivers for Certain Small Construction Activities**

1.5.1 **Waiver Criteria.** An operator of a small construction activity may qualify for a waiver in lieu of obtaining authorization under this permit if one of the following three criteria are met. Details of the three waiver options and procedures for requesting a waiver are provided in Appendix D:

1.5.1.1 The project has a low rainfall erosivity factor;

1.5.1.2 DEC or EPA has established or approved a TMDL that addresses the pollutant(s) of concern and has determined storm water control measures are not needed to protect water quality;

1.5.1.3 The operator develops an equivalent analysis that determined allocations for pollutant(s) of concern are not needed to protect water quality. This waiver is only available for non-impaired waters.

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\(^1\) For additional information refer to DEC’s Engineered Wastewater Disposal System web page at [https://dec.alaska.gov/Water/wwdp/onsite/ww_planreview-cklist.htm](https://dec.alaska.gov/Water/wwdp/onsite/ww_planreview-cklist.htm) and EPA’s Underground Injection Control web page at [http://www.epa.gov/uic/underground-injection-control-region-10-ak-id-or-and-wa](http://www.epa.gov/uic/underground-injection-control-region-10-ak-id-or-and-wa)
2.0 AUTHORIZATION UNDER THIS GENERAL PERMIT

2.1 Submittal Requirements Prior to Construction  Depending on the type and location of the project, the operator may be required to submit information to the DEC and/or an MS4 operator for review prior to filing the NOI and 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.

2.1.1 Permanent Storm Water Management Controls (Outside MS4). An operator installing permanent storm water management controls in accordance with Part 4.11 and where the project is located outside of an APDES permitted MS4, must submit information required by the DEC in Part 4.11 at least thirty (30) calendar days prior to filing the NOI for the project. The operator must receive the DEC’s written reply prior to the commencement of construction activities.

2.1.2 Permanent Storm Water Management Controls (Inside MS4). An operator installing permanent storm water management controls in accordance with Part 4.11 and where the project is located inside the area of an APDES permitted MS4 must submit information required by the MS4 operator for the project and must receive the MS4 operator’s approval prior to the commencement of construction activities. Check with the respective MS4 operator for their particular submittal requirements. (See http://dec.alaska.gov/water/wnpspc/stormwater/SWPPPSubmittalRqmts.htm for further MS4 operator contact information.)

2.1.2.1 Operators of construction activity within the Municipality of Anchorage (with the exception of ADOT&PF, see 2.1.2.2) shall submit information to:

Municipality of Anchorage
Public Works Department
4700 South Elmore Rd.
P.O. Box 196650
Anchorage, AK 99519-6650

2.1.2.2 Operators of construction activities for Alaska Department of Transportation & Public Facilities (ADOT&PF) construction projects within the Municipality of Anchorage shall submit information to:

ADOT&PF
Construction and Operations, Central Region
4111 Aviation Ave.
P.O. Box 196900
Anchorage, AK 99519

2.1.2.3 Operators of construction activity within the Fairbanks North Star Borough shall submit information to:

Fairbanks North Star Borough
Department of Public Works
P.O. Box 71267
Fairbanks, AK 99707
2.1.2.4 Operators of construction activity within the City of Fairbanks shall submit information to:

City of Fairbanks  
Engineering Division  
800 Cushman St.  
Fairbanks, AK 99701

2.1.2.5 Operators of construction activity within the City of North Pole shall submit information to:

City of North Pole  
Department of Public Works  
125 Snowman Lane  
North Pole, AK 99705

2.1.2.6 Operators of construction activity within the Joint Base Elmendorf-Richardson shall submit information to:

Storm Water Lead  
673rd CES/CEIEC  
724 Quartermaster Drive  
Joint Base Elmendorf-Richardson

2.1.2.7 Operators of construction activity within the Port of Anchorage shall submit information to:

Port of Anchorage  
Operations and Maintenance  
2000 Anchorage Port Road  
Anchorage, AK 99501

2.1.3 **SWPPP Submittal to DEC.** An operator developing a project that disturbs five or more acres of land must submit a copy of the SWPPP to the DEC (Appendix A, Part 1.1.1) at the time the NOI is filed (electronic attachments to the eNOI are preferred).

2.1.4 **SWPPP Submittal to MS4.** 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 MS4 operator. Check with the respective MS4 operator for their particular submittal requirements. ([See http://dec.alaska.gov/water/wnpspc/stormwater/SWPPPSubmittalRqmts.htm for further MS4 operator contact information.](http://dec.alaska.gov/water/wnpspc/stormwater/SWPPPSubmittalRqmts.htm))

2.1.4.1 Within the Municipality of Anchorage

2.1.4.1.1 An operator of construction projects disturbing one or more acres of land shall submit a copy of the SWPPP to either DEC or the Municipality based on the project type and operator as shown in the following table.

<table>
<thead>
<tr>
<th>Project Type</th>
<th>Submit SWPPP to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government (Federal, state, or Port of Anchorage) road projects and other</td>
<td>DEC</td>
</tr>
<tr>
<td>government sponsored transportation projects such as ports, railroads, or</td>
<td></td>
</tr>
<tr>
<td>airports</td>
<td></td>
</tr>
<tr>
<td>Government (municipal) road projects and other government transportation</td>
<td>Municipality</td>
</tr>
<tr>
<td>projects</td>
<td></td>
</tr>
<tr>
<td>Public or private utility projects when the utility is initiating the work</td>
<td>Municipality</td>
</tr>
<tr>
<td>Work that requires a building permit</td>
<td>Municipality</td>
</tr>
<tr>
<td>Non-publicly funded transportation projects</td>
<td>Municipality</td>
</tr>
</tbody>
</table>

**Table 3: SWPPP Submittal within Municipality of Anchorage MS4 area.**
2.1.4.2 Submittal of the SWPPP to the DEC shall be to the address given in Part 2.1.2.1.

2.1.4.3 Submittal of the SWPPP to the DEC shall be to the address in Appendix A, Part 1.1.1.

2.1.4.4 Within the road service areas of the Fairbanks North Star Borough, check with the Borough for the latest SWPPP submittal requirements at the address given in Part 2.1.2.3. An operator of a publicly-funded project disturbing one or more acres of land shall submit a copy of the SWPPP to the DEC for review at the address in Appendix A, Part 1.1.1.

2.1.4.5 Within the City of Fairbanks, check with the City for the latest SWPPP submittal requirements at the address given in Part 2.1.2.4. An operator of a public-funded project disturbing one or more acres of land shall submit a copy of the SWPPP to the DEC for review at the address in Appendix A, Part 1.1.1.

2.1.4.6 Within the City of North Pole, check with the City for the latest SWPPP submittal requirements at the address given in Part 2.1.2.5. An operator of a public-funded project disturbing one or more acres of land shall submit a copy of the SWPPP to the DEC for review at the address in Appendix A, Part 1.1.1.

2.1.5 Projects Using Active Treatment Systems. Submit engineering plans and projects details listed in Part 4.6.3.3 to DEC (Appendix A, Part 1.1.1) at least 14 calendar days prior to use of the active treatment system at the construction site.

2.1.6 Projects that Discharge to an Outstanding Natural Resource Water. Contact DEC at least 30 calendar days prior to commencement of construction activities 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), to discuss the need to conduct a site-specific antidegradation analysis. If an antidegradation analysis is required, it must be submitted at least 14 calendar days prior to filing the NOI. Before beginning construction activities, operators must receive a written approval of the analysis from the DEC.

Note: No Outstanding Natural Resource Waters are designated in Alaska as of the date of this permit issuance.

2.2 How to Obtain Authorization

2.2.1 To obtain authorization under this permit, an operator must:

2.2.1.1 Be responsible for a project located in the area where DEC is the permitting authority;

2.2.1.2 Meet the eligibility requirements of Part 1.4;

2.2.1.3 Develop a SWPPP according to the requirements in Part 5.0 prior to filing for an NOI and submit a copy of the SWPPP as specified in Part 2.1;

2.2.1.4 Select, design, install, and implement control measures in accordance with Part 4.0 to meet non-numeric effluent limits;
2.2.1.5 Submit a complete and accurate NOI either using DEC’s electronic system or using a paper form in accordance with Part 2.3 prior to commencing construction activities;

2.2.1.6 Pay the general permit authorization fees in accordance with 18 AAC 72.956;

2.2.1.7 Submit any additional information requested by the DEC or MS4 Operator (if applicable); and

2.2.1.8 Be granted authorization to discharge by the DEC.

2.2.2 Submission of the NOI demonstrates the operator’s intent to be covered by this permit; it is not a determination by DEC that the operator meets the eligibility requirements for the permit. A discharge is not authorized if:

2.2.2.1 The operator’s NOI is incomplete or inaccurate;

2.2.2.2 DEC requires the operator to obtain authorization under an individual permit or an alternative general permit; or

2.2.2.3 The discharge does not meet the eligibility requirements under Part 1.4.

2.2.3 If the information on the NOI is incorrect or is missing, the NOI will be deemed incomplete and permit authorization will not be granted. A complete NOI shall include the following information:

2.2.3.1 Operator: organization name, contact person and title, complete mailing address, telephone number and fax number and email address;

2.2.3.2 Billing Contact: organization name, contact person and title, complete mailing address, telephone number and fax number and email address. If the billing contact information is the same as the operator information, check the box on the NOI indicating that it is the same;

2.2.3.3 Project/site: project/site name, a physical location, the nearest 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;

2.2.3.4 SWPPP: 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, SWPPP contact if different than the operator contact;

2.2.3.5 Discharge: the name(s) of the waterbody to which the project discharges, identification if the project/site discharges to a waterbody that is impaired or has a TMDL, if so, confirmation that the discharge is consistent with the assumptions and requirements of the TMDL;

2.2.3.6 Treatment Chemicals: information for those projects that use treatment chemicals includes: the name(s) of the polymers, flocculants, or other treatment chemicals used; and

2.2.3.7 Signatory information in compliance with Appendix A, Part 1.12.

2.3 How to Submit an Notice of Intent (NOI)

2.3.1 Submittal Options. Each operator must submit an NOI to be authorized to discharge under this permit at least five business days prior to commencement of construction activities. DEC may need additional time for manual processing of NOIs. The complete and accurate NOI can be submitted either:
2.3.1.1 **Electronically (strongly encouraged):** Go to DEC’s Water Online Application System (OPA) web page at [http://dec.alaska.gov/water/oasys/index.html](http://dec.alaska.gov/water/oasys/index.html) to prepare and submit electronic NOI (eNOI). *Note the eNOI will likely be processed more quickly and result in faster receipt of an authorization to discharge.*

2.3.1.2 **Paper NOI Form:** Complete the CGP NOI form on DEC’s APDES Storm Water Forms web page at [http://dec.alaska.gov/water/wnpssc/stormwater/2016CGPForms.htm](http://dec.alaska.gov/water/wnpssc/stormwater/2016CGPForms.htm). Once the form is complete, scan and email the entire form (5 pages) to the permitting email address in Appendix A, Section 1.1.1 or submit a paper copy to DEC at the address listed in Appendix A, Section 1.1.1.

2.3.1.3 Applicants must pay the general permit authorization fee (in accordance with 18 AAC 72.956) before their NOI is considered complete.

2.4 **Submission Deadlines**

2.4.1 **New Projects.** The operator must submit a complete and accurate NOI and SWPPP (if project disturbs five or more acres in accordance with Part 2.1) prior to commencement of construction activities consistent with Parts 2.2.1 and 2.3 to obtain authorization under this permit.

2.4.2 **Permitted Ongoing Projects.**

2.4.2.1 An ongoing permitted project is one that commenced construction activities prior to the effective date of this permit and where the discharges from that project were authorized under the 2011 CGP (AKR100000). To continue coverage, a permittee must:

2.4.2.1.1 Continue to comply with the terms and conditions of the 2011 CGP until the permittee has been granted authorization under this permit or an alternative APDES permit, or submits a NOT;

2.4.2.1.2 Update the existing SWPPP as necessary to comply with the requirements of Part 3.0, Part 4.0 and Part 5.0 before submitting a new NOI, as described in Part 2.4.2.1.3; and

2.4.2.1.3 Submit a complete and accurate new NOI within 90 calendar days of the effective date of this permit according to Part 2.3.

2.4.2.2 If the permittee is eligible to submit a NOT (e.g., construction is finished and final stabilization has been achieved) before the 90th day, a new NOI is not required to be submitted provided a NOT is submitted within 90 calendar days after the effective date of this permit.

2.4.3 **Change of Permittee for an Authorized Ongoing Project.**

2.4.3.1 A permittee who submitted a complete and accurate new NOI consistent with Part 2.4.2 for a permitted project must file an NOI modification form consistent with Part 2.7 if there is a change in the permittee after filing the updated new NOI.

2.4.3.2 A permittee of an ongoing project who transfers ownership of the project, or a portion thereof, to a different operator, that operator will be required to submit a complete and accurate new NOI for a new project in accordance with Part 2.3.1

2.4.4 **Unpermitted Ongoing Project/Late Notification.**

An operator who commences construction activities without authorization to discharge for a project that requires submission of a NOI consistent with Part 2.2 must develop and/or update a project-specific SWPPP and submit a complete and accurate NOI consistent with
Part 2.3 as soon as practicable. The applicant is authorized to discharge in accordance with Part 2.5. The DEC reserves the right to take enforcement action for any unpermitted discharges or permit non-compliance that occurs between the commencement of construction and discharge authorization.

2.5 Date of Authorization to Begin Discharge

Authorization to discharge under this general permit requires the operator seeking authorization to submit to DEC a complete and accurate NOI and payment of fee. If the project disturbs five or more acres, a copy of the SWPPP must be submitted in accordance with Part 2.1 prior to commencement of construction activities consistent with Parts 2.2.1 and 2.3. The operator must receive written notification of authorization from DEC that coverage has been granted, and that a specific authorization number has been assigned prior to construction activities.

A permittee is authorized to discharge storm water from construction activities under the terms and conditions of this general permit upon the date specified in the issuance of the DEC authorization letter, which is posted on DEC’s water permit search website (http://dec.alaska.gov/Applications/Water/WaterPermitSearch/Search.aspx).

2.6 Continuation of Expired General Permit

If this permit is not reissued prior to the expiration date, it will be administratively continued in accordance with 18 AAC 83.155(c) and remain in force and effect for discharges that were covered prior to expiration.

2.6.1 The permittee is required to abide by all limitations, monitoring, and reporting included herein if the permit enters administrative extension until such time a permit is reissued authorizing the discharge or an NOT is submitted by the permittee.

2.6.2 A permittee who is authorized to discharge under this permit prior to the expiration date, any discharges authorized will automatically remain covered by this permit until the earliest of:

2.6.2.1 Authorization for coverage under a reissued permit or replacement of this permit following a permittee’s timely and appropriate submittal of a complete NOI requesting authorization to discharge under the new permit and compliance with the requirements of the new permit;

2.6.2.1.1 If a permittee fails to submit a timely NOI for coverage under the reissued or replacement permit, the permittee’s coverage will expire at midnight on the date that the NOI is due.

2.6.2.2 Submittal of a NOT;

2.6.2.3 Issuance of an individual permit for the project’s discharges; or

2.6.2.4 A formal permit decision by DEC to not reissue this general permit or not cover a particular discharger previously covered by the general permit, at which time DEC will identify a reasonable time period for covered dischargers to seek coverage under an alternative general permit or an individual permit. Coverage under this permit will cease at the end of this time period.

2.7 Submittal of a Modification to Original NOI

2.7.1 Modification. A permittee must file an NOI modification form to DEC (see Part 2.3) to update or correct the following information on the original NOI within 30 calendar days of the change:
2.7.1.1 Owner/Operator address and contact information;
2.7.1.2 Site information;
2.7.1.3 Estimated start or end dates;
2.7.1.4 Number of acres to be disturbed;
2.7.1.5 Change in decision to use or not use treatment chemicals; or
2.7.1.6 SWPPP location and contact information.
2.7.1.7 Continuation of expired permit in accordance with Part 2.6.
2.7.2 If the original project disturbance was between one and less than five acres, and will now
   disturb five acres or more, a SWPPP must be submitted with the NOI modification.
2.7.3 No general permit authorization fee is required when submitting an NOI modification.
2.7.4 **NOT Instead of Modification.** The permittee must submit a NOT instead of an NOI
   modification form to DEC within 30 calendar days when the operator has changed. The
   new owner/operator must file a new NOI to obtain coverage under the CGP. Coverage is
   not transferrable.

2.8 Alternative Permits

2.8.1 **DEC Requiring Authorization under an Alternative Permit**
DEC may terminate or revoke a permittee’s authorization under this permit and may
require a permittee to apply for and/or obtain authorization to discharge under an
alternative permit (i.e., an APDES individual permit or an alternative APDES general
permit in accordance with 40 CFR §122.64 and §124.5). If DEC requires a permittee to
apply for an alternative permit, DEC will notify the permittee in writing that a permit
application is required. This notification will include a brief statement of the reasons for
this decision, alternative permit application requirements, and an application form. In
addition, the notice will set a deadline to file the application, and will include a statement
that on the effective date of issuance or denial of the APDES individual permit, or the
effective date of authorization or denial of authorization under the alternative general
permit as it applies to the permittee, authorization under this general permit will
automatically terminate. An application must be submitted to DEC at the address in
Appendix A, Section 1.1.1. DEC may grant additional time to submit the application upon
a written request by the permittee provided the request is received prior to expiration of the
deadline. If the permittee is covered under this permit and fails to submit an alternative
permit application in a timely manner as required by DEC, then the authorization under
this permit will automatically terminate at the end of the day specified by DEC as the
deadline for application submittal. The DEC may take appropriate enforcement action for
any unpermitted discharge.

2.8.2 **Operator Requesting Authorization under an Alternative Permit**
An operator may request to be excluded from coverage under this general permit by
applying for an individual permit. The operator must submit an individual permit
application in accordance with 18 AAC 83.305 – 83.385 to DEC no later than ninety (90)
days after publication of the general permit to the address in Appendix A, Part 1.1.1. DEC
may grant the request by issuing an individual permit or authorization under an alternative
general permit if DEC deems that the reasons cited are adequate to support the request.
2.8.3 When a permittee is issued an APDES individual permit or is authorized to discharge under an alternative APDES general permit, the authorization under this permit is automatically terminated on the effective date of the individual permit or the date of authorization under the alternative general permit, whichever the case may be. If the permittee is denied an APDES individual permit or an alternative APDES general permit, the authorization under this permit is automatically terminated on the date of such denial, unless otherwise specified by DEC.

3.0 COMPLIANCE WITH STANDARDS AND LIMITS

3.1 Requirements for all Projects

3.1.1 A permittee must select, install, implement, and maintain control measures (described in Part 4.0) at the construction site to minimize the discharge of pollutants as necessary to meet WQS’s (18 AAC 70). A permittee must comply with all permit conditions with respect to installation and maintenance of control measures, inspections, monitoring (if necessary), corrective actions, reporting and recordkeeping.

3.1.2 In general, except in situations explained in Part 3.1.3, the storm water controls planned, developed, implemented, maintained, and updated by the permittee that are consistent with the provisions of Parts 3.0 through 9.0 are considered to meet the stringent requirements of this permit to ensure that the discharges do not cause or contribute to an excursion above any WQS (18 AAC 70).

3.1.3 At any time after authorization, DEC may determine that the permittee’s storm water discharges will cause, have reasonable potential to cause, or contribute to an excursion above any applicable WQS. If such a determination is made, DEC may require the permittee to:

3.1.3.1 Take corrective actions and modify storm water controls in accordance with Part 8.0 to adequately address the identified water quality concerns;

3.1.3.2 Submit valid and verifiable data and information that are representative of ambient conditions and indicate that the receiving water is attaining WQSs; or

3.1.3.3 Minimize discharges of storm water from the construction project and submit an individual permit application in accordance with Part 2.8.

3.1.4 All written responses required under this part must include a signed certification consistent with Appendix A, Part 1.12.

3.2 Discharge to Impaired Water Body

If the permittee is discharging into a water body with an EPA-established or approved TMDL, the permittee must implement measures 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 ensuring that the discharge does not exceed specific wasteload or load allocation that has been established that would apply to the discharge. The permittee must also evaluate the recommendation in the Implementation Section of the TMDL and incorporate applicable measures into the operation.
3.2.1 Discharging to an Impaired Water Body for Turbidity or Sediment (Category 5)

3.2.1.1 Permittees who (1) discharge into a water body that is listed on Alaska’s 303(d) List of Impaired Waters (Category 5) for turbidity or sediment (http://dec.alaska.gov/water/wqsar/Docs/Impairedwaters.pdf) and (2) disturbs 20 or more acres 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) that drains to an impaired water must:

3.2.1.1.1 Develop, implement, and modify as necessary a written site-specific monitoring plan consistent with Part 7.0 that specifies the sampling frequency and location.

3.2.1.1.2 Conduct turbidity sampling at the following locations to evaluate compliance with the WQS for turbidity:

3.2.1.1.2.1 Upstream turbidity in the impaired water at a representative location (upgradient) from the point of storm water discharge into the impaired water or outside the area of influence of the storm water discharge; and

3.2.1.1.2.2 Downstream turbidity at a representative location downstream from the point of discharge into the impaired water, inside the area of influence of the storm water discharge. Alternatively, the discharge turbidity may be measured at the point where the storm water discharge leaves the construction site, rather than when it is in the receiving water body.

