



## Fairbanks Urbanized Area Storm Water Management Program



## Logistics

- Food/drink
- Restrooms
- Parking
- Material
- Remember to silence cell phones!



## Storm Water 101

Storm Water Defined

Pollutants of Concern

Impaired Water Bodies



## Storm Water Defined

Storm water is runoff from rain or melting snow that flows over developed and undeveloped land surfaces into drainage systems that lead to nearby water bodies...and as runoff flows over these land surfaces, it collects and transports pollutants to these water bodies [without receiving treatment].



## Storm Water Defined (cont'd)

In Fairbanks City Limits alone, we own and operate:

- 343 lane-miles of Road
- 95 miles of Storm Drain Pipe
- 2,516 Catch Basin Inlets
- 499 Manholes
- 77 Outfalls to the Chena River & Noyes Slough
- ...and miles and miles of open drainage ditches and culverts



City of North Pole & Fairbanks North Star Borough

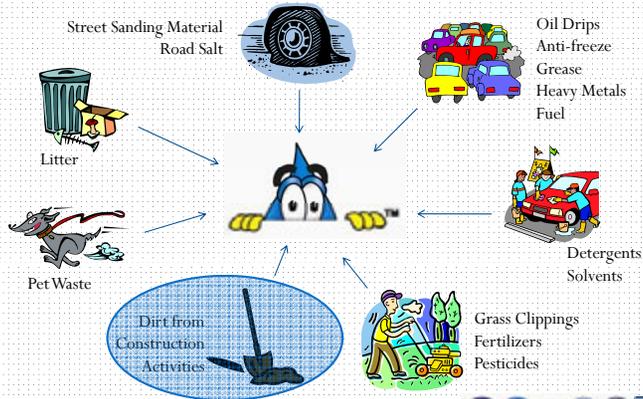


## Storm Water Defined (cont'd)

Here's a snapshot...



## Pollutants of Concern



## Pollutants of Concern (cont'd)

The real picture at the outfall...



## Pollutants of Concern (cont'd)

Another close-up...



## Impaired Water Bodies

As a result... the following are listed as **impaired water bodies** on the State's Category 5 / Section 303(d) List (Alaska's 2008 Integrated Water Quality Monitoring & Assessment Report)

Water Body	Pollutant/Impairment	Source
Chena River	Petroleum Products, Sediment	Urban Runoff
Noyes Slough	Petroleum Products, Sediment, Litter/Debris	Urban Runoff
Chena Slough	Petroleum Products, Sediment	Urban Runoff



## Storm Water and the Law



Clean Water Act and the NPDES

ADEC Primacy

APDES Industrial Permit

APDES Construction Permit

APDES MS4 Permit

## Clean Water Act and the NPDES

- Industrial
- Construction
- MS4



## ADEC Primacy

- June 29, 2006 – DEC submitted initial application to EPA
- May 2008 – DEC submitted final application to EPA
- June 2008 – EPA determined the application complete

DEC Assumes the NPDES Program in Four Phases starting on October 31 of the following years:

- 2008 – Phase I – Domestic Wastewater, Seafood, Timber
- 2009 – Phase II – Storm Water & Pretreatment
- 2010 – Phase III – Mining
- 2011 – Phase IV – Oil & Gas

<http://www.dec.state.ak.us/water/npdes/npdes.htm>



## APDES Industrial Permit

The screenshot shows the 'Division of Water Wastewater Discharge Authorization' page. The main heading is 'Multi-Sector General Permits'. Below it, there is a section titled 'What Are Your Permit Responsibilities As a Facility Operator?'. The text explains that operators of industrial facilities reporting an NPDES Stormwater Permit are eligible for coverage under the MSQP-2008 if their activities are included within one of 29 industrial sectors. It lists several responsibilities for facility operators, such as determining if the facility or site discharges to a municipal separate storm sewer system (MS4) or to waters of the United States, and determining if the facility's industrial activities are listed among the storm categories of industrial activities. An 'Of Interest' sidebar on the right lists links for ADEC MSQP Cover Page, EPA MSQP, EPA SWPPP Guidance, EPA Monitoring Guidance, ADEC MSQP SWPPP Forms, and MSQP Transition FAQs.



## APDES Industrial Permit (cont'd)

- |                            |                           |
|----------------------------|---------------------------|
| ➤ Log Storage & Handling   | ➤ Land Transportation     |
| ➤ Petroleum Refining       | ➤ Petroleum Bulk Stations |
| ➤ Asphalt Paving           | ➤ Water Transportation    |
| ➤ Metal Mining             | ➤ Ship & Boat Building    |
| ➤ Coal Mines               | ➤ Air Transportation      |
| ➤ Oil & Gas Field Services | ➤ Treatment Works         |
| ➤ Sand & Gravel Mining     | ➤ Food Products           |
| ➤ Auto Salvage Yards       | ➤ Leather Tanning         |



## APDES Construction Permit

The screenshot shows the 'Division of Water Wastewater Discharge Authorization' page. The main heading is 'Construction General Permit'. Below it, there is a section titled 'Reissuance of Construction General Permit by DEC'. The text explains that in July 2008, EPA issued its 2008 Construction General Permit (CGP) and then extended the term of the 2008 CGP by one year. Now the 2008 CGP is a three-year permit, which will expire on or before June 30, 2011. It also states that as of October 31, 2009, the Alaska Department of Environmental Conservation (DEC) is now the storm water permitting authority in Alaska. On January 31, 2010, DEC reissued the Alaska CGP which is now in effect and is available in the 'Of Interest' box to the right. An 'Of Interest' sidebar on the right lists links for DEC CGP 2010 Permit, DEC CGP 2010 Fact Sheet, EPA SWPPP Guidance, EPA SWPPP Template, ADEC CGP SWPPP Checklist, Forms, APDES eNOI, and CGP FAQs.





## APDES MS4 Permit (cont'd)

### (2) Public Involvement & Participation