3.2.1.1.3 Based on the sampling (as described in Part 3.2.1.1.2), the resulting water quality must meet the state WQS for turbidity, as follows:

3.2.1.1.3.1 The downstream sample may not exceed 5 nephelometric turbidity units (NTU) above the upstream sample when the upstream turbidity is 50 NTU or less; and

3.2.1.1.3.2 The downstream sample may not have more than 10% increase in turbidity when the upstream turbidity is more than 50 NTU, not to exceed a maximum increase of 25 NTU.

3.2.1.1.4 If the difference between the upstream and downstream sample exceeds the WQS for turbidity, the permittee must:

3.2.1.1.4.1 Review the SWPPP and the control measures selected for the project and make appropriate improvements and corrections to the control measures within seven calendar days of the date the discharge exceeds the WQS;

3.2.1.1.4.2 Update the SWPPP with the improvements and changes to the control measures;

3.2.1.1.4.3 Submit a corrective action report consistent with Part 9.2; and

3.2.1.1.4.4 Continue to sample daily until the discharged storm water is less than the WQS for turbidity for the receiving water.

3.2.2 Discharging to an Impaired Water Body with an Approved or Established TMDL for Turbidity or Sediment (Category 4a or 4b)

3.2.2.1 Operators are not eligible for authorization under this permit if:

3.2.2.1.1 An EPA-approved or established TMDL specifically precludes such discharges; or

3.2.2.1.2 The project involves a discharge of pollutants of concern (e.g. turbidity, sediment, debris, etc.) to waters with an EPA-approved or established TMDL for turbidity or sediment, unless control measures are implemented as necessary for consistency with the assumptions and requirements of the TMDL.
3.2.2.2 If a specific wasteload or load allocation has been established for turbidity or sediment that would apply to the discharge of storm water from the construction site, the permittee must implement necessary steps to meet that allocation. The permittee must also evaluate the implementation measures recommended in the TMDL and incorporate them as appropriate.

3.2.2.3 In a situation where an EPA-approved or established TMDL for turbidity or sediment has specified a general wasteload or load allocation for a pollutant of concern (e.g. turbidity, sediment, debris, etc.) that is applicable to construction storm water discharges, but no specific requirements for construction sites have been identified in the TMDL, the permittee should consult with DEC to confirm that meeting the standards in Parts 3.0 and 4.0 will be consistent with the approved TMDL.

3.2.2.4 Where an EPA-approved or established TMDL has not specified a wasteload or load allocation applicable to construction storm water discharges, but has not specifically excluded these discharges, compliance with the requirements in Parts 3.0 and 4.0 of this permit will generally be assumed to be consistent with the approved TMDL.

3.3 Protection of Endangered Species

A permittee must protect federally-listed endangered or threatened species, or federally-designated critical habitat.

3.3.1 An applicant 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) are likely to jeopardize the continued existence of any species that are federally-listed as endangered or threatened (listed) under the ESA or result in the adverse modification or destruction of federally-designated critical habitat under the ESA.

3.3.2 An applicant 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) 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.

4.0 CONTROL MEASURES

4.1 Control Measure Selection and Design Considerations

4.1.1 Permittees must select, design, install, and implement the control measures in this Part to the extent practicable. The specific control measures are based on the requirements of the national effluent limitation guidelines (ELG) that apply to the construction and development industry (40 CFR §450).

4.1.2 The selection, design, installation, maintenance, and removal of control measures must be in accordance with good engineering practices manufacturer specifications and address site-specific conditions such as precipitation, site topography, soil characteristics, and growing season. Permittees may deviate from such manufacturer’s specifications where the permittee provides justification for such deviation and includes documentation of their rationale in the SWPPP. If a permittee finds that their control measures are not achieving their intended effect of minimizing pollutant discharges, the permittee must modify these control measures in accordance with the corrective action requirements set forth in Part 8.0.
4.1.3 Erosion and Sediment Controls. A permittee must design, install, and maintain effective erosion and sediment controls to minimize the discharge of pollutants. At a minimum, such controls must be designed, installed, and maintained to:

4.1.3.1 Control storm water volume and velocity to minimize soil erosion and pollutant discharges;
4.1.3.2 Control storm water discharges, including both peak flowrates and total storm water volume, to minimize channel and streambank erosion and scour in the immediate vicinity of discharge points;
4.1.3.3 Minimize the amount of soil exposed during construction activity;
4.1.3.4 Minimize the disturbance of steep slopes;
4.1.3.5 Minimize sediment discharges from the site. The design, installation, and maintenance of erosion and sediment controls must address factors such as the amount, frequency, intensity, duration of precipitation; the nature of resulting storm water runoff; and soil characteristics, including the range of soil particle sizes expected to be present on the site;
4.1.3.6 Provide and maintain natural buffers around waters of the U.S., direct storm water to vegetated areas and maximize storm water infiltration to reduce pollutant discharges, unless infeasible;
4.1.3.7 Minimize soil compaction. Minimizing soil compaction is not required where the intended function of a specific area of the site dictates it be compacted.
4.1.3.8 Unless infeasible, preserve topsoil. Preserving topsoil is not required where the intended function of a specific area of the site dictates that the topsoil be disturbed or removed.

4.1.4 Additional Erosion and Sediment Controls Selection and Design Considerations:

4.1.4.1 Preventing storm water from coming into contact with polluting materials is generally more effective, and less costly, than removing pollutants from storm water;
4.1.4.2 Using a combination of control measures is more effective than using control measures in isolation for minimizing pollutants in the storm water discharge;
4.1.4.3 Using technologically available, economically practicable, and achievable methods in light of best industry practices;
4.1.4.4 Assessing the type and quantity of pollutants, including their potential to impact receiving water quality, is critical to designing effective control measures that will achieve the limits in this permit;
4.1.4.5 Minimizing impervious areas at the permittee’s facility and infiltrating runoff onsite (including bioretention cells, green roofs, and pervious pavement, among other approaches) can reduce runoff and improve groundwater recharge and stream base flows in local streams, although care must be taken to avoid ground water contamination;
4.1.4.6 Dissipate storm water runoff into open vegetated swales and natural depressions to reduce in stream impacts of erosive flows;
4.1.4.7 Conserving and/or restoring of riparian buffers will help protect streams from storm water runoff and improve water quality; and
4.1.4.8 Using treatment interceptors (e.g., sand filters) may be appropriate in some instances to minimize the discharge of pollutants.
4.2 **Erosion Control Measures**

A permittee must comply with the erosion control measures in this Part to minimize soil exposure on the site during construction.

4.2.1 **Delineation of Site**

A permittee must generally delineate (e.g., with flags, stakes, signs, silt fence, etc.) the location of any of the following that apply to the site:

4.2.1.1 All areas where soil disturbing construction activities will occur; and

4.2.1.2 Specific areas that will be left undisturbed such as trees, boundaries of sensitive areas, or buffers established under Part 4.2.3.

4.2.2 **Minimize the Amount of Soil Exposed during Construction Activity**

A permittee must include the following in the selection of control measures and the sequence of project construction as they apply to the project site:

4.2.2.1 Preserve areas of native topsoil on the site, unless infeasible; and

4.2.2.2 Sequence or phase construction activities to minimize the extent and duration of exposed soils.

4.2.3 **Maintain Natural Buffer Areas**

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 construction activity in accordance with the following:

4.2.3.1 The buffer must be a minimum of 25 feet wide, or the width as required by local ordinance, unless infeasible based on site dimensions;

4.2.3.2 Exceptions are allowed for water dependent activities, specific water access activities, or necessary water crossings;

4.2.3.3 A permittee should, to the extent practicable, use perimeter controls adjacent to buffers and direct storm water sheet flow to buffer areas to increase sediment removal and maximize storm water infiltration.

4.2.4 **Clearing Vegetation**

4.2.4.1 Clearing of vegetation that disturbs the vegetative mat and exposes soil is **prohibited** prior to obtaining authorization under this permit.

4.2.4.2 Cutting of trees and brush while the ground is frozen without disturbing the vegetative 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 vegetation clearing that disturbs the vegetative mat and occurs after the onset of spring thaw (as defined in Appendix C) or conditions that consist of above freezing temperatures that cause melting of snow, the permittee must develop a SWPPP and file an NOI. Operators must receive authorization under this permit and otherwise comply with the terms of this permit prior to such clearing.

4.2.5 **Control Storm Water Discharges and Flow Rates**

A permittee must include the following control measures to handle storm water and total storm water volume discharges as they apply to the site:

4.2.5.1 Divert storm water around the site so that it does not flow onto the project site and cause erosion of exposed soils;

4.2.5.2 Slow down or contain storm water that may collect and concentrate within a site and cause erosion of exposed soils;
4.2.5.3 Avoid placement of structural control measures in active floodplains to the degree technologically and economically practicable and achievable;

4.2.5.4 Place velocity dissipation devices (e.g., check dams, sediment traps, or riprap) along the length of any conveyance channel to provide a non-erosive flow velocity. Also place velocity dissipation devices where discharges from the conveyance channel or structure join a water course to prevent erosion and to protect the channel embankment, outlet, adjacent stream bank slopes, and downstream waters; and

4.2.5.5 Install permanent storm water management controls, where practical, so that they are functional prior to construction of site improvements (e.g., impervious surfaces).

4.2.6 **Protect Steep Slopes**

A permittee must consider the following in the selection of control measures as they apply to the project site:

4.2.6.1 Design and construct cut-and-fill slopes in a manner that will minimize erosion. Applicable practices include, but are not limited to, reducing continuous length of slope with terracing and diversions, reducing slope steepness, and roughening slope surfaces (e.g., track walking);

4.2.6.2 Divert concentrated flows of storm water away from and around the disturbed portion of the slope. Applicable practices include, but are not limited to interceptor dikes and swales, grass-lined channels, pipe slope drains, subsurface drains, check dams; and

4.2.6.3 Stabilize exposed areas of the slope in accordance with Part 4.5.

4.3 **Sediment Control Measures**

Sediment control measures (e.g. sediment ponds, traps, filters, etc.) must be constructed as one of the first steps in grading. These control measures must be functional before other land disturbing activities take place. A permittee must install, establish, and use any of the following control measures that apply to the project site.

4.3.1 **Storm Water Inlet Protection**

A permittee must install appropriate protection measures (e.g. filter berms, perimeter controls, temporary diversion dikes, etc.) to minimize the discharge of sediment prior to entry into storm water inlets located on site or immediately downstream of the site.

4.3.2 **Water Body Protection**

A permittee must install appropriate protection measures (e.g. velocity dissipation devices in accordance with Part 4.2.5.4) to minimize the discharge of sediment prior to entry into the water body for water bodies located on site or immediately downstream of the site.

4.3.3 **Down-Slope Sediment Controls**

A permittee must establish and use down-slope sediment controls (e.g., silt fence or temporary diversion dike) for any portion of the down-slope and side-slope perimeter where storm water will be discharged from disturbed areas of the site.

4.3.4 **Stabilized Construction Vehicle Access and Exit Points**

A permittee must establish construction vehicle access and exit points. Access and exit points should be limited to one route, if possible. If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize off-site impacts.
4.3.5 Dust Generation and Track-Out from Vehicles
A permittee must minimize the generation of dust through the application of water or other
dust suppression techniques and prior to vehicle exit. A permittee must provide an
effective way of minimizing off-site vehicle tracking of sediment from wheels to prevent
track-out onto paved surfaces.

4.3.6 Soil Stockpiles
In accordance with Part 4.5.1, a permittee must stabilize or cover soil stockpiles, protect
with sediment measures. Locate soil stockpiles away from storm water inlets, water bodies,
and conveyance channels, if possible.

4.3.7 Authorized Non-Storm Water Discharges
A permittee must minimize any non-storm water authorized by this permit.

4.3.8 Sediment Basins, where applicable:

4.3.8.1 For common drainage locations that serve an area with 10 or more acres disturbed at
one time, a temporary (or permanent) sediment basin that provides storage for a
calculated volume of runoff from the drainage area from a 2-year, 24-hour storm, or
equivalent sediment control measures, must be installed, maintained, and used where
practicable until final stabilization of the site.

4.3.8.1.1 Where no such calculation has been performed, a temporary (or permanent)
sediment basin providing 3,600 cubic feet of storage per acre drained, or
equivalent sediment control measures, must be installed and used where
practicable until final stabilization of the site. When computing the number of
acres draining into a common location, it is not necessary to include flows from
offsite areas and flows from on-site areas that are either undisturbed or have
undergone final stabilization where such flows are diverted around both the
disturbed area and the sediment basin.

4.3.8.1.2 In determining whether installing a sediment basin is practicable, the permittee
may consider factors such as site soils, slope, available area on-site, etc. In any
event, the permittee must consider public safety, especially as it relates to children,
as a design factor for the sediment basin, and alternative sediment control
measures must be used where site limitations would preclude a safe design.

4.3.8.2 For drainage locations which serve 10 or more disturbed acres at one time and where a
temporary sediment basin or equivalent controls is not practicable, smaller sediment
basins and/or sediment traps should be used. Silt fences, vegetative buffer strips, or
equivalent sediment control measures are required for all down slope boundaries (and
for those side slope boundaries deemed appropriate as dictated by individual site
conditions).

4.3.8.3 For drainage locations serving less than 10 acres, sediment traps should be used. Silt
fences, vegetative buffer strips, or equivalent sediment control measures are required
for all down slope boundaries (and for those side slope boundaries deemed appropriate
as dictated by individual site conditions) of the construction area unless a sediment
trap providing storage for a calculated volume of runoff from a 2-year, 24-hour storm
event or 3,600 cubic feet of storage per acre drained is provided.

4.3.8.4 Surface outlets. When discharging from basins and impoundments, utilize outlet
structures that withdraw water from the surface, unless infeasible.

Note: Installing sediment basins in the presence of permafrost is challenging and
might not be practicable in some instances because permafrost creates poor surface
drainage that hinders the infiltration of runoff. Also, the excavation of permafrost in summer can trigger thawing and instability.

4.4 Dewatering

4.4.1 If a construction activity includes excavation dewatering that may adversely impact a local drinking water well, a DEC-identified contaminated site or groundwater plume, or waters of the U.S., the permittee may be required to obtain authorization under the DEC General Permit for Excavation Dewatering (AKG002000 or most current version) in addition to this permit.

4.4.2 A discharge from eligible dewatering activities, including discharges from dewatering of trenches and excavations, are prohibited unless treated by appropriate control measures. Appropriate control measures include, but are not limited to, sediment basins or traps, dewatering tanks, weir tanks, or filtration systems designed to remove sediment.

4.5 Soil Stabilization

A permittee must stabilize all disturbed areas of the site to minimize erosion and sedimentation and the resulting discharge of pollutants according to the requirements of this Part. A permittee must ensure that existing vegetation is preserved and a natural buffer is maintained wherever possible, and disturbed portions of the site are stabilized (Part 4.2.3). A permittee should avoid using impervious surfaces for stabilization. Applicable stabilization control measures include, but are not limited to:

- Temporary and permanent seeding;
- Sodding;
- Mulching;
- Rolled erosion control product;
- Compost blanket;
- Soil application of Polyacrylamide (PAM);
- Early application of gravel base on areas to be paved; and
- Dust control.

4.5.1 Minimum Requirements for Soil Stabilization. A permittee must consider the selection and implementation of control measures and the sequence of project construction as they apply to the project site.

4.5.1.1 Deadline to Initiate Stabilization. Stabilization of disturbed areas must, at a minimum, be initiated immediately whenever any 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:

4.5.1.1.1 Seven (7) calendar days for those areas of the state with a mean annual precipitation of forty (40) inches or greater; or

4.5.1.1.2 Fourteen (14) calendar days for those areas of the state with a mean annual precipitation less than forty (40) inches.

*Note: In the context of this provision, “immediately” means no later than the end of the next work day, following the day when the earth-disturbing activities have temporarily or permanently ceased.*
Note: Earth-disturbing activities have temporarily ceased when clearing, grading, and excavation within any area of the site that will not include permanent structures will not resume (i.e., the land will be idle) for a period of seven or 14 or more calendar days (dependent on mean annual precipitation from above), but such activities will resume in the future.

The timeframe above begins counting as soon as you know that construction work on a portion of your site will be temporarily ceased. In circumstances where you experience unplanned or unanticipated delays in construction due to circumstances beyond your control (e.g., sudden work stoppage due to unanticipated problems associated with construction labor, funding, or other issues related to the ability to work on the site; weather conditions rendering the site unsuitable for the continuation of construction work) and you do not know at first how long the work stoppage will continue, your requirement to immediately initiate stabilization is triggered as soon as you know with reasonable certainty that work will be stopped for the time period above. At that point, you must comply with Parts 4.5.1.1 and 4.5.1.2.

4.5.1.1.3 Types of activities considered to constitute initiation of stabilization, but is not limited to:

4.5.1.1.3.1 Prepping the soil for vegetative stabilization by performing all activities necessary to initially seed or plant the area to be stabilized or for non-vegetative stabilization by installing or application of physical, structural, or mechanical measures;

4.5.1.1.3.2 Applying mulch or other non-vegetative product to the exposed area;

4.5.1.1.3.3 Seeding or planting the exposed area;

4.5.1.1.3.4 Starting any of the activities in Part 4.5.1.1.3.1 - 4.5.1.1.3.3 on a portion of the area to be stabilized, but not on the entire area; and

4.5.1.1.3.5 Finalizing arrangements (e.g., delivery of stabilization products, scheduling the installation of the products) to have stabilization product fully installed in compliance with the applicable deadline for completing stabilization in Parts 4.5.1.1 and 4.5.1.2.

4.5.1.2 Deadline to Complete Temporary Stabilization Activities. As soon as practicable, but no later than 14 calendar days after the initiation of soil stabilization measures consistent with Part 4.5.1.1, the following are required to be completed:

4.5.1.2.1 For vegetative stabilization, all activities necessary to initially seed or plant the area to be stabilized; and/or

4.5.1.2.2 For non-vegetative stabilization, the installation or application of all such non-vegetative measures.

Note: DEC may determine, based on an inspection carried out under Part 6.6 and corrective actions required under Part 8.1.1.4 Corrective Action Required by DEC, that the level of sediment discharge on the site makes it necessary to require a faster schedule for completing stabilization. For instance, if sediment discharges from an area of exposed soil that is required to be stabilized are compromising the performance of existing storm water controls, DEC may require stabilization to correct this problem and may take appropriate enforcement action.
4.5.1.3 **Exceptions to the Deadlines for Initiating and Completing Stabilization.**

4.5.1.3.1 **Projects in Arid or Semi-Arid, or Drought-Stricken Areas.** For those areas of the state with a mean annual precipitation is less than or equal to 20 inches and where initiating perennial vegetative stabilization measures is infeasible within 14 calendar days after construction activity has temporarily ceased, vegetative or non-vegetative stabilization measures must be initiated as immediately.

*Note: In the context of this provision, “immediately” means no later than the end of the next work day, following the day when the earth-disturbing activities have temporarily or permanently ceased.*

4.5.1.3.1.1 Immediately initiate, and within 14 calendar days complete, the installation of non-vegetative stabilization measures to prevent erosion.

4.5.1.3.1.2 If construction is occurring during a drought-stricken period, indicate in the SWPPP the beginning and ending dates of the drought-stricken period and your site conditions. Include the schedule for initiating and completing vegetative stabilization.

4.5.1.3.2 **Deadlines for projects that are affected by circumstances beyond the control of the permittee** that delay the initiation and/or completion of vegetative stabilization as required in Parts 4.5.1.1 and/or 4.5.1.2. If the permittee is unable to meet the deadlines in Parts 4.5.1.1 and/or 4.5.1.2 due to circumstances beyond the permittee’s control, and is using vegetative cover for temporary stabilization, the permittee may comply with the following stabilization deadlines instead:

4.5.1.3.2.1 Immediately initiate, and within 14 calendar days complete, the installation of temporary non-vegetative stabilization measures to prevent erosion;

4.5.1.3.2.2 Complete all soil conditioning, seeding, watering or irrigation installation, mulching, and other required activities related to the planting and initial establishment of vegetation as soon as conditions or circumstances allow it on the site; and

4.5.1.3.2.3 Document the circumstances in the SWPPP that prevent meeting the deadlines required in Parts 4.5.1.1 and/or 4.5.1.2 and the proposed schedule for initiating and completing stabilization.

4.5.1.3.3 Winter Considerations, see Part 4.12.

4.5.1.3.4 In limited circumstances, stabilization may not be required if the intended function of a specific area of the site necessitates that it remain disturbed.

4.5.1.4 **Deadline to Complete Final Stabilization Activities.** A permittee must consider the selection and implementation of control measures and the sequence of project construction as they apply to the project site.

4.5.1.5 The permittee must within seven (7) calendar days of initiating final stabilization complete or continue maintenance for the following on any portion of the site that has reached final grading and for areas where clearing, grading, excavating, or other earth disturbing activities have permanently ceased:

4.5.1.5.1 All soil conditioning, seeding, watering, mulching, and any other required activities for the establishment of vegetative cover;

4.5.1.5.2 The installation or application of all such measures for vegetative cover; and/or

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2 Examples include problems with the supply of seed stock or with the availability of specialized equipment, unsuitability of soil conditions due to excessive precipitation and/or flooding.
4.5.1.5.3 The placement of non-vegetative final stabilization measures.

4.5.2 Stabilization Requirements for Terminating Permit Authorization

To terminate authorization under this permit, final stabilization (as defined in Appendix C), must be achieved on all portions of the site for which a permittee is responsible and all ground disturbing construction activity or use of related support activities must be completed, in accordance with Part 10.2.1.

4.6 Treatment Chemicals

The use of treatment chemicals to reduce erosion or sediment in a storm water discharge is allowed provided that all of the requirements of this Part are met.

4.6.1 Selection of Treatment Chemicals. Because environmental and climactic conditions, such as soil type, water temperature, and topography vary widely within the state, it is critical that treatment chemicals be selected to accommodate site-specific conditions at each construction site. Permittees must select treatment chemicals that meet the following criteria and document the selection process in the SWPPP:

4.6.1.1 The chemical is appropriate for soils likely to be exposed during construction, the amount of precipitation expected at the site, topography, and water chemistry;

4.6.1.2 Manufacturer and/or supplier provided Material Safety Data Sheets, specifications, and instructions for the transport, handling, storage, application, and disposal of the treatment chemical;

4.6.1.3 Approval by EPA for potable water use;

4.6.1.4 Approval by EPA or the states of California, Minnesota, Oregon, Washington, or Wisconsin for use in controlling erosion or sediment runoff from agricultural land or construction projects;

4.6.1.5 Manufacturer and/or supplier provided test results recognized by EPA or the states of California, Minnesota, Oregon, Washington, or Wisconsin that demonstrate that the treatment chemical is non-toxic to aquatic organisms when applied following the manufacturer or supplier recommended method of use and rate of application;

4.6.1.6 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 4.6.3.3; and

4.6.1.7 All person(s) who handle and apply treatment chemicals at the construction site must receive training in the proper handling and application of treatment chemicals. The names and titles of persons who receive training and the date(s) training occurred must be documented in the SWPPP in accordance with Part 5.8.2.7.

4.6.2 Use of Treatment Chemicals. If treatment chemicals are used, the permittee must comply with the following requirements:

4.6.2.1 Use treatment chemicals in accordance with good engineering practices and product-specific specifications. If during an inspection the DEC finds the permittee exceeds the manufacturer specifications in the use of a treatment chemical, the DEC may prohibit further use of the treatment chemical at the construction activity;

4.6.2.2 Prior to and after use, install appropriate physical control measures (e.g., rolled erosion control products, ditch check dams, sediment basins, sediment bags, filtration) to ensure effectiveness of the treatment chemical;

4.6.2.3 Document the following in the SWPPP:

4.6.2.3.1 Specific chemicals and chemical treatment systems used;
4.6.2.3.2 Names and titles of person(s) who handle and apply treatment chemicals;
4.6.2.3.3 Title of training conducted, date, instructor name, and attendees.
4.6.2.3.4 A permittee must train employees who handle treatment chemicals to comply with
the information required by Part 4.6.1.
4.6.2.4 A permittee must handle, store, and dispose of treatment chemicals, waste chemicals,
or flocculants in appropriate leak proof containers under a storm-resistant cover or
surrounded by secondary containment structures so as to prevent their discharge to
waters of the U.S.

4.6.3 Application of Treatment Chemicals. The application of treatment chemicals shall be in
combination with appropriate physical control measures (e.g., rolled erosion control
products, ditch check dams, sediment basins, sediment bags, filtration, etc.) to ensure
effectiveness of the treatment chemical. The use of treatment chemicals is not considered a
substitute for appropriate physical control measures and does not preclude any other
requirement of this permit.

4.6.3.1 Land Application
4.6.3.1.1 A permittee shall comply with all Material Safety Data Sheet requirements and
follow the manufacturer and/or suppliers written recommended application rate,
including site-specific considerations;
4.6.3.1.2 A permittee shall use an application method that provides uniform coverage of the
target area and avoids drift to non-target areas;
4.6.3.1.3 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.

4.6.3.2 Water Application (including conveyance channel)
4.6.3.2.1 A permittee shall follow the manufacturer and/or suppliers written recommended
application rate, including site-specific considerations;
4.6.3.2.2 The application shall always be upstream from a pre-constructed sediment trap,
basin inflow structure, vegetated swale, filtering device or a vegetated buffer of
sufficient width to ensure adequate removal of sediments laden with treatment
chemicals before discharges reach waters of the U.S.;
4.6.3.2.3 Treatment chemicals shall not be applied directly to a waters of the U.S.; and
4.6.3.2.4 Application through the use of manufactured products (e.g. gel bars, gel logs, floc
blocks, etc.) shall be used in combination with adequate ditch check dams, settling
basins, or other physical control measures designed to settle out chemically treated
soils and minimize the presence of treatment chemicals before discharges reach
waters of the U.S. At a minimum there must be at least 100 feet of ditch length
downstream of the last manufactured product prior to reaching a waters of the U.S.
to provide a place for sedimentation to occur; DEC may approve other alternatives
on a case-by-case basis.
4.6.3.3 **Active Treatment Systems.** A permittee who uses an Active Treatment System must submit the following project information to the DEC at least 14 days prior to the start of operation of an active treatment system at the project location. At a minimum, the information must provide details on the following:

- Relevant information required by Part 4.6.1,
- Engineering plans,
- Description of treatment process,
- Site conditions (including soil types),
- Treatment chemicals and 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.

4.7 **Prohibited Discharge**

4.7.1 A permittee is prohibited from discharging the following from the site:

4.7.1.1 Wastewater from concrete washout, unless managed by an appropriate control measure;

4.7.1.2 Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other hazardous construction materials;

4.7.1.3 Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; and

4.7.1.4 Soaps or solvents used in vehicle and equipment washing.

4.8 **Good Housekeeping Measures**

A permittee must design, install, implement, and maintain effective good housekeeping measures to prevent and/or minimize the discharge of pollutants. At a minimum, such measures must be designed, installed, implemented, and maintained to:

- Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;

- Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials present on the site to precipitation and to storm water. Minimization of exposure is not required in cases where the exposure to precipitation and to storm water will not result in a discharge of pollutants, or where exposure of a

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3 Specific submittal requirements can be found at the DEC storm water website at [http://dec.alaska.gov/water/wnpspc/stormwater/sw_construction.htm](http://dec.alaska.gov/water/wnpspc/stormwater/sw_construction.htm)
specific material or product poses little risk of storm water contamination (such as final products and materials intended for outdoor use); and

- Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures.

A permittee must include appropriate measures for any of the following activities that are used at the site.

4.8.1 **Washing of Equipment and Vehicles and Wheel Wash-Down.** If a permittee conducts washing of equipment or vehicles and/or wheel wash-down at the site the permittee must comply with the following requirements:

4.8.1.1 Designate areas to be used for washing of equipment and vehicles and/or wheel wash-down and conduct such activities only in these areas;

4.8.1.2 Locate such activities, to the extent practicable, away from storm water conveyance channels, storm water inlets, storm water inlets, and waters of the U.S.;

4.8.1.3 Treat all wash water in a sediment basin or use alternative control measures that provide equivalent or better treatment prior to discharge; and

4.8.1.4 To comply with the prohibition in Part 4.7.1.4, the discharge of soaps and solvents used in equipment and vehicle washing and/or wheel wash-down is strictly prohibited.

4.8.2 **Fueling and Maintenance Areas.** If a permittee conducts fueling and/or maintenance activities for equipment and vehicles at the site the permittee must comply with the following requirements:

4.8.2.1 Designate areas to be used for fueling and/or maintenance of equipment and vehicles and conduct such activities only in these areas (the designated area may move from one location to another on linear projects);

4.8.2.2 Locate such activities, to the extent practicable, away from storm water conveyance channels, storm water inlets, and waters of the U.S.;

4.8.2.3 Minimize the exposure to precipitation and storm water or use secondary containment structures designed to eliminate the potential for spills or leaked chemicals; and

4.8.2.4 To comply with the prohibition in Part 4.7.1.3, a permittee must:

4.8.2.4.1 Clean up spills or contaminated surfaces immediately;

4.8.2.4.2 Ensure adequate clean up supplies are available at all times to handle spills, leaks, and disposal of used liquids;

4.8.2.4.3 Use drip pans or absorbents under or around leaky equipment and vehicles; and

4.8.2.4.4 Dispose of liquid wastes or materials used for fueling and maintenance in accordance with Part 4.8.6.

4.8.3 **Staging and Material Storage Areas.** If a permittee maintains staging and material storage areas at the site the permittee must comply with the following requirements:

4.8.3.1 Designate areas to be used for staging and material storage areas;

4.8.3.2 Locate such activities, to the extent practicable, away from storm water conveyance channels, storm water inlets, and waters of the U.S.; and

4.8.3.3 Minimize the exposure to precipitation and storm water and vandalism for all chemicals, treatment chemicals, liquid products, petroleum products, and other materials that have the potential to pose a threat to human health or the environment.
4.8.4 Washout of Applicators/Containers used for Paint, Concrete, and Other Materials. If a permittee conducts washing of applicators and/or containers used for paint, concrete, and other materials at the site, the permittee must comply with the following requirements:

4.8.4.1 Designate areas to be used for washout;

4.8.4.2 Locate such activities, to the extent practicable, away from storm water conveyance channels, storm water inlets, and waters of the U.S.;

4.8.4.3 Direct all concrete, paint, and other material washout activities into a lined, water-tight container or pit to ensure there is no discharge into the underlying soil and onto the surrounding areas;

4.8.4.4 Dispose of liquid wastes in accordance with Part 4.8.6; and

4.8.4.5 For concrete washout areas, remove hardened concrete waste when it has reached one-half (½) the height of the container or pit and dispose of in accordance with Part 4.8.6.

4.8.5 Fertilizer or Pesticide Use. If a permittee uses fertilizers or pesticides the permittee must comply with the following requirements:

4.8.5.1 Application of fertilizers and pesticides in a manner and at application rates that will minimize the loss of chemical to storm water runoff. Manufacturers’ label requirements for application rates and disposal requirements must be followed; and

4.8.5.2 Obtain authorization under the Pesticide General Permit for Discharges from the Application of Pesticides (AKG870000 or current version) from the DEC Division of Water and/or a Pesticide-Use Permit from the DEC Division of Environmental Health⁴.

4.8.5.3 Use pesticides in compliance with federal, state, and local requirements.

4.8.6 Storage, Handling, and Disposal of Construction Waste. If a permittee stores, handles and/or disposes of construction waste at the site, the permittee must comply with the following requirements:

4.8.6.1 Locate areas dedicated for management of construction waste, to the extent practicable, away from storm water conveyance channels, storm water inlets, and waters of the U.S.;

4.8.6.2 Dispose of all collected sediment, asphalt and concrete millings, floating debris, paper, plastic, fabric, construction and demolition debris and other domestic wastes according to federal, state and local requirements;

4.8.6.3 Store hazardous or toxic waste in appropriate sealed containers and dispose of these wastes in accordance with manufacturer’s recommended method of disposal or federal, state or local requirements; and

4.8.6.4 Provide containment of sanitation facilities (e.g., use of portable toilets) to prevent discharges of pollutants to the storm water drainage system or receiving water. Clean or replace sanitation facilities and inspect them regularly for leaks and spills.

4.9 Spill Notification

4.9.1 A permittee is prohibited from discharging hazardous substance or oil from a spill or other release. Upon discovery of a spill, a permittee must report the spill in accordance with Part 9.3.

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4.10  Projects near a Public Water System (PWS)

4.10.1 Where the project intersects a PWS drinking water protection area (DWPA) (see Part 5.3.5.15), notify the PWS contact. PWS contact information can be obtained using the online application, Drinking Water Watch, http://dec.alaska.gov:8080/DWW by entering the appropriate 6-digit PWS ID (e.g., 225025).

4.10.2 Within the identified DWPA, restrict project activities that could significantly change the natural surface water drainage or groundwater gradient.

4.10.3 Immediately notify the nearby PWS of any identified potential contamination, such as spills or excess erosion.

4.11  Permanent Storm Water Management Control

A permittee must comply with applicable APDES MS4 permit requirements, local requirements, and the applicable requirements under 18 AAC 72.600 (i.e., Nondomestic Wastewater System Plan Review) regarding the design and installation of permanent storm water management controls. Structural measures should be placed on upland soils to the degree practicable and achievable.

4.11.1 A permittee who constructs, alters, installs, modifies, or operates any part of a permanent storm water management control at a site and is located outside a municipality operating under an APDES MS4 permit must submit a copy of the engineering plans in accordance with 18 AAC 72.600 to DEC for review at the address in Appendix A Part 1.1.1 at least 30 calendar days before the commencement of construction.

4.11.2 A permittee who constructs, alters, installs, modifies, or operates any part of a permanent storm water management control measure at a site and is located inside a municipality operating under an APDES MS4 permit must submit a copy of the required submittal information to the respective MS4 operator for review. Permittees must contact the MS4 Operator for submittal deadlines. See http://dec.alaska.gov/water/wnpspc/stormwater/sw_municipal.htm for a list of MS4 Operators and their contact information.

4.12  Winter Considerations

4.12.1 Winter Shutdown. A permittee who plans to cease construction during the winter and resume construction the next summer must plan for winter shutdown and prepare their site to manage storm water flows until construction activities resume. The permittee must identify the anticipated dates of fall freeze-up and spring thaw (see Appendix C) for their site and use these dates to plan for winter shutdown. Frozen ground by itself is not considered an acceptable control measure for stabilization.

4.12.1.1 A permittee must ensure the following measures are complete prior to fall freeze-up until construction activities resume:

4.12.1.1.1 Temporary or final stabilization for conveyance channels;

4.12.1.1.2 Temporary or final stabilization for disturbed slopes, disturbed soils, and soil stockpiles; and

4.12.1.1.3 Proper installation of erosion and sediment control measures in anticipation of spring thaw.

4.12.1.2 Where temporary stabilization is precluded by snow cover or frozen ground conditions prior to the anticipated date of Fall Freeze-up, stabilization measures must be initiated as soon as practicable following the actual spring thaw.
4.12.2 **Winter Construction.** A permittee conducting winter construction activities that may extend beyond spring thaw must install appropriate control measures to minimize erosion and sediment runoff during spring thaw and summer rainfall. Permit authorization is not required for the construction of ice roads or the placement of sand or gravel on frozen tundra with no excavation or potential to pollute waters of the U.S.

4.13 **Maintenance of Control Measures**

4.13.1 A permittee must maintain all control measures, good housekeeping measures, and other protective measures in effective operating condition. If site inspections required by Part 6.0 identify control measures, good housekeeping measures, or other protective measures that are not operating effectively, the permittee must implement corrective actions in accordance with Part 8.0.

4.13.2 If existing control measures need to be modified or if additional control measures are necessary for any reason, the permittee must complete any corrective action in accordance with the deadlines stated in Part 8.2.

4.13.3 A permittee must remove sediment from silt fences, check dams, berms or other controls before the accumulated sediment reaches:

4.13.3.1 One-third (⅓) the distance up the above-ground height (or it reaches a lower height based on manufacturer’s specifications) for silt fences;

4.13.3.2 One-half (½) the distance up the above-ground height (or it reaches a lower height based on manufacturer’s specifications or BMP guidance manuals) for storm water inlets, check dams, berms, or other control measure; or

4.13.3.3 For sediment traps or sediment ponds, the permittee must remove accumulated sediment when the design capacity has been reduced by fifty (50%) percent.

4.14 **Storm Water Lead and Training of Employees**

A permittee must identify one “qualified person” (as defined in Appendix C) as the storm water lead to ensure the control measures described in the SWPPP are implemented as written, or modified as necessary, during construction. The qualifications and training for the storm water lead, SWPPP preparer, storm water inspector, and monitoring person for a site varies with the size of the project. A permittee must ensure that employees and subcontractors receive adequate training to ensure proper installation, maintenance, and removal of the control measures described in the SWPPP for the project.

4.15 **Applicable Federal, State, Tribal, or Local Requirements**

A permittee must ensure that the storm water control measures implemented at the site are consistent with all applicable federal, state, tribal, or local requirements for soil and erosion control and storm water management.

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5 The Alaska Storm Water Guide, Chapters 3 and 4, provide guidance on the selection, design, and installation of winter construction practices and controls.
5.0 STORM WATER POLLUTION PREVENTION PLAN

5.1 Storm Water Pollution Prevention Plan (SWPPP)

5.1.1 A permittee must prepare a SWPPP for each site before submitting their NOI for permit coverage and document the control measures implemented at the site. The SWPPP is intended to document the selection, design, installation, and implementation of control measures that are being used to comply with the requirements set forth in Parts 3.0 and 4.0.

5.1.2 The SWPPP must, at a minimum:

5.1.2.1 Include the information described in Part 5.3.
5.1.2.2 Be implemented as written, including any modifications for changes in design or field conditions, until the submittal of the NOT.
5.1.2.3 Be developed by a “qualified person” (as defined in Appendix C).
5.1.2.4 Be signed and certified in accordance with Appendix A, Part 1.12.

5.2 Deadlines for SWPPP Preparation

5.2.1 An operator must prepare a SWPPP before submitting the NOI for authorization under this permit.

5.2.2 A permittee with an ongoing project with authorization under a previous construction general permit and a SWPPP that was developed based on that permit must review and update the SWPPP prior to submitting the NOI for authorization under this permit (see Part 2.4.2.1.2).

5.2.3 A permittee must provide a copy of the applicable portions of the SWPPP, or site–specific training to each subcontractor who engages in soil disturbing activities prior to the subcontractor conducting any soil disturbing activity. Revisions to the SWPPP that affect the subcontractor’s soil disturbing activities must be provided to the subcontractor in a timely manner.

5.3 SWPPP Contents

At a minimum, the SWPPP must include the following:

5.3.1 Permittee(s)
Identify the permittee(s) for the site and any subcontractors that may work on the site, including the areas where the subcontractors may be or are expected to conduct activities covered by this permit.

5.3.2 Storm Water Contact(s)
Identify the following qualified person(s) responsible for the following (Note: A small project may have all these responsibilities carried out by one person):

5.3.2.1 Storm Water Lead;
5.3.2.2 Updating the SWPPP according to Part 5.9;
5.3.2.3 Conducting inspections according to Part 6.0;
5.3.2.4 Conducting monitoring (if applicable) according to Part 7.0; and
5.3.2.5 Operating an Active Treatment System (if applicable) according to 4.6.3.3.

5.3.3 Project Site-Specific Conditions. Briefly describe the existing site-specific conditions, including:

5.3.3.1 The mean annual precipitation based on the nearest weather station;
5.3.3.2 Site conditions such as soils, topography, drainage patterns, approximate growing season, and vegetation; and

5.3.3.3 Receiving waters such as impaired waters or waters listed in the Alaska Department of Fish & Game (ADF&G) Anadromous Waters Catalog.

5.3.4 **Nature of Construction Activity.** Briefly describe the nature of the construction activity, including:

5.3.4.1 The function of the project (e.g., low density residential, shopping mall, subdivision, airport, highway, etc.);

5.3.4.2 The intended sequence and timing of activities that disturb soils at the site;

5.3.4.3 Size of the property including support activities described in Part 1.4.2.3 (in acres) and the total area expected to be disturbed by excavation, grading, or other construction activities (in acres);

5.3.4.4 A general location map (e.g., USGS quadrangle map, a portion of a city or county map, or other map) with enough detail to identify the location of the construction site and waters of the U.S. within one mile of the site; and

5.3.4.5 Identification of all potential sources of pollutants that may reasonably be expected to affect the quality of the storm water discharges from the site.

5.3.5 **Site Map(s).** The SWPPP must contain a legible site map (or set of maps for large projects) showing the entire site and identifying the following site-specific information:

5.3.5.1 Boundaries of the property where construction activities will occur;

5.3.5.2 Locations where earth-disturbing activities will occur, noting any phasing of construction activities;

5.3.5.3 Location of areas that will not be disturbed and natural features to be preserved;

5.3.5.4 Location of all storm water conveyances including ditches, pipes, and swales;

5.3.5.5 Locations of storm water inlets and outfalls, with a unique identification code for each outfall;

5.3.5.6 Municipal separate storm sewer systems, if present;

5.3.5.7 Direction(s) of storm water flow and approximate slopes anticipated after grading activities;

5.3.5.8 Locations where control measures will be or have been installed;

5.3.5.9 Locations where exposed soils will be stabilized or have been stabilized;

5.3.5.10 Locations where post-construction storm water controls will be or have been installed;

5.3.5.11 Locations of support activities described in Part 1.4.2.3;

5.3.5.12 Locations where authorized non-storm water will be used, including the types that will be used on-site;

5.3.5.13 Locations and sources of run-on to the site from adjacent property that may contain quantities of pollutants (e.g., sediment, fertilizers and/or pesticides, paints, solvents, fuels) which could be exposed to rainfall, or snowmelt, and could be discharged from your construction site;

5.3.5.14 Locations of all waters of the U.S. (including significant wetland areas 10,000 square feet or greater) on the site and those located within 2,500 feet of the site boundary that may be affected by storm water discharges from the site;
5.3.5.15 Location of existing public water system (PWS) drinking water protection areas (DWPA) for PWS sources (e.g. springs, wells, or surface water intakes) that intersect the boundary of the proposed project/permit area. The DWPAs can be found using the interactive web map application, “Alaska DEC Drinking Water Protection Areas”, located at [http://dec.alaska.gov/das/GIS/apps.htm](http://dec.alaska.gov/das/GIS/apps.htm).

5.3.5.16 Locations where storm water and/or authorized non-storm water discharges to waters of the U.S. (including wetlands) or an MS4;

5.3.5.17 Sampling Point(s) (if applicable): A permittee subject to the requirements of Parts 3.2 must include the location(s) of the storm water discharge sampling point(s). For a linear project, indicate which sampling points are considered substantially identical, in accordance with Part 7.3.4; and

5.3.5.18 Areas where final stabilization has been accomplished and no further construction-phase permit requirements apply.

5.3.6 Control Measures. The SWPPP must describe and document the location of all control measures that will be installed and maintained to meet the requirements in Parts 3.0 and 4.0. For each major activity identified in the project description, the SWPPP must clearly document the following.

5.3.6.1 The type of control measure to be installed and maintained and the location on the site for installation.

5.3.6.2 The general sequence during the construction process in which the control measures will be installed and made operational, as well as the manufacturer’s or BMP manual specifications for installation.

5.3.6.3 The general sequence of the stabilization practices that will be used to achieve temporary or final stabilization on exposed portions of the site as required in Part 4.5.

5.3.6.4 The type of treatment chemicals used on the site and a description of the general location of their use at the site, in accordance with Part 4.6.

5.3.6.5 The information submitted to DEC for an active treatment system, in accordance with Part 4.6.3.3

5.3.6.6 The good housekeeping measures that will be used at the site, if any, in accordance with Part 4.8.

5.3.6.7 A description of spill prevention and response measures that will be used at the site, in accordance with Part 4.9. The permittee may reference the existence of other plans for Spill Prevention and Control and Countermeasure (SPCC) for the project, provided that a copy of the other plan(s) is kept with the SWPPP.

5.3.6.8 A description of all permanent storm water management controls that will be installed at the site, including their location, in accordance with Part 4.11.

5.3.6.9 For projects that expect a winter shutdown, the SWPPP must provide a description of the following:

5.3.6.9.1 Anticipated dates of fall freeze-up and spring thaw (as defined in Appendix C); and

5.3.6.9.2 The methods the permittee will use to address winter considerations in accordance with Part 4.12.

5.3.6.10 A description of maintenance procedures for the control measures in accordance with Part 4.13.
5.3.6.11 A description of the training relevant to the construction activity and control measures used at the site in accordance with Part 4.14.

5.3.7 **Construction and Waste Materials.** The SWPPP must describe in general terms the type of construction and waste materials expected to be stored at the site with updates as appropriate and describe the measures for the handling and disposal of all wastes generated at the site, including clearing and demolition debris or other waste soils removed from the site, construction and domestic waste, hazardous or toxic waste, and sanitary waste.

5.3.8 **Locations of Other Industrial Storm Water Discharges.** The SWPPP must describe and identify the location of any storm water discharge associated with support activities described in Part 1.4.2.3. This includes storm water discharges from dedicated asphalt plants and dedicated concrete plants that are covered by this permit.

5.3.9 **Non-Storm Water Discharges.** The SWPPP must identify all authorized sources of non-storm water discharges listed in Part 1.4.3 of this permit, except for flows from firefighting activities that are combined with storm water discharges associated with construction activity at the site. The SWPPP must also describe the good housekeeping measures used to control or reduce non-storm water discharges.

5.4 **Inspections**

5.4.1 The SWPPP must document the procedures for performing site inspections specified by Part 6.0 of this permit, and where necessary, procedures for taking corrective actions in accordance with Part 8.0. At a minimum, the SWPPP must document the following:

5.4.1.1 Person(s) or positions of person(s) responsible for conducting site inspections;

5.4.1.2 Schedules to be followed for conducting inspections;

5.4.1.3 Any inspection checklist or form that will be used to collect and summarize data and observations; and

5.4.1.4 How conditions found that require corrective action will be addressed.

5.4.2 A record of each inspection and of any corrective actions taken in accordance with Part 8.0 must be retained with the SWPPP for at least three years from the date that permit authorization expires or is terminated.

5.5 **Monitoring Plan (if applicable)**

5.5.1 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:

5.5.1.1 Person(s) or positions of person(s) responsible for conducting monitoring;

5.5.1.2 Schedules to be followed for conducting the monitoring;

5.5.1.3 Any monitoring checklist or form that will be used to record monitoring results; and

5.5.1.4 How conditions found that require corrective action will be addressed.

5.5.1.5 A record of each monitoring event,

5.5.1.6 The annual report submitted to DEC in accordance with Part 9.1, and

5.5.1.7 Any corrective actions taken in accordance with Part 8.0.

5.5.2 A record of each monitoring event and of any corrective actions taken in accordance with Part 7.0 and 8.0 must be retained with the SWPPP for at least three years from the date permit authorization expires or is terminated.
5.6 **Documentation of Permit Eligibility Related to a Total Maximum Daily Load**

The SWPPP must include documentation supporting a determination of permit eligibility with regards to waters that have an EPA-established or approved TMDL. See Part 3.2 for additional information to determine eligibility related to a TMDL. The SWPPP must include the following:

5.6.1 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;

5.6.2 Summaries of consultation with state or federal TMDL authorities on consistency of SWPPP conditions with the approved TMDL; and

5.6.3 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 or load allocation that has been established that would apply to the discharge.

5.7 **Documentation of Permit Eligibility Related to Endangered Species**

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

5.7.1 Information on whether federally-listed endangered or threatened species or designated critical habitat may be in the project area;

5.7.2 Whether such species or critical habitat may be adversely affected by storm water discharges or storm water discharge-related activities from the project;

5.7.3 Results of the listed species and critical habitat screening determinations;

5.7.4 Any correspondence between the U.S. Fish and Wildlife Service (USFWS), EPA, National Marine Fisheries Service (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

5.7.5 A summary description of measures necessary to protect federally-listed endangered or threatened species or federally-designated critical habitat.

5.8 **Post-Authorization Records**

5.8.1 **Copy of Permit Requirements.** The SWPPP must contain the following documents:

5.8.1.1 A copy of this permit;

5.8.1.2 A copy of the signed and certified NOI form submitted to DEC; and

5.8.1.3 Upon receipt, a copy of the letter from DEC authorizing permit coverage and providing the permit tracking number.

5.8.2 **Additional Documentation Requirements.** Summaries of the following information, or copies of the reports, must be maintained with the SWPPP by the permittee following authorization under this permit:

5.8.2.1 **Grading and Stabilization Activities Log**

5.8.2.1.1 Date(s) when grading activities occur;

5.8.2.1.2 Description of Grading Activity and Location

5.8.2.1.3 Date(s) when construction activities temporarily or permanently cease on a portion of the site;
5.8.2.1.4 Date(s) when stabilization measures are initiated;
5.8.2.1.5 Description of Stabilization Measure.
5.8.2.2 Date of beginning and ending period for winter shutdown;
5.8.2.3 Copies of inspection reports as required in Part 5.4.2;
5.8.2.4 Copies of monitoring reports or annual reports (if applicable) as required in Part 5.5.2 and 9.1.
5.8.2.5 Log of SWPPP modifications;
5.8.2.6 Documentation required in Part 4.6.2 (i.e. Material Safety Data Sheet, manufacturer and/or supplier test results, or employee training information)
5.8.2.7 Records of employee training, including the date(s) training was received;
5.8.2.8 Documentation of maintenance and repairs of control measures, including date(s) of regular maintenance, date(s) of discovery of areas in need of repair/maintenance, and date(s) that the control measure(s) returned to full function; and
5.8.2.9 Description of any corrective action taken at the site, including the event that caused the need for corrective action and dates when problems were discovered and modifications occurred, in accordance with Part 8.0.

5.9 Maintaining an Updated SWPPP

5.9.1 SWPPP Modifications. A permittee must modify the SWPPP, including site map(s) in response to any of the following:

5.9.1.1 Whenever changes are made to construction plans, control measures, good housekeeping measures, monitoring plan (if applicable), 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 permittee(s);

5.9.1.2 If inspections or investigations by site staff or by local, state, tribal or federal officials determine that SWPPP modifications are necessary for compliance with this permit; or

5.9.1.3 To reflect any revisions to applicable federal, state, tribal, or local law that affect the control measure implemented at the construction site.

5.9.2 Log of SWPPP Modifications. A permittee must keep a log showing dates, name of person authorizing the change, and a brief summary of changes for all SWPPP modifications (e.g., adding new control measures, changes in project design, or storm events that cause for the replacement of control measures).

5.9.3 Deadlines for SWPPP Modifications. Revisions to the SWPPP must be completed within seven days of the inspection that identified the need for a SWPPP modification or within seven days of substantial modifications to the construction plans or changes in site conditions.
5.10 Additional SWPPP Requirements

5.10.1 Retention of the SWPPP

5.10.1.1 A copy of the SWPPP (including a copy of the permit), NOI, and acknowledgement letter from DEC must be retained at the construction site or other location easily accessible during normal business hours. If the permittee has day-to-day operational control over SWPPP implementation, the permittee must have a copy of the SWPPP available at a central location at the site for the use of all those identified as having responsibilities under the SWPPP whenever they are on the construction site. 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 site.

5.10.2 Main Entrance Signage

A sign or other notice must be posted conspicuously near the main entrance of the site. If there is insufficient space near the main entrance to post a sign or notice, the notice can be posted in a local public building such as the town hall or public library. For linear projects (e.g. highways or utilities) the sign or other notice must be posted at a location near the main entrance of the construction project (such as where a pipeline project crosses a public road) where the public may read it during non-business hours. The sign or other notice must contain the following information:

5.10.2.1 A copy of the completed NOI (and NOI modification) as submitted to DEC; and

5.10.2.2 The location of the SWPPP or the name and telephone number of the contact person for scheduling SWPPP viewing times. If the location of the SWPPP or the name and telephone number of the contact person for scheduling SWPPP viewing times has changed (i.e., is different than that submitted to DEC in the NOI), the current location of the SWPPP and name and telephone number of a contact person for scheduling viewing times.

5.10.3 Availability of SWPPP

5.10.3.1 A permittee is required to keep a current copy of the SWPPP at the site or other location easily accessible during normal business hours.

5.10.3.2 A permittee may move the location where the SWPPP is available during the winter shut down for a site that is expected to have a winter shutdown provided that the winter SWPPP location conforms to the requirements of Part 5.10.2.

5.10.3.3 A permittee must ensure that each subcontractor who engages in soil disturbing activities is provided access to a copy of the SWPPP and is familiar with relevant portion(s) thereof that relate to the subcontractor’s activities at the project.

5.10.3.4 The SWPPP must be made available upon request by: DEC; EPA; a state, tribal or local agency approving sediment and erosion plans, grading plans, or storm water management plans; local government officials; the operator of a MS4 receiving discharges from the site; and representatives of the ADF&G, USFWS or the NMFS. An electronic or hard copy of the SWPPP must be made available in its entirety to DEC staff for review and copying upon request.

5.10.3.5 DEC may provide access to portions of the SWPPP to a member of the public upon request. Confidential Business Information (CBI) may be withheld from the public per Appendix A, Part 1.13, but may not be withheld from those staff cleared for CBI review within DEC, EPA, USFWS, or NMFS.
5.10.4 **Signature and Certification**

The SWPPP must be signed and certified in accordance with the requirements of Appendix A, Part 1.12.

5.11 **Requirements for Different Types of Operators**

The permittee may meet one or both of the operational control components in the definition of operator found in Appendix C. Part 5.11.3 applies to all permittees having control over only a portion of a construction site.

5.11.1 If the permittee has operational control over construction plans and specifications, the permittee must ensure that:

5.11.1.1 The project specifications meet the minimum requirements of this Part and all other applicable permit conditions;

5.11.1.2 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;

5.11.1.3 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

5.11.1.4 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.

5.11.2 If the permittee has operational control over day-to-day activities, the permittee must ensure that:

5.11.2.1 The SWPPP meets the minimum requirements of this Part and identifies the parties responsible for implementation of control measures identified in the plan;

5.11.2.2 The SWPPP indicates areas of the project where the permittee has operational control over day-to-day activities; and

5.11.2.3 The SWPPP indicates the name of the parties with operational control over project specifications (including the ability to make modifications in specifications).

5.11.3 If the permittee has operational control over only a portion of a larger common plan of development (e.g., one of four homebuilders in a subdivision), the permittee must ensure that:

5.11.3.1 They comply with all applicable control measures, terms, and conditions of this permit as it relates to the activities on the permittee’s portion of the construction site, including, but not limited to: monitoring (if applicable), inspections, and protection of endangered species, and critical habitat.

5.11.3.2 They implement a portion of a comprehensive SWPPP or develop and implement a separate SWPPP that covers only their portion of the project in compliance with Part 5.1.

5.11.3.3 Activities on their portion of the site do not render another party’s control measures ineffective.
6.0 INSPECTIONS

6.1 Inspection Frequency

6.1.1 A permittee must conduct inspections at one of the following schedule:

6.1.1.1 Once every seven calendar days; or

6.1.1.2 Once every 14 calendar days and within 24 hours of the end of a storm event that resulted in a discharge from the site; or

6.1.1.3 For areas of the state where the mean annual precipitation is forty (40) inches or greater, or relatively continuous precipitation or sequential storm events, inspect at least once every seven (7) calendar days.

6.1.2 A permittee must specify in the SWPPP which schedule will be followed.

6.2 Case-by-Case Reductions in Inspection Frequency

A permittee may reduce inspection frequency in the following situations:

6.2.1 If the entire site is stabilized in accordance with Part 4.5, a permittee may reduce the frequency of inspections to at least once every month and within two business days of the end of a storm event at actively staffed sites that resulted in a discharge from the site;

6.2.2 If portions of the site have achieved final stabilization in accordance with Part 4.5 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 must conduct subsequent inspections within two business days of the end of a storm event that results in a discharge from that portion of the site previously considered finally stabilized;

6.2.3 If the project is undergoing winter shutdown (as defined in Appendix C), implemented control measures with Part 4.12 Winter Considerations, and is documented in accordance with Part 5.3.6.9, a permittee may stop inspections 14 calendar days after the anticipated fall freeze-up and must resume inspections in accordance with Part 6.1 at least 21 calendar days prior to the anticipated spring thaw; or

6.2.4 If the entire site has achieved final stabilization (as defined in Appendix C) and a NOT has been submitted, no further inspection requirements apply to the site.

6.3 Qualified Person

An inspection must be conducted by a qualified person (as defined in the Appendix C) provided by a permittee.

6.4 Site Inspection

6.4.1 Location of Inspections. During a site inspection, a permittee must at a minimum inspect the following areas of the site:

6.4.1.1 Areas of the site disturbed by construction activity (e.g., areas cleared, graded, or excavated);

6.4.1.2 Areas used for storage of materials that are exposed to precipitation;

6.4.1.3 Areas where control measures are installed and maintained at the site;

6.4.1.4 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;

6.4.1.5 Locations where vehicles enter or exit the site;
6.4.1.6 Areas where storm water typically flows, including the storm water conveyance system;
6.4.1.7 Points of discharge from the site. Where such discharge locations are inaccessible, the nearest downstream location must be inspected to the extent that such inspections are practicable; and
6.4.1.8 Portions of the site where temporary or final stabilization measures have been initiated.

6.4.2 **Scope of Inspection.** At a minimum, the scope of the site inspection must include the following:

6.4.2.1 Check whether all control measures are installed and operating as intended and determine if any control measures need to be replaced, repaired, or maintained;
6.4.2.2 Check for the presence of accumulated sediment near the project area boundary that has a potential for being washed outside of the project boundary on locations such as roadways or parking lots, storm water conveyance systems, storm water inlets, and discharge points;
6.4.2.3 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.;
6.4.2.4 Describe visible areas where erosion has occurred near the project area boundary that has a potential for being washed outside of the project boundary;
6.4.2.5 Identify any locations where new or modified control measures are necessary to meet the requirements in Part 4.0;
6.4.2.6 Identify all points where there is a discharge from the site and describe the conditions that are contributing to that discharge (e.g., recent storm event with failure of a control measure); and
6.4.2.7 Any incidents of noncompliance observed and corrective actions taken pursuant to Part 8.0.

6.5 **Linear Project Inspections**

6.5.1 Representative inspections may be performed at linear projects if the areas described in Part 6.4 are inaccessible, unsafe for personnel, would compromise stabilized areas, or would cause additional disturbance of soils.

6.5.2 Representative inspections must be performed by a qualified person (as defined in Appendix C).

6.5.3 To conduct representative inspections, a qualified person must inspect control measures along the site 0.25 mile above and below each access point where a roadway, undisturbed right-of-way, or other similar feature intersects the site and allows access to the areas described in Part 6.4. The conditions of the control measures along each inspected 0.25 mile segment may be considered as representative of the condition of control measures 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.

6.5.4 If treatment chemicals are used, then inspections must be conducted of all areas using the treatment chemicals.
6.6 **Inspections by DEC or Applicable Government Authority**

6.6.1 A permittee must allow an authorized representative of DEC, EPA, or the MS4 operator at any reasonable time to:

6.6.1.1 Enter onto the site where a regulated construction activity is conducted or where records are kept under the conditions of this permit;
6.6.1.2 Access and copy any records that must be kept under the conditions of this permit;
6.6.1.3 Inspect any portion of the site, including any off-site staging areas or material storage areas and the erosion and/or sediment control measures; and
6.6.1.4 Sample or monitor for the purpose of ensuring compliance.

6.7 **Inspection Report**

For each inspection required by this Part, the permittee must complete an inspection report.

6.7.1 At a minimum, the inspection report must include:

6.7.1.1 The inspection date;
6.7.1.2 Names, titles, and qualifications of personnel conducting the inspection;
6.7.1.3 Weather information for the period since the last inspection (or since commencement of construction activity if the first inspection) including a general estimate of the beginning day of each storm event, duration of each storm event, and whether any discharges occurred (information from the nearest National Weather Service Station may be adequate if the permittee does not properly maintain a rain gauge on site and is representative of the actual site location);
6.7.1.4 Weather information and a description of any discharges occurring at the time of the inspection;
6.7.1.5 Location(s) of discharges of sediment or other pollutants from the site;
6.7.1.6 Location(s) of control measures that need to be maintained;
6.7.1.7 Location(s) of control measures that failed to operate as designed or proved inadequate for a particular location;
6.7.1.8 Location(s) where additional control measures are needed that did not exist at the time of inspection; and
6.7.1.9 Corrective action required, if any, including complete-by dates.

6.7.2 The inspection report must be signed in accordance with Appendix A, Part 1.12.

7.0 **MONITORING**

7.1 **General Requirements**

7.1.1 A permittee whose project is subject to Part 3.2 Discharge to Impaired Water Body is required to develop, implement, and modify a written site-specific plan for analytical monitoring that includes all the requirements of this Part and follows the applicable DEC Quality Assurance Guidance for a Water Quality Monitoring Plan.

7.1.2 The DEC may notify the permittee of additional discharge monitoring requirements. Any such notice will briefly state the reasons for the monitoring, locations, and parameters to be monitored, frequency and period of monitoring, sample types, and reporting requirements.

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6 Detailed requirements can be accessed at the following web page: [http://dec.alaska.gov/water/wqapp/wqapp_index.htm](http://dec.alaska.gov/water/wqapp/wqapp_index.htm)
7.2 **Qualified Person**

Monitoring must be conducted by a qualified person (as defined in Appendix C) provided by a permittee.

7.3 **Discharge Monitoring Requirements**

7.3.1 **Sampling Parameter**

A permittee must sample for turbidity if the construction activity meets the requirements of Part 7.1.

7.3.2 **Sampling Frequency**

7.3.2.1 Sampling must be conducted during or immediately following any storm event (as defined in Appendix C) or snowmelt event that results in a discharge from the site.

7.3.2.2 A permittee must collect at least two representative samples of the discharge. In the monitoring plan the permittee must characterize the number and frequency of samples to be measured/collected per discharge so as to represent the water quality conditions in the discharge (at minimum two samples per day per storm event).

7.3.2.3 A permittee is only required to collect samples during normal business hours and when conditions are safe for sampling personnel. When unsafe conditions (i.e., those that are dangerous or create inaccessibility for personnel) prevent the collection of samples, the permittee must conduct sampling of the discharge from the site as soon as the conditions are safe for sampling.

7.3.2.4 If a permittee is unable to collect a sample of the discharge due to unsafe conditions, the reason must be documented and attached to all required reports and records of the sampling activity.

7.3.3 **Sampling Locations**

7.3.3.1 The permittee is required to conduct sampling at all discharge points where storm water or authorized non-storm water is discharged to an impaired water body or as per Part 7.1.2.

7.3.3.2 Linear projects are also subject to the visual monitoring requirements in Part 7.4.

7.3.3.3 All sampling locations must be identified on the SWPPP site map and be clearly marked in the field with a flag, tape, stake, or other visible marker.

7.3.3.4 **Discharging to an Impaired Water body.** If the project is subject to Part 3.2, the permittee is required to conduct sampling at the following locations:

- At a representative location upstream from the point of discharge into receiving water body or outside the area of influence of the discharge; and
- At a representative location downstream from the point of discharge into the receiving water body, inside the area of influence of the discharge. Alternatively, the sample may be taken at the point it leaves the construction site, rather than when it is in the receiving water body.

7.3.4 **Representative Discharge Point for a Linear Project.** If a linear project has two or more outfalls that discharge substantially identical effluents, based on similarities of the soil disturbance and construction activity occurring within the drainage areas of the discharge point, the permittee may collect a representative sample of the storm water discharge at one of the discharge points and report that the quantitative data also apply to the substantially identical discharge point(s). For this to be permissible, the permittee must describe the following in the monitoring plan:
7.3.4.1 Locations of the discharge points;
7.3.4.2 Why the discharge points are expected to discharge substantially identical pollutants; and
7.3.4.3 Estimates of the size of the drainage area (in square feet) for each of the discharge points.

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

7.3.5.1 A permittee is required to collect 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
7.3.5.2 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, the permittee is not required to sample this discharge.

7.3.6 Sample Type. All sampling performed by the permittee must be representative of the flow and characteristics of the discharge.

7.3.7 Sampling and Analysis Methods

7.3.7.1 Turbidity analysis must be performed with an EPA-approved field-calibrated nephelometer or turbidity meter (turbidimeter) for water quality measurements.

7.3.7.2 Samples required by this permit should be analyzed immediately.

7.3.7.3 Automatic sampling may be used; however, samples from automatic samplers must be collected no later than the next business day after their accumulation, unless flow through automated analysis is used and analyzed consistent with Part 7.3.7.2.

7.3.7.4 If the permittee cannot conduct field turbidity measurements, then all laboratory analysis must be conducted according to test procedures specified in 40 CFR §136, unless other test procedures have been specified in this permit. Samples must be preserved as required by the appropriate EPA-approved method of analysis and analyzed within specified holding times.

7.3.8 Rainfall Monitoring

7.3.8.1 A permittee must use a rain gauge on site or utilize the nearest National Weather Service (NWS) precipitation gauge station to determine the amount of rainfall during a storm event if the NWS gauge used is located within 20 miles of the site.

7.3.8.2 A permittee must maintain records of the rainfall amounts and dates of rainfall events as part of the SWPPP, in accordance with Part 9.4.

7.3.9 Recording Monitoring Data. A permittee must retain records of all sampling information and reports as part of the SWPPP, in accordance with Part 9.4. For each sample collected, the permittee must record the following:

7.3.9.1 The date, monitoring location, method, and time of sampling;
7.3.9.2 The name and title of the individual(s) who performed the sampling and analyses;
7.3.9.3 The date(s) analyses were performed;
7.3.9.4 The analytical techniques or methods used; and
7.3.9.5 The results of such analyses in nephelometric turbidity units (NTU) and all calibration and quality control information used to validate the measurement(s).

7.3.10 Reporting Monitoring Results
7.3.10.1 All monitoring data collected pursuant to Part 7.0 must be submitted to DEC, in accordance with Part 9.1, Annual Reports. (Note: The monitoring data collected under this Part does not need to conform to Appendix A Part 3.2.)

7.3.10.2 For each discharge point, a permittee must submit the following information:

7.3.10.2.1 Name of discharge point. If the discharge point is on a linear project and is representative of one or more substantially similar discharge points, include the names of the other discharge points;

7.3.10.2.2 Date sample(s) collected;

7.3.10.2.3 Result of each individual sample collected in NTUs, or, if no discharge occurred during the sampling period for that discharge point indicate no discharge;

7.3.10.2.4 The arithmetic mean of all samples collected for each day; and

7.3.10.2.5 If the sample result(s) are from a representative discharge point, indicate representative sample.

7.3.10.3 A permittee is required to report all sampling results, including those that reflect samples collected beyond the minimum frequency required in Part 7.3.2.

7.4 Visual Monitoring for a Linear Project

A permittee for a linear project subject to the monitoring requirements in Part 3.2 or Part 7.1 are also required to visually monitor drainage areas and discharge locations in portions of the site where temporary or final stabilization has been initiated and document monitoring activities with the procedures described in this Part.

7.4.1 Visual Monitoring Frequency. Visual monitoring must be conducted at least once every seven calendar days, and the permittee may choose to do it more frequently.

7.4.2 Visual Monitoring Locations. The inspector must visually observe discharge points in portions of the site where temporary or final stabilization has been initiated and each drainage area associated with the linear project for the presence of current (and indications of prior) discharges and their sources.

7.4.3 Visual Monitoring Requirements. During conditions at the project in which a discharge is occurring, the permittee must:

7.4.3.1 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

7.4.3.2 Document whether control measures are operating effectively or are in need of maintenance.

7.4.4 Recording Visual Monitoring Data. A permittee must document the results of the visual monitoring and maintain this documentation with the SWPPP as required in Part 9.4. A permittee is not required to submit the visual monitoring findings to DEC, unless specifically requested to do so. At a minimum, the documentation of the visual monitoring must include:

7.4.4.1 The visual monitoring date;

7.4.4.2 Name and title of personnel conducting the visual monitoring;

7.4.4.3 Observations and documentation of the visual monitoring; and

7.4.4.4 Any conditions requiring corrective action and a description of the corrective action.
8.0 CORRECTIVE ACTIONS

A permittee must take corrective actions as identified through the inspections conducted under Part 6.0 or as indicated by monitoring conducted under Part 7.0. This includes addressing the performance of control measures, including modifications to the selection, design, installation, and/or implementation of those control measures or to address permit violations.

8.1 Corrective Action Conditions

8.1.1 A permittee must review and revise the selection, design, installation, and implementation of their control measures whenever any of the following conditions are identified, discovered, or made aware of at the site:

8.1.1.1 An unauthorized release or prohibited discharge (e.g., spill, leak, or discharge of non-storm water not authorized by this or another APDES permit);

8.1.1.2 Control measures are not designed, installed, and/or maintained as required in Part 4.0;

8.1.1.3 The permittee becomes aware, or DEC determines that the control measures are not operating as intended or are not effective enough to meet the requirements of Part 3.1.2;

8.1.1.4 An inspection by DEC or EPA official determines that modification to the control measures are necessary to meet the requirements of this permit;

8.1.1.5 The accumulation or tracking of sediment in or near any storm water conveyance channels, storm water inlet, on roadways or parking lots outside the project area and adjacent to the site, in the immediate vicinity of control measures, at discharge points or entry points into the storm sewer system, or in other areas of the site; or

8.1.1.6 Pollutants (other than sediment such as trash or litter) have accumulated in or near any storm water conveyance channels, on roadways or parking lots within and adjacent to the site, in the immediate vicinity of control measures, at discharge points or entry points into the storm sewer system, or in other areas of the site.

8.2 Deadlines for Corrective Actions

8.2.1 A permittee must review the design, installation, and maintenance of control measures upon detecting any condition in Part 8.1.1 and document any corrective action(s) to be taken to eliminate or further investigate the deficiency and comply with the following:

8.2.1.1 For conditions that are easily remedied (i.e., removal of tracked sediment, maintenance of control measures, or spill clean-up), the permittee must initiate appropriate steps to correct the problem within 24 hours from the time of discovery and correct the problem as soon as practicable; or

8.2.1.2 If installation of a new control measure is needed or an existing control measure requires redesign and reconstruction or replacement, the permittee must install the new or modified measure and make it operational within seven calendar days from the time of discovery of the need for the corrective action, unless infeasible;

8.2.1.3 If a discharge occurs during a local 2-year, 24-hour storm event, a corrective action must be initiated the day after the storm event ends as described in Part 8.1.1;

8.2.1.4 Monitoring, if required, must continue while corrective actions are being carried out.

8.2.2 Where a permittee takes corrective actions that could affect a subcontractor, the permittee must provide notification to the subcontractor within three calendar days of taking the corrective action.
8.2.3 Subcontractors must notify the permittee within 24 hours of becoming aware of any of conditions listed in Part 8.1.1.

8.3 Corrective Action Log

8.3.1 A permittee must document the following information in the corrective action log, within 24 hours of discovery of any condition listed in Part 8.1 or upon notification from a subcontractor:

8.3.1.1 Date the problem was identified;
8.3.1.2 Summary of corrective action taken or to be taken (or, for conditions triggering corrective actions identified in Part 8.1, where the determination is made that action is not necessary, the basis for this determination);
8.3.1.3 Notice of whether SWPPP modifications were required as a result of this discovery or corrective action; and
8.3.1.4 Date corrective action completed.

8.3.2 A permittee must retain a copy of the corrective action log on-site with the SWPPP as required in Part 9.4.

8.4 Corrective Action Report

If monitoring pursuant to Part 3.2 Discharge to Impaired Water Body exceeds a WQS, the permittee must submit a corrective action report consistent with Part 9.2; except when there is a discharge that results from a storm event in that same day that is larger than the local 2-year, 24-hour storm.

8.5 Substantially Identical Outfalls

8.5.1 If the event triggering correction action is linked to an outfall that represents other substantially identical outfalls, the permittees review must assess the need for corrective action for each outfall represented by the outfall that triggered the review. Any necessary changes to control measures that affect these other outfalls must also be made before the next storm event if possible, or as soon as practicable following that storm event.

9.0 REPORTING AND RECORDKEEPING

9.1 Annual Report

9.1.1 All water quality monitoring data collected by the permittee pursuant to Part 3.2 Discharge to Impaired Water Body or Part 7.0 Monitoring must be submitted to DEC in an annual report. The annual report form must be submitted to the appropriate address in Appendix A, Part 1.1.2 by December 31 of each year during construction and upon submittal of the NOT (see Part 10.0). (Note: The monitoring data reported under this part does not need to conform to Appendix A Part 3.2.)

9.1.2 Monitoring results must be presented in a clearly legible format in tabular form. 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 this permit must be reported in a similar manner to DEC.
9.1.3 A permittee must sign and certify all annual reports in accordance with the requirements of Appendix A, Part 1.1.12, Signature Requirement and Penalties. All signed and certified legible original annual reports and all other reports and documents must be submitted to DEC Compliance and Enforcement Program address in Appendix A, Part 1.1.2.

9.2 Corrective Action Report

If a corrective action report is required by Part 8.4, a permittee must submit a corrective action report to DEC Compliance and Enforcement Program address in Appendix A, Part 1.1.2 no later than 14 calendar days after receiving the monitoring results. The report must include the following:

9.2.1 APDES Permit Tracking Number;
9.2.2 Project name, physical address and location;
9.2.3 Name of receiving water;
9.2.4 Monitoring data from the event that exceeded a WQS;
9.2.5 An explanation of the conditions that caused the excursion;
9.2.6 Steps taken or planned (should corrective actions not yet be complete) to correct the violation; and
9.2.7 An appropriate contact name, telephone number and e-mail address.

9.3 Spill of Hazardous Substances Report

9.3.1 A permittee is prohibited from discharging hazardous substances or oil from a spill or other release. Alaska state law (18 AAC 75.300) requires all oil and hazardous substance release be reported to DEC Spill Prevention and Response program. Spill reporting placards can be found at the following webpage: [http://dec.alaska.gov/spar/spillreport.htm](http://dec.alaska.gov/spar/spillreport.htm).

9.3.2 To report a spill, call the nearest DEC Area Response Team Office:

- Southeast (Juneau) – 465-5340
- Central (Anchorage) – 269-3063
- Northern (Fairbanks) – 451-2121

9.3.3 Outside of normal business hours, the permittee must call (800) 478-9300 to report the spill as soon as the permittee has knowledge of the discharge.

9.3.4 Within seven calendar days of knowledge of the release, the permittee must provide a description of the release, the circumstances leading to the release, and the date of the release to the nearest DEC Area Response Team Office listed in Part 9.3.2. The permittee must also implement measures to prevent the reoccurrence of and to respond to such releases.

9.4 Retention of Records

A permittee must retain the following records at the site or the records must be readily available at a designated alternate location during the life of the construction activity and for a minimum of three years from the date that authorization under this permit expires or is terminated. This period may be extended by request of DEC at any time.

9.4.1 Records of all data used to complete the NOI to be covered by this permit;
9.4.2 A copy of the SWPPP (including any modifications made during the term of this permit);
9.4.3 A copy of all monitoring information (if applicable) and reports required by this permit;
9.4.4 A copy of all inspection reports generated in accordance with Part 6.0;
9.4.5 Documentation related to noncompliance and corrective actions taken pursuant to Part 8.0; and

9.4.6 Any other reports and certifications required by this permit.

9.5 Request for Submittal of Records

The DEC may request copies of all or a portion of the information collected and maintained in the SWPPP. A permittee must provide a response to written requests for records to the Department within 30 calendar days of receipt of a written request.

10.0 TERMINATION OF PERMIT AUTHORIZATION

10.1 Submitting a Notice of Termination (NOT)

10.1.1 To terminate permit coverage, a permittee must submit a complete and accurate NOT to DEC that certifies that one or more of the conditions in Part 10.2 have been met to terminate permit coverage. A permittee must comply with this permit until an NOT is submitted.

10.2 When to Submit a Notice of Termination

A permittee must submit an NOT within 30 calendar days after one or more of the following conditions have been met:

10.2.1 Final stabilization has been achieved on all portions of the site, in accordance with Part 4.5.2, for which a permittee is responsible, all ground disturbing construction activity or use of support activities has been completed, and all temporary BMP’s have been removed;

10.2.2 A new permittee has assumed control according to Appendix A, Part 2.3, over all areas of the site that have not been finally stabilized;

10.2.3 Authorization under an individual permit or alternative APDES general permit has been obtained, unless DEC has required that a permittee obtain such coverage under authority of Part 2.8, in which case authorization under this permit will automatically terminate;

10.2.4 For residential construction only, temporary stabilization has been completed and the residence has been transferred to the homeowner; or

10.2.5 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.

10.3 Submitting a Notice of Termination

10.3.1 A permittee must submit an NOT to terminate authorization under this permit. The complete and accurate NOT can be submitted either:

10.3.1.1 Electronically (strongly encouraged): Go to DEC’s Water Online Application System (OPA) web page at www.dec.state.ak.us/water/wnpspc/stormwater/stormwater.htm to prepare and submit electronic NOI (eNOI). Note: the eNOI will likely be processed more quickly.

10.3.1.2 Paper NOT Form: Complete the form in Appendix E or access the form on DEC’s APDES Storm Water Forms web page at http://dec.alaska.gov/water/wnpspc/stormwater/2016CGPForms.htm. Once the form is complete, scan and email the entire form to DEC OPA. Submit a paper copy to DEC at the address listed in Appendix A, Section 1.1.1.
10.3.2 A permittee’s authorization to discharge terminates at midnight of the day the NOT is signed.

10.3.3 If a permittee submits a NOT without meeting one or more of the conditions identified in Part 10.2, then the NOT is invalid and a permittee remains responsible for meeting the requirements of this permit until authorization is terminated pursuant to Part 10.3.2.

11.0 PERMIT REOPENER CLAUSE

11.1 Procedures for Modification or Revocation
Permit modification or revocation will be conducted according 18 AAC 83.130, 18 AAC 83.135, 18 AAC 83.140, or 18 AAC 83.145.

11.2 Water Quality Protection
If there is evidence indicating that the storm water discharges authorized by this permit cause, have the reasonable potential to cause or contribute to an excursion above any applicable WQS, the permittee may be required to obtain an individual permit in accordance with Part 2.8 of this permit, or the permit may be modified to include different limitations and/or requirements.

11.3 Timing of Permit Modification
DEC may elect to modify the permit prior to its expiration (rather than waiting for the new permit cycle) to comply with any new statutory or regulatory requirements.
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            NONDOMESTIC DISCHARGES
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Appendix A of the permit contains standard regulatory language that must be included in all APDES permits. These requirements are based on the regulations and cannot be challenged in the context of an individual APDES permit action. The standard regulatory language covers requirements such as monitoring, recording, reporting requirements, compliance responsibilities, and other general requirements. Appendix A, Standard Conditions is an integral and enforceable part of the permit. Failure to comply with a Standard Condition in this Appendix constitutes a violation of the permit and is subject to enforcement.

1.0 Standard Conditions Applicable to All Permits

1.1 Contact Information and Addresses

1.1.1 Permitting Program

Documents, reports, and plans required under the permit and Appendix A are to be sent to the following address:

State of Alaska  
Department of Environmental Conservation  
Division of Water  
Wastewater Discharge Authorization Program  
555 Cordova Street  
Anchorage, Alaska 99501  
Telephone (907) 269-6285  
Fax (907) 269-3487  
Email: DEC.Water.WQPermit@alaska.gov

1.1.2 Compliance and Enforcement Program

Documents and reports required under the permit and Appendix A relating to compliance are to be sent to the following address:

State of Alaska  
Department of Environmental Conservation  
Division of Water  
Compliance and Enforcement Program  
555 Cordova Street  
Anchorage, Alaska 99501  
Telephone Nationwide (877) 569-4114  
Anchorage Area / International (907) 269-4114  
Fax (907) 269-4604  
Email: dec-wqreporting@alaska.gov

1.2 Duty to Comply

A permittee shall comply with all conditions of the permittee’s APDES permit. Any permit noncompliance constitutes a violation of 33 U.S.C 1251-1387 (Clean Water Act) and state law and is grounds for enforcement action including termination, revocation and reissuance, or modification of a permit, or denial of a permit renewal application. A permittee shall comply with effluent standards or prohibitions established under 33 U.S.C. 1317(a) for toxic pollutants within the time provided in the regulations that establish those effluent standards or prohibitions even if the permit has not yet been modified to incorporate the requirement.
1.3 **Duty to Reapply**

If a permittee wishes to continue an activity regulated by this permit after its expiration date, the permittee must apply for and obtain a new permit. In accordance with 18 AAC 83.105(b), a permittee with a currently effective permit shall reapply by submitting a new application at least 180 days before the existing permit expires, unless the Department has granted the permittee permission to submit an application on a later date. However, the Department will not grant permission for an application to be submitted after the expiration date of the existing permit.

1.4 **Need to Halt or Reduce Activity Not a Defense**

In an enforcement action, a permittee may not assert as a defense that compliance with the conditions of the permit would have made it necessary for the permittee to halt or reduce the permitted activity.

1.5 **Duty to Mitigate**

A permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

1.6 **Proper Operation and Maintenance**

1.6.1 A permittee shall at all times properly operate and maintain all facilities and systems of treatment and control and related appurtenances that the permittee installs or uses to achieve compliance with the conditions of the permit. The permittee’s duty to operate and maintain properly includes using adequate laboratory controls and appropriate quality assurance procedures. However, a permittee is not required to operate back-up or auxiliary facilities or similar systems that a permittee installs unless operation of those facilities is necessary to achieve compliance with the conditions of the permit.

1.6.2 Operation and maintenance records shall be retained and made available at the site.

1.7 **Permit Actions**

A permit may be modified, revoked and reissued, or terminated for cause as provided in 18 AAC 83.130. If a permittee files a request to modify, revoke and reissue, or terminate a permit, or gives notice of planned changes or anticipated noncompliance, the filing or notice does not stay any permit condition.

1.8 **Property Rights**

A permit does not convey any property rights or exclusive privilege.

1.9 **Duty to Provide Information**

A permittee shall, within a reasonable time, provide to the Department any information that the Department requests to determine whether a permittee is in compliance with the permit, or whether cause exists to modify, revoke and reissue, or terminate the permit. A permittee shall also provide to the Department, upon request, copies of any records the permittee is required to keep under the permit.
1.10 Inspection and Entry
A permittee shall allow the Department, or an authorized representative, including a contractor acting as a representative of the Department, at reasonable times and on presentation of credentials establishing authority and any other documents required by law, to:

1.10.1 Enter the premises where a permittee’s regulated facility or activity is located or conducted, or where permit conditions require records to be kept;
1.10.2 Have access to and copy any records that permit conditions require the permittee to keep;
1.10.3 Inspect any facilities, equipment, including monitoring and control equipment, practices, or operations regulated or required under a permit; and
1.10.4 Sample or monitor any substances or parameters at any location for the purpose of assuring permit compliance or as otherwise authorized by 33 U.S.C. 1251-1387 (Clean Water Act).

1.11 Monitoring and Records
A permittee must comply with the following monitoring and recordkeeping conditions:

1.11.1 Samples and measurements taken for the purpose of monitoring must be representative of the monitored activity.
1.11.2 The permittee shall retain records in Alaska of all monitoring information for at least three years, or longer at the Department’s request at any time, from the date of the sample, measurement, report, or application. Monitoring records required to be kept include:

1.11.2.1 All calibration and maintenance records,
1.11.2.2 All original strip chart recordings or other forms of data approved by the Department for continuous monitoring instrumentation,
1.11.2.3 All reports required by a permit,
1.11.2.4 Records of all data used to complete the application for a permit,
1.11.2.5 Field logbooks or visual monitoring logbooks,
1.11.2.6 Quality assurance chain of custody forms,
1.11.2.7 Copies of discharge monitoring reports, and
1.11.2.8 A copy of this APDES permit.

1.11.3 Records of monitoring information must include:

1.11.3.1 The date, exact place, and time of any sampling or measurement;
1.11.3.2 The name(s) of any individual(s) who performed the sampling or measurement(s);
1.11.3.3 The date(s) and time any analysis was performed;
1.11.3.4 The name(s) of any individual(s) who performed any analysis;
1.11.3.5 Any analytical technique or method used; and
1.11.3.6 The results of the analysis.

1.11.4 Monitoring Procedures
Analyses of pollutants must be conducted using test procedures approved under 40 CFR Part 136, adopted by reference at 18 AAC 83.010, for pollutants with approved test procedures, and using test procedures specified in the permit for pollutants without approved methods.
1.12 Signature Requirement and Penalties

1.12.1 Any application, report, or information submitted to the Department in compliance with a permit requirement must be signed and certified in accordance with 18 AAC 83.385. Any person who knowingly makes any false material statement, representation, or certification in any application, record, report, or other document filed or required to be maintained under a permit, or who knowingly falsifies, tampers with, or renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be subject to penalties under 33 U.S.C. 1319(c)(4), AS 12.55.035(c)(1)(B), (c)(2) and (c)(3), and AS 46.03.790(g).

1.12.2 In accordance with 18 AAC 83.385, an APDES permit application must be signed as follows:

1.12.2.1 For a corporation, a responsible corporate officer shall sign the application; in this subsection, a responsible corporate officer means:

1.12.2.1.1 A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation; or

1.12.2.1.2 The manager of one of more manufacturing, production, or operating facilities, if

1.12.2.1.2.1 The manager is authorized to make management decisions that govern the operation of the regulated facility, including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental statutes and regulations;

1.12.2.1.2.2 The manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and

1.12.2.1.2.3 Authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

1.12.2.2 For a partnership or sole proprietorship, by the general partner or the proprietor, respectively, shall sign the application.

1.12.2.3 For a municipality, state, federal, or other public agency, either a principal executive officer or ranking elected official shall sign the application; in this subsection, a principal executive officer of an agency means:

1.12.2.3.1 The chief executive officer of the agency; or

1.12.2.3.2 A senior executive officer having responsibility for the overall operations of a principal geographic unit or division of the agency.

1.12.3 Any report required by an APDES permit, and a submittal with any other information requested by the Department, must be signed by a person described in Appendix A, Part 1.12.2, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

1.12.3.1 The authorization is made in writing by a person described in Appendix A, Part 1.12.2;
1.12.3.2 The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, including the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility; or an individual or position having overall responsibility for environmental matters for the company; and

1.12.3.3 The written authorization is submitted to the Department to the Permitting Program address in Appendix A, Part 1.1.1.

1.12.4 If an authorization under Appendix A, Part 1.12.3 is no longer effective because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Appendix A, Part 1.12.3 must be submitted to the Department before or together with any report, information, or application to be signed by an authorized representative.

1.12.5 Any person signing a document under Appendix A, Part 1.12.2 or Part 1.12.3 shall certify as follows:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

1.13 Proprietary or Confidential Information

1.13.1 A permit applicant or permittee may assert a claim of confidentiality for proprietary or confidential business information by stamping the words “confidential business information” on each page of a submission containing proprietary or confidential business information. The Department will treat the stamped submissions as confidential if the information satisfies the test in 40 CFR §2.208, adopted by reference at 18 AAC 83.010, and is not otherwise required to be made public by state law.

1.13.2 A claim of confidentiality under Appendix A, Part 1.13.1 may not be asserted for the name and address of any permit applicant or permittee, a permit application, a permit, effluent data, sewage sludge data, and information required by APDES or NPDES application forms provided by the Department, whether submitted on the forms themselves or in any attachments used to supply information required by the forms.

1.13.3 A permittee’s claim of confidentiality authorized under Appendix A, Part 1.13.1 is not waived if the Department provides the proprietary or confidential business information to the EPA or to other agencies participating in the permitting process. The Department will supply any information obtained or used in the administration of the state APDES program to the EPA upon request under 40 CFR §123.41, as revised as of July 1, 2005. When providing information submitted to the Department with a claim of confidentiality to the EPA, the Department will notify the EPA of the confidentiality claim. If the Department provides the EPA information that is not claimed to be confidential, the EPA may make the information available to the public without further notice.
1.14 Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any action or relieve a permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under state laws addressing oil and hazardous substances.

1.15 Cultural and Paleontological Resources

If cultural or paleontological resources are discovered because of this disposal activity, work that would disturb such resources is to be stopped, and the Office of History and Archaeology, a Division of Parks and Outdoor Recreation of the Alaska Department of Natural Resources (http://www.dnr.state.ak.us/parks/oha/), is to be notified immediately at (907) 269-8721.

1.16 Fee

A permittee must pay the appropriate permit fee described in 18 AAC 72.

1.17 Other Legal Obligations

This permit does not relieve the permittee from the duty to obtain any other necessary permits from the Department or from other local, state, or federal agencies and to comply with the requirements contained in any such permits. All activities conducted and all plan approvals implemented by the permittee pursuant to the terms of this permit shall comply with all applicable local, state, and federal laws and regulations.

2.0 Special Reporting Obligations

2.1 Planned Changes

2.1.1 The permittee shall give notice to the Department as soon as possible of any planned physical alteration or addition to the permitted facility if:

2.1.1.1 The alteration or addition may make the facility a “new source” under one or more of the criteria in 18 AAC 83.990(44); or

2.1.1.2 The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged if those pollutants are not subject to effluent limitations in the permit or to notification requirements under 18 AAC 83.610.

2.1.2 If the proposed changes are subject to plan review, then the plans must be submitted at least 30 days before implementation of changes (see 18 AAC 15.020 and 18 AAC 72 for plan review requirements). Written approval is not required for an emergency repair or routine maintenance.

2.1.3 Written notice must be sent to the Permitting Program address in Appendix A, Part 1.1.1.

2.2 Anticipated Noncompliance

2.2.1 A permittee shall give seven days’ notice to the Department before commencing any planned change in the permitted facility or activity that may result in noncompliance with permit requirements.

2.2.2 Written notice must be sent to the Compliance and Enforcement Program address in Appendix A, Part 1.1.2.
2.3 Transfers

2.3.1 A permittee may not transfer a permit for a facility or activity to any person except after notice to the Department in accordance with 18 AAC 83.150. The Department may modify or revoke and reissue the permit to change the name of the permittee and incorporate such other requirements under 33 U.S.C. 1251-1387 (Clean Water Act) or state law.

2.3.2 Written notice must be sent to the Permitting Program address in Appendix A, Part 1.1.1.

2.4 Compliance Schedules

2.4.1 A permittee must submit progress or compliance reports on interim and final requirements in any compliance schedule of a permit no later than 14 days following the scheduled date of each requirement.

2.4.2 Written notice must be sent to the Compliance and Enforcement Program address in Appendix A, Part 1.1.2.

2.5 Corrective Information

2.5.1 If a permittee becomes aware that it failed to submit a relevant fact in a permit application or submitted incorrect information in a permit application or in any report to the Department, the permittee shall promptly submit the relevant fact or the correct information.

2.5.2 Information must be sent to the Permitting Program address in Appendix A, Part 1.1.1.

2.6 Bypass of Treatment Facilities

2.6.1 Prohibition of Bypass

Bypass is prohibited. The Department may take enforcement action against a permittee for any bypass, unless:

2.6.1.1 The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

2.6.1.2 There were no feasible alternatives to the bypass, including use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. However, this condition is not satisfied if the permittee, in the exercise of reasonable engineering judgment, should have installed adequate back-up equipment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and

2.6.1.3 The permittee provides notice to the Department of a bypass event in the manner, as appropriate, under Appendix A, Part 2.6.2.

2.6.2 Notice of bypass

2.6.2.1 For an anticipated bypass, the permittee submits notice at least 10 days before the date of the bypass. The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the conditions of Appendix A, Parts 2.6.1.1 and 2.6.1.2.

2.6.2.2 For an unanticipated bypass, the permittee submits 24-hour notice, as required in 18 AAC 83.410(f) and Appendix A, Part 3.4, Twenty-four Hour Reporting.

2.6.2.3 Written notice must be sent to the Compliance and Enforcement Program address in Appendix A, Part 1.1.2.

2.6.3 Notwithstanding Appendix A, Part 2.6.1, a permittee may allow a bypass that:
2.6.3.1 Does not cause an effluent limitation to be exceeded, and
2.6.3.2 Is for essential maintenance to assure efficient operation.

2.7 Upset Conditions

2.7.1 In any enforcement action for noncompliance with technology-based permit effluent limitations, a permittee may claim upset as an affirmative defense. A permittee seeking to establish the occurrence of an upset has the burden of proof to show that the requirements of Appendix A, Part 2.7.2 are met.

2.7.2 To establish the affirmative defense of upset, the permittee must demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that:

2.7.2.1 An upset occurred and the permittee can identify the cause or causes of the upset;
2.7.2.2 The permitted facility was at the time being properly operated;
2.7.2.3 The permittee submitted 24-hour notice of the upset, as required in 18 AAC 83.410(f) and Appendix A, Part 3.4, Twenty-four Hour Reporting; and
2.7.2.4 The permittee complied with any mitigation measures required under 18 AAC 83.405(e) and Appendix A, Part 1.5, Duty to Mitigate.

2.7.3 Any determination made in administrative review of a claim that noncompliance was caused by upset, before an action for noncompliance is commenced, is not final administrative action subject to judicial review.

2.8 Existing Manufacturing, Commercial, Mining, and Silvicultural Discharges

2.8.1 In addition to the reporting requirements under 18 AAC 83.410, an existing manufacturing, commercial, mining, and silvicultural discharger shall notify the Department as soon as that discharger knows or has reason to believe that any activity has occurred or will occur that would result in:

2.8.1.1 The discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in the permit, if that discharge will exceed the highest of the following notification levels:

2.8.1.1.1 One hundred micrograms per liter (100 μg/L);
2.8.1.1.2 Two hundred micrograms per liter (200 μg/L) for acrolein and acrylonitrile, 500 micrograms per liter (500 μg/L) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol, and one milligram per liter (1 mg/L) for antimony;
2.8.1.1.3 Five times the maximum concentration value reported for that pollutant in the permit application in accordance with 18 AAC 83.310(c)-(g); or
2.8.1.1.4 The level established by the Department in accordance with 18 AAC 83.445.

2.8.1.2 Any discharge, on a non-routine or infrequent basis, of a toxic pollutant that is not limited in the permit, if that discharge will exceed the highest of the following notification levels:

2.8.1.2.1 Five hundred micrograms per liter (500 μg/L);
2.8.1.2.2 One milligram per liter (1 mg/L) for antimony;
2.8.1.2.3 Ten times the maximum concentration value reported for that pollutant in the permit application in accordance with 18 AAC 83.310(c)-(g); or
2.8.1.2.4 The level established by the Department in accordance with 18 AAC 83.445.
3.0 Monitoring, Recording, and Reporting Requirements

3.1 Representative Sampling
A permittee must collect effluent samples from the effluent stream after the last treatment unit before discharge into the receiving waters. Samples and measurements must be representative of the volume and nature of the monitored activity or discharge.

3.2 Reporting of Monitoring Results
The permittee shall summarize monitoring results on the annual report form or approved equivalent. The permittee shall submit its annual report at the interval specified in the permit. The permittee shall sign and certify all annual reports and other reports in accordance with the requirements of Appendix A, Part 1.12, Signature Requirement and Penalties. The permittee shall submit the legible originals of these documents to the ADEC Compliance and Enforcement Program at the address in Appendix A, Part 1.1.2.

3.3 Additional Monitoring by Permittee
If the permittee monitors any pollutant more frequently than the permit requires using test procedures approved in 40 CFR Part 136, adopted by reference at 18 AAC 83.010, or as specified in this permit, the results of that additional monitoring must be included in the calculation and reporting of the data submitted in the DMR or annual report required by Appendix A, Part 3.2. All limitations that require averaging of measurements must be calculated using an arithmetic means unless the Department specifies another method in the permit. Upon request by the Department, the permittee must submit the results of any other sampling and monitoring regardless of the test method used.

3.4 Twenty-four Hour Reporting
A permittee shall report any noncompliance event that may endanger health or the environment as follows:

3.4.1 A report must be made:
   3.4.1.1 Orally within 24 hours after the permittee becomes aware of the circumstances, and
   3.4.1.2 In writing within five days after the permittee becomes aware of the circumstances.

3.4.2 A report must include the following information:
   3.4.2.1 A description of the noncompliance and its causes, including the estimated volume or weight and specific details of the noncompliance;
   3.4.2.2 The period of noncompliance, including exact dates and times;
   3.4.2.3 If the noncompliance has not been corrected, a statement regarding the anticipated time the noncompliance is expected to continue; and
   3.4.2.4 Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

3.4.3 An event that must be reported within 24 hours includes:
   3.4.3.1 An unanticipated bypass that exceeds any effluent limitation in the permit (see Appendix A, Part 2.6, Bypass of Treatment Facilities).
   3.4.3.2 An upset that exceeds any effluent limitation in the permit (see Appendix A, Part 2.7, Upset Conditions).
3.4.3.3 A violation of a maximum daily discharge limitation for any of the pollutants listed in the permit as requiring 24-hour reporting.

3.4.4 The Department may waive the written report on a case-by-case basis for reports under Appendix A, Part 3.4 if the oral report has been received within 24 hours of the permittee becoming aware of the noncompliance event.

3.4.5 The permittee may satisfy the written reporting submission requirements of Appendix A, Part 3.4 by submitting the written report via e-mail, if the following conditions are met:

3.4.5.1 The Noncompliance Notification Form or equivalent form is used to report the noncompliance;

3.4.5.2 The written report includes all the information required under Appendix A, Part 3.4.2;

3.4.5.3 The written report is properly certified and signed in accordance with Appendix A, Parts 1.12.3 and 1.12.5.;

3.4.5.4 The written report is scanned as a PDF (portable document format) document and transmitted to the Department as an attachment to the e-mail; and

3.4.5.5 The permittee retains in the facility file the original signed and certified written report and a printed copy of the conveying email.

3.4.6 The e-mail and PDF written report will satisfy the written report submission requirements of this permit provided the e-mail is received by the Department within five days after the time the permittee becomes aware of the noncompliance event and the e-mail and written report satisfy the criteria of Part 3.4.5. The e-mail address to report noncompliance is: dec-wqreporting@alaska.gov

3.5 Other Noncompliance Reporting

A permittee shall report all instances of noncompliance not required to be reported under Appendix A, Parts 2.4 (Compliance Schedules), 3.3 (Additional Monitoring by Permittee), and 3.4 (Twenty-four Hour Reporting) at the time the permittee submits monitoring reports under Appendix A, Part 3.2. (Reporting of Monitoring Results). A report of noncompliance under this part must contain the information listed in Appendix A, Part 3.4.2 and be sent to the Compliance and Enforcement Program address in Appendix A, Part 1.1.2.

4.0 Penalties for Violations of Permit Conditions

Alaska laws allow the State to pursue both civil and criminal actions concurrently. The following is a summary of Alaska law. Permittees should read the applicable statutes for further substantive and procedural details.

4.1 Civil Action

Under AS 46.03.760(e), a person who violates or causes or permits to be violated a regulation, a lawful order of the Department, or a permit, approval, or acceptance, or term or condition of a permit, approval or acceptance issued under the program authorized by AS 46.03.020 (12) is liable, in a civil action, to the State for a sum to be assessed by the court of not less than $500 nor more than $100,000 for the initial violation, nor more than $10,000 for each day after that on which the violation continues, and that shall reflect, when applicable:
4.1.1 Reasonable compensation in the nature of liquated damages for any adverse environmental effects caused by the violation, that shall be determined by the court according to the toxicity, degradability, and dispersal characteristics of the substance discharged, the sensitivity of the receiving environment, and the degree to which the discharge degrades existing environmental quality;

4.1.2 Reasonable costs incurred by the State in detection, investigation, and attempted correction of the violation;

4.1.3 The economic savings realized by the person in not complying with the requirements for which a violation is charged; and

4.1.4 The need for an enhanced civil penalty to deter future noncompliance.

4.2 Injunctive Relief

4.2.1 Under AS 46.03.820, the Department can order an activity presenting an imminent or present danger to public health or that would be likely to result in irreversible damage to the environment be discontinued. Upon receipt of such an order, the activity must be immediately discontinued.

4.2.2 Under AS 46.03.765, the Department can bring an action in Alaska Superior Court seeking to enjoin ongoing or threatened violations for Department-issued permits and Department statutes and regulations.

4.3 Criminal Action

Under AS 46.03.790(h), a person is guilty of a Class A misdemeanor if the person negligently:

4.3.1 Violates a regulation adopted by the Department under AS 46.03.020(12);

4.3.2 Violates a permit issued under the program authorized by AS 46.03.020(12);

4.3.3 Fails to provide information or provides false information required by a regulation adopted under AS 46.03.020(12);

4.3.4 Makes a false statement, representation, or certification in an application, notice, record, report, permit, or other document filed, maintained, or used for purposes of compliance with a permit issued under or a regulation adopted under AS 46.03.020(12); or

4.3.5 Renders inaccurate a monitoring device or method required to be maintained by a permit issued or under a regulation adopted under AS 46.03.020(12).

4.4 Other Fines

Upon conviction of a violation of a regulation adopted under AS 46.03.020(12), a defendant who is not an organization may be sentenced to pay a fine of not more than $10,000 for each separate violation (AS 46.03.790(g)). A defendant that is an organization may be sentenced to pay a fine not exceeding the greater of: (1) $200,00; (2) three times the pecuniary gain realized by the defendant as a result of the offense; or (3) three times the pecuniary damage or loss caused by the defendant to another, or the property of another, as a result of the offense (AS 12.55.035(c)(B), (c)(2), and (c)(3)).
# Appendix B  Acronyms (for the purposes of this permit)

<table>
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<th>Abbreviations</th>
<th>Description</th>
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<tr>
<td>ADEC</td>
<td>Alaska Department of Environmental Conservation</td>
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<tr>
<td>ADF&amp;G</td>
<td>Alaska Department of Fish &amp; Game</td>
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<tr>
<td>AK-CESCL</td>
<td>Alaska Certified Erosion and Sediment Control Lead</td>
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<tr>
<td>APDES</td>
<td>Alaska Pollutant Discharge Elimination System</td>
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<td>BMP</td>
<td>Best Management Practice</td>
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<tr>
<td>CESSWI</td>
<td>Certified Erosion, Sediment and Storm Water Inspector</td>
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<tr>
<td>CFR</td>
<td>Code of Federal Regulations</td>
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<tr>
<td>CGP</td>
<td>Construction General Permit</td>
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<tr>
<td>CISEC</td>
<td>Certified Inspector of Sediment and Erosion Control</td>
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<tr>
<td>CPESC</td>
<td>Certified Professional in Erosion and Sediment Control</td>
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<td>CPSWQ</td>
<td>Certified Professional in Storm Water Quality</td>
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<td>CWA</td>
<td>Clean Water Act</td>
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<td>DWPA</td>
<td>Drinking Water Protection Areas</td>
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<td>ELG</td>
<td>Effluent Limit Guideline</td>
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<td>United States Environmental Protection Agency</td>
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<td>Endangered Species Act</td>
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<td>FWS</td>
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<td>NMFS</td>
<td>United States National Marine Fisheries Service</td>
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<td>NOI</td>
<td>Notice of Intent</td>
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<tr>
<td>NOT</td>
<td>Notice of Termination</td>
</tr>
<tr>
<td>PAM</td>
<td>Polyacrylamides</td>
</tr>
<tr>
<td>POTW</td>
<td>Publicly Owned Treatment Works</td>
</tr>
<tr>
<td>PWS</td>
<td>Public Water Systems</td>
</tr>
<tr>
<td>SHPO</td>
<td>State Historic Preservation Office</td>
</tr>
<tr>
<td>SWPPP</td>
<td>Storm Water Pollution Prevention Plan</td>
</tr>
<tr>
<td>THPO</td>
<td>Tribal Historic Preservation Officer</td>
</tr>
<tr>
<td>TMDL</td>
<td>Total Maximum Daily Load</td>
</tr>
<tr>
<td>WQS</td>
<td>Water Quality Standard</td>
</tr>
</tbody>
</table>
### Appendix C Definitions

**Definitions**

**2-yr, 24-hr storm event**
Means the maximum 24-hour precipitation event with a probable recurrence interval of once in two (2) years, respectively.

**Active Treatment System (ATS)**
For the purposes of this permit, means a treatment system comprised of automated chemical dispensing, mechanical aeration, pumps, and/or mechanical filtration that employs chemical coagulation, chemical flocculation, or electrocoagulation in order to reduce turbidity caused by fine suspended sediment. The system may also use gravity separation, inert media filtration and absorptive media. It does not include the passive application of treatment chemicals through the use of pre-manufactured products (e.g. floc logs, floc blocks, etc).

**Actively Staffed**
Projects that employ a sufficient number of essential personnel to maintain day-to-day operations at a construction site. Examples of essential personnel usually include a project engineer, foreman, or inspectors.

**Activity**
Any “point source” or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the APDES program.

**Alaska Climatic Regions**
For the purposes of this permit, means the climatic region (Coastal, South-central, Western, Interior, and Arctic) that the construction activity is located.

**Anionic Polyacrylamide**
Means a negatively charged chemical agent that binds soil particles together, which promotes coagulation and rapid settling.

**Arid Areas**
Areas with an average total precipitation of 0 to 10 inches. See [www.wrcc.dri.edu](http://www.wrcc.dri.edu) for precipitation data from the weather station closest to the construction project.

**Best Management Practices (BMPs)**
Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to waters of the United States (U.S.). BMPs also include treatment requirements, operating procedures, and practice to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

**Buffer**
For the purposes of this permit, means a setback that establishes a no-disturbance vegetated zone along and around waters of the U.S.. The buffer consists of a dense turf or vegetation judiciously placed across the path of surface runoff in a way that promotes sheet flow that can reduce the velocity of flow, increase the likelihood of infiltration, and promote the trapping and settling of suspended matter. It may be used in combination with other control measures in a treatment train approach to promote erosion and sediment control.
Business Day (or work day) A day on which work is performed on site. For State offices, typically, Monday thru Friday with the exception of state holidays. For state holidays, see [http://doa.alaska.gov/calendar](http://doa.alaska.gov/calendar).

Borrow Area The areas where materials are dug for use as fill, either onsite or off-site.

Bypass Defined in 40 CFR §122.41 and incorporated here by reference. Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

Cationic Polyacrylamide For the purposes of this permit, means a positively charged chemical agent that is prohibited from use by this general permit.

Clean Water Act (CWA) Means the Clean Water Act or the Federal Water Pollution Control Act, 33 U.S.C. section 1251 et seq.

Clearing For the purposes of this permit, means the cutting down and removal of trees and brush without the disturbance of soils and the root mass.

Coagulants Are substances that cause clumping of particles in a discharge to settle out impurities, often induced by chemicals such as lime, alum, and iron salts.

Commencement of Construction Activities or Construction Activity For the purposes of this permit, means the initial disturbance of soils associated with clearing that disturbs the vegetative map/grubbing, grading, or excavating activities or other construction-related activities (e.g., stockpiling of fill material, establishment of staging areas, or development of project-specific material sources).

Common Plan of Development or Sale For the purposes of this permit, means a site where multiple separate and distinct construction activities may be taking place at different times on different schedules, but still under a single plan. Examples include:

1) phased projects and projects with multiple filings or lots, even if the separate phases or filings/lots will be constructed under separate contract or by separate owners (e.g., a development where lots are sold to separate builders);

2) a development plan for a rural infrastructure project that may be phased over multiple years and is under a consistent plan for long-term development (e.g., a project that is designed to be built over several years, however funding is available for those phases on a year-to-year basis). Projects that have multiple year development plans but have year-to-year funding shall file NOI and NOT at the beginning and end of each funded phase of the project; and

3) projects in a contiguous area that may be unrelated but still under the same contract, such as construction of a building extension and a new parking lot at the same facility.

If the project is part of a common plan of development or sale, the disturbed area of the entire plan shall be used in determining permit requirements. For land subdivided for residential lots, see the definition of ‘Residential Subdivision’ for further discussion of the requirements.
Where discrete construction projects within a larger common plan of development or sale are located one-quarter mile or more apart and the area between the projects is not being disturbed, each individual project can be treated as a separate plan of development or sale provided any interconnecting road, pipeline, or utility project that is part of the same “common plan” is not being disturbed. If a utility company is constructing new trunk lines off an existing transmission line to serve separate residential subdivisions located more than one-quarter mile apart, the two trunk line projects could be considered to be separate projects.

Control Measure
For the purposes of this permit, refers to any BMP or other method used to prevent or reduce the discharge of pollutants to waters of the U.S..

Construction and Development Rule (C&D Rule)
As published in 40 CFR §450 is the regulation requiring effluent limitations guidelines (ELG’s) and new source performance standards (NSPS) for controlling the discharge of pollutants from construction sites.

Disaster
Has the meaning in AS 26.23.900. As defined in AS 26.23.900 the term includes, but is not limited to, the occurrence or imminent threat of widespread or severe damage, injury, loss of life or property, or shortage of food, water, or fuel resulting from an incident such as storm, high water, wind-driven water, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, avalanche, snowstorm, prolonged extreme cold, drought, fire, flood, epidemic, explosion, or riot; the release of oil or a hazardous substance if the release requires prompt action to avert environmental danger or mitigate environmental damage; and equipment failure if the failure is not a predictably frequent or recurring event or preventable by adequate equipment maintenance or operation.

Disaster Emergency
For the purposes of this permit, means the condition declared by proclamation of the governor or declared by the principal executive officer of a political subdivision to designate the imminence or occurrence of a disaster.

Department or DEC
Refers to the Alaska Department of Environmental Conservation

Discharge
When used without qualification means the “discharge of a pollutant”

Discharge of Storm Water Associated with Construction Activity
For the purposes of this permit, refers to a discharge of pollutants in storm water from areas where soil disturbing activities (e.g., clearing, grading, or excavation), construction materials or equipment storage or maintenance (e.g., fill piles, borrow area, concrete truck chute washdown, fueling), or other industrial storm water directly related to the construction process (e.g., concrete or asphalt batch plants) are located.

Discharge Point
Means the location where collected and concentrated storm water flows are discharged from the construction site.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disturbed Area</td>
<td>Is a portion of any site that has been altered from pre-existing conditions, including but not limited to the following: providing access to a site, grubbing and clearing of vegetation (including the roots), grading, earth moving, altering land forms, and other construction-related activities (such as placement of project related stockpiles atop a soil surface).</td>
</tr>
<tr>
<td>Effluent</td>
<td>For the purposes of this permit, means any discharge of storm water and allowable non-storm water by a permittee either to the receiving water or beyond the property boundary controlled by the permittee.</td>
</tr>
<tr>
<td>Effluent Limit Guideline</td>
<td>Defined in 40 CFR §122.a as a regulation published by the Administrator under section 304(b) of the Clean Water Act to adopt or review effluent limitations.</td>
</tr>
<tr>
<td>Electronic Notice of Intent (eNOI)</td>
<td>For the purposes of this permit, means the ADEC online system for submitting electronic Construction General Permit forms.</td>
</tr>
<tr>
<td>Equivalent Analysis Waiver</td>
<td>Means a waiver, available only to small construction activities which discharge to non-impaired waters only, based on the permittee performance of an equivalent analysis using existing instream concentrations, expected growth in pollutant concentrations from all sources, and a margin of safety.</td>
</tr>
<tr>
<td>Erosion</td>
<td>Is the process of wearing away of the land surface by water, wind, ice, gravity, or other geologic agents.</td>
</tr>
<tr>
<td>Erosion Control Measures</td>
<td>Are control measures intended to minimize dislodging and mobilizing of sediment particles.</td>
</tr>
<tr>
<td>Excavation Dewatering</td>
<td>The practice of dewatering excavation areas through the use of pumps placed within the excavation or well pumps in adjacent dewatering wells which lower the water table to provide a relative dry working condition.</td>
</tr>
<tr>
<td>Exceptional Recreational or Ecological Significance</td>
<td>For the purposes of this permit, means a waterbody that is important, unique, or sensitive ecologically and has been designated as an Outstanding Natural Resource Water or Tier 3 water.</td>
</tr>
<tr>
<td>Fall Freeze-up</td>
<td>For the purposes of this permit, means for planning purposes in the development of the SWPPP and initial planning of control measure maintenance the date in the fall that air temperatures will be predominately below freezing. It is the date in the fall that has an 80% probability that a minimum temperature below a threshold of 32.5 degrees Fahrenheit will occur on or after the given date. This date can be found by looking up the “Fall ‘Freeze’ Probabilities” for the weather station closest to the site on the website <a href="http://www.wrcc.dri.edu/summary/Climsmak.html">www.wrcc.dri.edu/summary/Climsmak.html</a>. NOTE: this estimation of “Fall Freeze-up” is for planning purposes only. During construction the permittee will need to maintain control measures based on actual conditions.</td>
</tr>
<tr>
<td>Facility</td>
<td>See “activity.”</td>
</tr>
</tbody>
</table>
Federal Facility: Any buildings, installations, structures, land, public works, equipment, aircraft, vessels, and other vehicles and property, owned by, or constructed or manufactured for the purpose of leasing to, the Federal government.

Field Measurements: Are testing procedures performed in the field with portable field-testing kits or meters.

Fill-only projects: For the purposes of this permit, means projects where the road prism or gravel pad is constructed using low-erodible fill material placed over an undisturbed vegetative mat. Typically, there is not soil disturbance that may be subject to erosion.

Flocculants: Are substances that interact with suspended particles and bind them together to form flocs. These flocs more readily settle out compared to individual particles.

Frozen Ground: For the purposes of this permit, is characterized by soil temperature below freezing. Frozen ground by itself is not considered an acceptable stabilization control measure. It may be used in combination with control measures (e.g. track walking, downgradient control measures, etc.)

Good Housekeeping Measures: For the purposes of this permit, means storm water controls designed to reduce or eliminate the addition of pollutants to construction site discharges through analysis of pollutant sources, implementation of proper handling and/or disposal practices, employee education, and other actions.

Grubbing: For the purposes of this permit, means the stripping and removal of the root mass on or near the ground surface. This is considered soil disturbance activity and requires coverage under this permit.

Hazardous Materials or Hazardous or Toxic Waste: For the purposes of this permit, any liquid, solid, or contained gas that contain properties that are dangerous or potentially harmful to human health or the environment. See also 40 CFR §261.2.

Immediately: No later than the end of the next work day, following the day when the earth-disturbing activities have temporarily or permanently ceased.

Impaired Water: (or “Water Quality Impaired Water” or “Water Quality Limited Segment”) is defined as a water that is impaired for purposes of this permit if it has been identified by the State of Alaska or EPA pursuant to Section 303(d) of the Clean Water Act as not meeting applicable State WQSs (These waters are called “water quality limited segments” under 40 CFR §30.2(j)). Impaired waters include both waters with approved or established TMDLs, and those for which a TMDL has not yet been approved or established. For more information and current listing of impaired waters, see http://dec.alaska.gov/water/wqsar/waterbody/integratedreport.htm.

Indian Country: Defined at 40 CFR §122.2 to mean:

1. All land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and including rights-of-way running through the reservation;
2. All dependent Indian communities with the borders of the United States whether within the originally or subsequently acquired territory thereof and whether within or without the limits of a state; and

3. All Indian allotments, the Indian titles to which have not been extinguished, including rights-of-ways running through the same.

**Infeasible**

Defined in 40 CFR §450.11 and incorporated here by reference. Infeasible means not technologically possible, or not economically practicable and achievable in light of best industry practices.

**Large Construction Activity**

Defined at 40 CFR §122.26(b)(14)(x) and incorporated here by reference. A large construction activity includes clearing, grading, and excavating resulting in a land disturbance that will disturb equal to or greater than five acres of land or will disturb less than five acres of total land area but is part of a larger common plan of development or sale that will ultimately disturb equal to or greater than five acres. Large construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity of conveyance channels, or original purpose of the site.

**Linear Project**

Is a land disturbing activity as conducted by an underground/overhead utility or highway department, including but not limited to any cable line or wire for the transmission of electrical energy; any conveyance pipeline for transportation of gaseous or liquid substance; any cable line for communications; or any other energy resource transmission right-of-way or utility infrastructure (e.g., roads and highways) along a long narrow area.

**Maintenance**

Activities performed to maintain the original line and grade, hydraulic capacity of conveyance channels, or original purpose of the site. For the purposes of this permit, means projects that repair, rehabilitate, or replace existing structures or facilities, provided that the maintenance activity does not change the original purpose of the structure or facility. Maintenance may include minor deviations in the configuration of the structure or facility due to changes in materials, construction methods, or current construction codes or safety standards.

**Master Plan**

For the purposes of this permit, means if the permittee has a long-range master plan of development (e.g. a rural infrastructure improvement project or military base construction) where some portions of the master plan are a conceptual rather than a specific plan of future development and the future construction activities would, if they occur at all, happen over an extended time period, the permittee may consider the “conceptual” phases of a master plan to be separate “common plans” provided the periods of construction for the physically interconnected phases do not overlap.

**Mean Annual Precipitation**

This is the average total precipitation based on weather records. This data is available on the website for the Western Regional Climate Center [www.wrcc.dri.edu/summary/Climsmak.html](http://www.wrcc.dri.edu/summary/Climsmak.html).

**Minimize**

To reduce and/or eliminate to the extent achievable using control measures and good housekeeping measures that are technologically available and economically practicable and achievable in light of best industry practices.
<table>
<thead>
<tr>
<th>Minimize Pollutant Discharge</th>
<th>See ‘Minimize’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Municipality</td>
<td>A home rule municipality is a municipal corporation and political subdivision. It is a city or a borough that has adopted a home rule charter, or it is a unified municipality. A home rule municipality has all legislative powers not prohibited by law or charter. (§ 3 ch 74 SLA 1985) A general law municipality is a municipal corporation and political subdivision and is an unchartered borough or city. It has legislative powers conferred by law. (§ 3 ch 74 SLA 1985)</td>
</tr>
<tr>
<td>Municipal Separate Storm Sewer System (MS4)</td>
<td>Defined at 40 CFR §122.26(b)(8) to mean a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains): 1. Owned and operated by a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA that discharges to waters of the U.S.; 2. Designed or used for collecting or conveying storm water; 3. Which is not a combined sewer; and 4. Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR §122.2.</td>
</tr>
<tr>
<td>Nephelometric Turbidity Unit (NTU)</td>
<td>Is an expression of the optical property that causes light to be scattered and absorbed rather than transmitted in a straight line through the water.</td>
</tr>
<tr>
<td>New Project</td>
<td>The “commencement of construction” occurs after the effective date of this permit.</td>
</tr>
<tr>
<td>New Source</td>
<td>For the purpose of this permit, is any source whose discharges are defined in 40 CFR §122.26(b)(14)(x) and (b)(15), that commences construction activity after the effective date of the new Construction &amp;Development rule.</td>
</tr>
<tr>
<td>Non-Storm Water Discharges</td>
<td>Are discharges that do not originate from storm events. They can include, but are not limited to, discharges of process water, air conditioner condensate, non-contact cooling water, vehicle wash water, sanitary wastes, concrete washout water, paint wash water, irrigation water, or pipe testing water.</td>
</tr>
<tr>
<td>Notice of Intent (NOI)</td>
<td>Is the form required to be submitted by an applicant to the Department to obtain authorization of coverage under the Alaska Construction General Permit.</td>
</tr>
</tbody>
</table>
Notice of Termination (NOT) Is the form required for terminating coverage under the Alaska Construction General Permit.

Ongoing Project The “commencement of construction” occurs before the effective date of this permit.

Operator For the purpose of this permit, and in the context of storm water associated with construction activity, means any person associated with a construction project that 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). This definition is provided to inform permittees of the Department’s interpretation of how the regulatory definitions of “owner or operator” and “facility or activity” are applied to discharges of storm water associated with construction activity.

Subcontractors generally are not considered operators for the purposes of this permit.

Owner For the purposes of this permit, means the owner of any “facility or activity” subject to regulation under the APDES program.

Outfall See ‘Discharge Point.’

Permanent Storm Water Management Controls For the purposes of this permit, refers to “Nondomestic wastewater treatment works” as described in 18 AAC 72.990. These controls include: dry extended detention ponds, constructed wetlands, wet ponds, sand filters, oil/grit separator, rotational flow separators, etc.

Permitted Ongoing Project Is a construction project that commenced prior to the effective date of this permit, which has been covered by a prior general permit for storm water discharges.

Permittee Is a person who is authorized to discharge pollutants to waters of the U.S. in accordance with the conditions and requirements of this permit.

Person For the purposes of this permit, means any public or private entity including but not limited to an individual, trust, firm, joint stock company, corporation (including government corporation), partnership, association, federal agency, state agency, city, borough, municipality, commission, political subdivision of the State, any interstate body or tribe.

Point Source Any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.
### Pollutant
Defined at 40 CFR §122.2. A partial listing from this definition includes: dredged spoil, solid waste, sewage, garbage, sewage sludge, chemical wastes, biological materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial or municipal waste.

### Pollution Prevention Measures
See “Good Housekeeping Measures.”

### Polyacrylamide (PAM)
For the purposes of this permit, is a long-chain organic polymer developed to clarify drinking water that has many other beneficial uses including erosion control, enhanced infiltration, and nutrient removal. Some forms of PAM can be used to stabilize soils and remove fine suspended sediments from storm water runoff. In powder form PAM is easy to store, easy to transport, and is not a health concern when used as directed. PAM dissolved in nonaqueous emulsions are not recommended for use in this permit.

### Polymers
For the purposes of this permit, are coagulants and flocculants used to control erosion on soil or to enhance the sediment removal capabilities of sediment traps or basins. Common construction site polymers include polyacrylamide (PAM), chitosan, alum, polyaluminum chloride, and gypsum. A permittee using polymers should carefully consider the appropriateness of usage of these materials where there are sensitive or protected aquatic organisms in the receiving waters, including threatened or endangered species and their critical habitat.

### Post-Construction Discharges
For the purposes of this permit, means the storm water discharges occurring after construction has been completed and final stabilization has been attained.

### Practicable
For the purposes of this permit, means capable of being done after taking into consideration costs, existing technology, standards of construction practice, impacts to water quality, site conditions, and logistics in light of the overall project purpose.

### Project Area
For the purposes of this permit, meant that

1. The areas on the construction site where storm water discharges originate and flow toward the point of discharge into the receiving waters (including areas where excavation, site development, or other ground disturbance activities occur) and the immediate vicinity. (Example: 1. Where bald eagles nest in a tree that is on or bordering a construction site and could be disturbed by the construction activity. 2. Where grading causes storm water to flow into a small wetland or other habitat that is on the site that contains listed species.)

2. The areas where storm water discharges flow from the construction site to the point of discharge into receiving waters. (Example: Where storm water flows into a ditch, swale, or gully that leads to receiving waters and where listed species (such as amphibians) are found in the ditch, swale, or gully.)
3. The areas where storm water from construction activities discharge into receiving waters and the areas in the immediate vicinity of the point of discharge. (Example: Where storm water from construction activities discharges into a stream segment that is known to harbor listed aquatic species.)

4. The areas where storm water BMPs will be constructed and operated, including any areas where storm water flows to and from BMPs. (Example: Where a storm water retention pond would be built.)

5. The areas upstream and/or downstream from construction activity that discharges into a stream segment that may be affected by the discharges. (Example: Where sediment discharged to a receiving stream settles downstream and impacts a breeding area of a listed aquatic species.)

Qualified Person

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 this permit. The recommended experience or educational requirements for each of these “roles” is described below. The required training is described in Table 4. For projects that disturb 1 to less than 5 acres, all the roles described below will or may be carried out by one person. For the larger projects there will or maybe the need to have one person for each role (that is a project-specific choice by the permittee).

Storm Water Lead

A. 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 recordkeeping.

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.
Qualified Person (continued)

**SWPPP Preparer**

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 as a means to implement this permit.

**Storm Water Inspector**

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 as a means to ensure compliance with this 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 follow-up corrective action to the Storm Water Lead or site supervisor.

**Monitoring Person**

A person knowledgeable in the principles and practices of water quality monitoring who is familiar with Part 7 and the monitoring plan for the site and how to conduct water quality sampling, testing, and reporting.

**Active Treatment System Operator**

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 as a means to implement and comply with this permit.

(Table 4: Recommended Experience or Required Training for Specific Roles is located on the following page.)
Table 4: Recommended Experience or Required Training for Specific Roles

<table>
<thead>
<tr>
<th>Storm Water Role</th>
<th>Total Project Disturbed Acreage</th>
<th>1 to &lt; 5 acres</th>
<th>5 acres to &lt;20 Acres</th>
<th>&gt; 20 Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Storm Water Lead</strong></td>
<td>1 to &lt; 5 acres</td>
<td>Recommend AK-CESCL training, but not required</td>
<td>Be AK-CESCL certified</td>
<td>Be AK-CECSL certified</td>
</tr>
<tr>
<td></td>
<td>5 acres to &lt;20 Acres</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; 20 Acres</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SWPPP Preparer</strong></td>
<td></td>
<td>Be familiar with permit.</td>
<td>Recommend taking a course in SWPPP preparation.</td>
<td>Be AK-CECSL certified, visit the site prior to writing the SWPPP or soon after project start and revised the SWPPP based on site conditions. Recommend taking a course in SWPPP preparation.</td>
</tr>
<tr>
<td><strong>Storm Water Inspector</strong></td>
<td></td>
<td>Be familiar with permit and SWPPP.</td>
<td>Be AK-CESCL certified</td>
<td>Be AK-CECSL certified</td>
</tr>
<tr>
<td></td>
<td>5 acres to &lt;20 Acres</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; 20 Acres</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Monitoring Person</strong></td>
<td>Not Required</td>
<td>Not Required</td>
<td>Not Required</td>
<td>Be AK-CECSL certified</td>
</tr>
<tr>
<td><strong>Active Treatment System Operator</strong></td>
<td>1 to &lt; 5 acres</td>
<td>Be AK-CESCL certified and have general experience and knowledge of storm water control measures. Have operational experience with the specific equipment used on-site.</td>
<td>Be AK-CESCL certified and have general experience and knowldege of storm water control measures. Have operational experience with the specific equipment used on-site.</td>
<td>Be AK-CECSL certified and have general experience and knowledge of storm water control measures. Have operational experience with the specific equipment used on-site.</td>
</tr>
<tr>
<td></td>
<td>5 acres to &lt;20 Acres</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; 20 Acres</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Note: The following training and certifications may substitute for AK-CESCL training and certification: CPESC, CESSWI, or CPSWQ by EnviroCert International, Inc (ECI, <a href="http://envirocertintl.org">http://envirocertintl.org</a>) or CISEC by CISEC, Inc. (<a href="http://cisecinc.org">http://cisecinc.org</a>).</td>
<td></td>
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<tr>
<td>Rain Gauge</td>
<td>For the purposes of this permit, means a type of instrument to gather and measure the amount of liquid precipitation occurring during a storm event for a set period of time.</td>
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<tr>
<td>Rainfall Erosivity Factor or R Factor</td>
<td>Means a measure of the erosive force and intensity of rain in a normal year. Two components of the factor are total energy and the maximum 30-minute intensity of storms. The R-Factor is the sum of the product of these two components for all major storms in the area during an average year.</td>
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<td>Rainfall Erosivity Waiver</td>
<td>Means a waiver, available only to small construction activities, that is based on the rainfall erosivity factor for the project.</td>
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<td>Reasonable</td>
<td>For purposes of this permit, means the permittee has selected, designed, installed, implemented and maintained control measures in light of manufacture’s specifications and good engineering practices at the project to meet the control measures and good housekeeping measures established in Part 4.0 of the permit.</td>
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<td>Reasonable Time(s)</td>
<td>For inspections it is time when inspections may occur, typically during normal business hours of 8:00 am to 5:00 pm Monday through Friday, except for those construction sites that are operational outside of these times. For information requests it is thirty (30) calendar days from the date of the receipt of a written request for information from the department, unless specified otherwise in this permit.</td>
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<tr>
<td>Receiving Water</td>
<td>The “Water of the United States” as defined in 40 CFR §122.2 into which the regulated storm water discharges.</td>
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<td>Residential Subdivision</td>
<td>For the purposes of this permit, means any parcel of land that is divided into smaller parcels with the intent of selling the smaller parcels for the development of residential homes for individual ownership.</td>
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<td>Rural Infrastructure Improvement Project</td>
<td>For the purposes of this permit, means a project that is a rural water, wastewater, solid waste, or energy project that is funded, designed, or built by a third party such as the Alaska Native Tribal Health Consortium, DEC Village Safe Water Program, or the Alaska Energy Authority for a 2nd class city, Tribe, Community Association, or statutory improvement district.</td>
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<tr>
<td>Rural Infrastructure Improvement Project Operators</td>
<td>For the purposes of this permit, means the agency or entity with “design control over plans and specifications” that acts as the operator rather than the ultimate owner of the rural infrastructure improvement project.</td>
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<td>Sampling Point</td>
<td>For the purposes of this permit, means that point at which storm water samples are collected where the storm water or authorized non-storm water is discharged from the site.</td>
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<td>Sediment</td>
<td>Is solid particulate matter, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity, or ice and has come to rest on the earth's surface either above or below sea level.</td>
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<tr>
<td>Sedimentation</td>
<td>Is the process of deposition of suspended matter carried by water, wastewater, or other liquids by gravity. It is usually accomplished by reducing the velocity of the liquid below the point at which it can transport the suspended material.</td>
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<td>Sediment Control Measures</td>
<td>Are control measures that serve to capture sediment particles that have mobilized and are entrained in storm water with the objective of removing sediment and other pollutants from the storm water discharge.</td>
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<td>Semi-Arid Areas</td>
<td>Areas with an average total precipitation of 10 to 20 inches. See <a href="http://www.wrcc.dri.edu">www.wrcc.dri.edu</a> for precipitation data from the weather station closest to the project.</td>
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<td>Sensitive Area</td>
<td>For the purposes of this permit, means any lakes, ponds, perennial and intermittent streams, vernal pools, wetlands, floodplains, floodways and areas with highly erodible soils, which need special protection.</td>
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<td>Sheet Flow</td>
<td>Is slow-velocity runoff that flows or is directed to flow across an overland area where there are no defined channels and the water spreads out over a large area at a uniform depth. Sometimes referred to as “sheetwash.”</td>
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<td>Site</td>
<td>The land or water area where any “facility or activity” is physically located or conducted, including adjacent and off-site land used in connection with the facility or activity, including related areas for support activities.</td>
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<td>Small Construction Activity</td>
<td>Defined at 40 CFR §122.26(b)(15) and incorporated here by reference. A small construction activity includes clearing, grading, and excavating resulting in a land disturbance that will disturb equal to or greater than one (1) acre and less than five (5) acres of land or will disturb less than one (1) acre of total land area but is part of a larger common plan of development or sale that will ultimately disturb equal to or greater than one (1) acre and less than five (5) acres. Small construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity of conveyance channels, or original purpose of the site.</td>
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<td>Snowmelt</td>
<td>The conversion of snow into water runoff that may infiltrate into the ground with the onset of warmer temperatures.</td>
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<td>Spring Thaw</td>
<td>For the purposes of this permit, means for planning purposes in the development of the SWPPP and initial planning of control measure maintenance the date in the spring that air temperatures will be predominately above freezing. It is the date in the spring that has a 20% probability that a minimum temperature below a threshold of 32.5 degrees Fahrenheit will occur on or after the given date. This date can be found by looking up the “Spring ‘Freeze’ Probabilities” for the weather station closest to the project on the website <a href="http://www.wrcc.dri.edu/summary/Climsmak.html">www.wrcc.dri.edu/summary/Climsmak.html</a>. NOTE: this estimation of “Spring Thaw” is for planning purposes only. During construction the permittee will need to maintain control measures based on actual conditions.</td>
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<td>Stabilization</td>
<td>The use of vegetative and/or non-vegetative cover to prevent erosion and sediment loss in areas exposed by Construction Activities.</td>
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Temporary Stabilization

For the purposes of this permit, means protecting soils from erosion and sediment loss by rainfall, snow melt, runoff, or wind, with a temporary vegetative and/or non-vegetative protection cover. Temporary stabilization may include a combination of surface roughening (track walking), temporary seeding, geotextiles, mulches, surface tackifiers, rolled erosion control products, gravel or paving, and other techniques to reduce or eliminate erosion until either final stabilization can be achieved or until further construction activities take place to re-disturb this area.

Final Stabilization

For the purposes of this permit, means that:

1. All soil disturbing activities at the site have been completed and either of the two following criteria shall be met:
   a. a uniform (e.g., evenly distributed, without large bare areas) perennial vegetative cover with a density of 70 percent of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, or
   b. equivalent non-vegetative permanent stabilization measures have been employed (such as the use of riprap, gabions, porous backfill (ADOT&PF Specification 703-2.10), railroad ballast or subballast, ditch lining (ADOT&PF Specification 610-2.01), geotextiles, or fill material with low erodibility as determined by an engineer familiar with the site and documented in the SWPPP).

2. When background native vegetation will cover less than 100 percent of the ground (e.g., arid areas, beaches), the 70 percent coverage criteria is adjusted as follows: if the native vegetation covers 50 percent of the ground, then 70 percent of 50 percent (0.70 X 0.50 = 0.35) would require 35 percent total cover for final stabilization. On a beach with no natural vegetation, no stabilization is required.

3. In arid and semi-arid areas only, all soil disturbing activities at the site have been completed and both of the following criteria have been met:
   a. Temporary erosion control measures (e.g., degradable rolled erosion control product) are selected, designed, and installed along with an appropriate seed base to provide erosion control for at least three years without active maintenance by the permittee;
   b. The temporary erosion control measures are selected, designed, and installed to achieve 70 percent vegetative coverage within three years.

4. For individual lots in residential construction, final stabilization means that either:
   a. The homebuilder has completed final stabilization as specified above, or
   b. The homebuilder has established temporary stabilization including perimeter controls for an individual lot prior to occupation of the home by the homeowner and informing the homeowner of the need for, and benefits of, final stabilization.
5. For construction projects on land used for agricultural purposes (e.g., pipelines across crop or range land, staging areas for highway construction, etc.), final stabilization may be accomplished by returning the disturbed land to its preconstruction agricultural use. Areas disturbed that were not previously used for agricultural activities, such as buffer strips immediately adjacent to “water of the United States,” and areas which are not being returned to their preconstruction agricultural use must meet the final stabilization criteria (1) or (2) or (3) above.

Steep Slope

For the purposes of this permit, mean any slope occurring on the construction site that is 20 percent or greater in grade for a length of the slope that exceeds 25 feet.

Storm Event

For the purposes of this permit, means a rainfall event that produces more than 0.5 inch of precipitation in 24 hours and that is separated from the previous storm event by at least 3 days of less than 0.1 inch of rain per day.

Storm Water

Storm water runoff, snow melt runoff, and surface runoff and drainage.

Storm Water Controls

See ‘Control Measure’

Storm Water Discharge-Related Activities

Activities that cause, contribute to, or result in storm water point source pollutant discharges, including but not limited to: excavation, site development; grading and other surface disturbance activities; and measures to control storm water including the sitting, construction and operation of BMPs to control, reduce or prevent storm water pollution.

Storm Water Inlet

A structure placed below grade to conduct water used to collect storm water runoff for conveyance purposes.

Storm Water Pollution Prevention Plan (SWPPP)

Means a site-specific, written document that: (1) identifies potential sources of storm water pollution at the construction site; (2) describes practices to reduce or eliminate pollutants in storm water discharges from the construction site; and (3) identifies procedures the permittee will implement to comply with the terms and conditions of this general permit.

Support Activities

For the purposes of this permit, means any concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, and borrow areas provided:

1. The support activity is directly related to the construction project that is covered under this general permit,

2. The support activity is not a commercial operation serving multiple unrelated construction projects by different permittees,

3. The support activity does not operate beyond the completion of the construction activity at the project it supports, and

4. Appropriate control measures are identified in the SWPPP covering the discharges from the support activity areas.
Material borrow areas that are developed specific for the projects and are non-contiguous to the project site (e.g. the material is barged in from another area not nearby the project area) are considered “support activities” however, they would not need to be routinely inspected as part of the project. These areas would need to comply with other conditions of the permit to control storm water discharge as described in the SWPPP. The permit provides an exception for concrete or asphalt plants used for highway paving projects that may also, incidental to the main project contract, pave residential driveways. This additional paving is allowed under this permit provided those activities are covered under the SWPPP.

For communities where equipment or materials are barged in, flown in, or shipped by Alaska Marine Highway, the support activities may serve more than one project if: (1) each project that qualifies for coverage under this permit files a project-specific NOI and includes an acknowledgement of the shared support activities; (2) identifies the operator responsible for maintaining those support activities in compliance with permit requirements; and (3) identifies the operator responsible for the support activities until an NOT is filed at the conclusion of use of the support activity.

**Total Maximum Daily Load (TMDL)**

The sum of the individual wasteload allocations (WLAs) for point sources and load allocations (LAs) for nonpoint sources and natural background. If receiving water has only one point source discharger, the TMDL is the sum of that point source WLA plus the LAs for any nonpoint sources of pollution and natural background sources, tributaries, or adjacent segments. TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure.

**TMDL Waiver**

Means a waiver, available only to small construction activities, based on an EPA established or approved TMDL.

**Treatment Chemicals**

For the purposes of this permit, means chemicals specifically used for chemical coagulation, chemical flocculation, erosion control or sediment control.

**Turbidimeter**

For the purposes of this permit, means an instrument that measures the amount of light scattered at right angles to an incident light beam by particles present in a storm water sample.

**Turbidity**

Means a condition of water quality characterized by the presence of suspended solids and/or organic material.

**Upset**

Defined in 40 CFR §122.41 and incorporated here by reference. Upset means an exceptional incident in which there is unintentional and temporary non-compliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

**Water Quality Impaired**

See ‘Impaired Water.’
<table>
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<tr>
<th>Term</th>
<th>Definition</th>
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<tr>
<td>Water Quality Standard (WQS)</td>
<td>For the purposes of this permit, means the Alaska Water Quality Standards (18 AAC 70) as approved by U.S. EPA. As defined in 40 CFR § 131.3 water quality standards are provisions of State or Federal law which consist of a designated use or uses for the waters of the U.S. and water quality criteria for such waters based upon such uses. Water quality standards are to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act.</td>
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<tr>
<td>Wetland</td>
<td>Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.</td>
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<tr>
<td>Winter Construction</td>
<td>For the purposes of this permit, means the commencement of construction specifically during frozen conditions to aid in construction. Typically, this period is from December to March and is approximately from after fall freeze-up to before spring thaw.</td>
</tr>
<tr>
<td>Winter Shutdown</td>
<td>For the purposes of this permit, means the cessation of soil disturbing or soil stabilizing construction activity for the winter. Typically this period is from October/November to April/May and is approximately from fall freeze-up to spring thaw.</td>
</tr>
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</table>
Appendix D Small Construction Waivers and Instructions

These waivers are only available to storm water discharges associated with small construction activities (i.e., 1-5 acres). As the operator of a small construction activity, the operator may be able to qualify for a waiver in lieu of needing to obtain coverage under this general permit based on: (A) a low rainfall erosivity factor, (B) a TMDL analysis, or (C) an equivalent analysis that determines allocations for small construction sites are not needed. Each applicant, otherwise needing permit coverage, must notify DEC of its intention for a waiver. It is the responsibility of that person wishing to obtain a waiver from coverage under this general permit to submit a complete and accurate waiver certification as described below. Where the operator changes or another is added during the construction project, the new operator must also submit a waiver certification to be waived.

D.1 Rainfall Erosivity Waiver

Under this scenario the small construction project’s rainfall erosivity factor calculation (“R” in the Revised Universal Soil Loss Equation) is less than 5 during the period of construction activity. The operator must certify to the Department that construction activity will occur only when the rainfall erosivity factor is less than 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 operator 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 the Department prior to commencing construction activities.

Note: The basis of the rainfall erosivity factor “R” was determined 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. R factor information for Alaska can be found in the Fact Sheet and were obtained from RUSLE2 Version 1.26.6.4 http://fargo.nserl.purdue.edu/rusle2_dataweb/RUSLE2_Index.htm. (Database last modified on Feb, 28, 2008).

If the operator is eligible for a waiver based on low erosivity potential, the operator may submit a rainfall erosivity waiver to the address listed in Appendix A, Part 1.1.1 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 operator;
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 (i.e., final stabilization) dates, and total acreage (to the nearest quarter acre) to be disturbed;
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, which 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 ADEC’s website at: (www.dec.state.ak.us/water/wnpspc/stormwater/index.htm). The form must be sent to the address listed in Appendix A, Part 1.1.1, Permitting Program of this permit.

Note: If the R factor is five or greater, you cannot apply for the rainfall erosivity waiver, and must apply for permit coverage as per Part 2.2 of the construction general permit, unless you qualify for the Water Quality Waiver as described below.

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 five, the owner or operator 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 the new R factor is five or above, the applicant must submit an NOI, in accordance with Part 2.0 of the permit.

**D.2 TMDL Waiver**

This waiver is available if DEC or EPA has established or approved a TMDL that addresses the pollutant(s) of concern and has determined that controls on storm water discharges from small construction activity are not needed to protect water quality. The pollutant(s) of concern include sediment (such as total suspended solids, turbidity, or siltation) and any other pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from the construction activity. Information on TMDLs that have been established or approved by EPA is available from EPA online at http://www.epa.gov/owow/tmdl and from DEC online at http://dec.alaska.gov/water/tmdl/approvedtmdls.htm.

If an applicant of the construction activity is eligible for a waiver based on compliance with a DEC or EPA established or approved TMDL, the operator must 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 operator;
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 (i.e., final stabilization) dates, and total acreage (to the nearest quarter acre) to be disturbed;
4. The name of the water body(s) that would be receiving storm water discharges from your construction project;
5. The name and approval date of the TMDL;
6. 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 and that the storm water discharges will occur, within the drainage area addressed by the TMDL.

**D.3 Equivalent Analysis Waiver**

This waiver is available for non-impaired waters only (see 2010 Approved Integrated Report, or most current EPA-approved version: http://dec.alaska.gov/water/wqsar/waterbody/integratedreport.htm and http://dec.alaska.gov/water/wqsar/Docs/Impairedwaters.pdf for list of impaired waters). The operator can develop an equivalent analysis that determines allocations for the small construction site for the pollutant(s) of concern or determines that such allocations are not needed to protect water quality. This waiver requires a small construction site to develop an equivalent analysis based on existing in-stream concentrations, expected growth in pollutant concentrations from all sources, and a margin of safety.
If an operator wants to use this waiver, the operator must develop an equivalent analysis and provide the following information to be waived from permitting requirements:

1. Name, address and telephone number of the operator;
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 (i.e., final stabilization) dates, and total acreage (to the nearest quarter acre) to be disturbed;
4. The name of the water bodies that would be receiving storm water discharges from your construction project;
5. The equivalent analysis;
6. 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 and that the storm water discharges will occur, within the drainage area addressed by the equivalent analysis.

D.4 Waiver Deadlines and Submissions

1. Waiver certifications must be submitted prior to commencement of construction activities.
2. If an operator submits a TMDL or equivalent analysis waiver request, the operators request is not waived until the Department approves the request. As such, the operator may not commence construction activities until receipt of approval from the Department.
3. Late Notifications: operators are not prohibited from submitting waiver certifications after initiating clearing, grading, excavation activities, or other construction activities. The Department reserves the right to take enforcement for any unpermitted discharges that occur between the time construction commenced and waiver authorization is granted.

Submittal of a waiver certification is an optional alternative to obtaining permit coverage for discharges of storm water associated with small construction activity, provided the operator qualifies for the waiver. Any discharge of storm water associated with small construction activity not covered by either a permit or a waiver may be considered an unpermitted discharge under the CWA. As mentioned above, the Department reserves the right to take enforcement for any unpermitted discharges that occur between the time construction commenced and either discharge authorization is granted or a complete and accurate waiver certification is submitted. The Department may notify any operator covered by a waiver that they must apply for a permit. The Department may notify any construction project that has been in non-compliance with a waiver that they may no longer use the waiver for future projects. Any member of the public may petition the Department to take action under this provision by submitting written notice along with supporting justification.
Appendix E  Forms

The following forms can be accessed at http://dec.alaska.gov/water/wnpspc/stormwater/Forms.htm:

- Notice of Intent (NOI)
- Notice of Termination (NOT)
- Notice of Intent Modification
- Low Erosivity Waiver
- Annual Report
APPENDIX G

GRADING AND STABILIZATION RECORDS
Appendix G – Grading and Stabilization Activity Logs

Project Name: ______________________
SWPPP Contact: ____________________

<table>
<thead>
<tr>
<th>Date Grading Activity Initiated</th>
<th>Description of Grading Activity</th>
<th>Date Grading Activity Ceased (Indicate Temporary or Permanent)</th>
<th>Date When Stabilization Measures are Initiated</th>
<th>Description of Stabilization Measure and Location</th>
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APPENDIX H

MONITORING PLAN (IF APPLICABLE) AND REPORTS
APPENDIX I

TRAINING RECORDS
Appendix J – Corrective Action Log

Project Name: ________________________

<table>
<thead>
<tr>
<th>Inspection Date</th>
<th>Inspector Name(s)</th>
<th>Description of BMP Deficiency</th>
<th>Corrective Action Needed (including planned date/responsible person)</th>
<th>Date Action Taken/Responsible person</th>
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APPENDIX K

PERIODIC INSPECTION REPORTS
Qualified personnel will inspect and report on the condition of the structural BMPs, and investigate downstream water courses for evidence of siltation. Inspection reports shall be retained with this SWPPP for three years after the completion of the project. Appendix G has been provided as a location to retain the periodic inspection reports.
# Stormwater Construction Site Inspection Report

## General Information

<table>
<thead>
<tr>
<th>Project Name</th>
<th>APDES Tracking No.</th>
<th>Location</th>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Date of Inspection</th>
<th>Start/End Time</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Inspector’s Name(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Inspector’s Title(s)</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Inspector’s Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Inspectors Qualifications</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Describe present phase of construction</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

## Type of Inspection

- [ ] Regular
- [ ] Pre-storm event
- [ ] During storm event
- [ ] Post-storm event

## Weather Information

**Has it rained since the last inspection?**

- [ ] Yes
- [ ] No

If yes, provide:

- Storm Start Date & Time:  
- Storm Duration (hrs):  
- Approximate Rainfall (in):

**Weather at time of this inspection?**

**Do you suspect that discharges may have occurred since the last inspection?**

- [ ] Yes
- [ ] No

**Are there any discharges at the time of inspection?**

- [ ] Yes
- [ ] No
Site-specific BMPs

Number the structural and non-structural BMPs identified in your SWPPP on your site map and list them below (add as many BMPs as necessary). Carry a copy of this numbered site map with you during your inspections. This list will help ensure that you are inspecting all required BMPs at your site. Customize this section as needed.

<table>
<thead>
<tr>
<th>BMP Description</th>
<th>BMP Installed and Operating Properly?</th>
<th>Corrective Action Needed</th>
<th>Date for corrective action/responsible person</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Yes</td>
<td></td>
<td></td>
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<tr>
<td>4</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Yes</td>
<td></td>
<td></td>
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<tr>
<td>6</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Yes</td>
<td></td>
<td></td>
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<tr>
<td>13</td>
<td>Yes</td>
<td></td>
<td></td>
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<tr>
<td>14</td>
<td>Yes</td>
<td></td>
<td></td>
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<tr>
<td>15</td>
<td>Yes</td>
<td></td>
<td></td>
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<tr>
<td>16</td>
<td>Yes</td>
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<td></td>
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<tr>
<td>17</td>
<td>Yes</td>
<td></td>
<td></td>
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<tr>
<td>18</td>
<td>Yes</td>
<td></td>
<td></td>
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<tr>
<td>19</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BMP/activity</td>
<td>Implemented?</td>
<td>Maintained?</td>
</tr>
<tr>
<td>---</td>
<td>------------------------------------------------------------------------------</td>
<td>--------------</td>
<td>-------------</td>
</tr>
<tr>
<td>1</td>
<td>Are all slopes and disturbed areas not actively being worked properly stabilized?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>Are natural resource areas (e.g., streams, wetlands, mature trees, etc.) protected with barriers or similar BMPs?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>3</td>
<td>Are perimeter controls and sediment barriers adequately installed (keyed into substrate) and maintained?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>4</td>
<td>Are discharge points and receiving waters free of sediment deposits?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>5</td>
<td>Are storm drain inlets properly protected?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>6</td>
<td>Is there evidence of sediment being tracked into the street?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>7</td>
<td>Is trash/litter from work areas collected and placed in covered dumpsters?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>8</td>
<td>Are washout facilities (e.g., paint, stucco, concrete) available, clearly marked, and maintained?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>BMP/activity</td>
<td>Implemented?</td>
<td>Maintained?</td>
<td>Corrective Action</td>
</tr>
<tr>
<td>--------------</td>
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</tr>
<tr>
<td>9 Are vehicle and equipment fueling, cleaning, and maintenance areas free of spills, leaks, or any other deleterious material?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 Are materials that are potential stormwater contaminants stored inside or under cover?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 Are non-stormwater discharges (e.g., wash water, dewatering) properly controlled?</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>12 (Other)</td>
<td></td>
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</tbody>
</table>

**Compliance with Permit Conditions and Certification Statement**

Check one of the following statements:

- I did not identify any incidents of non-compliance with the CGP conditions. The __________________ project is in compliance with this permit.

or

- I identified incidents of non-compliance with the CGP conditions. These incidents are noted in the preceding checklist and corrective action will be taken to bring the project into permit compliance.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Print name: _________________________________________________________________________

Signature: __________________________________________________________________________________

Date: ____________________________________________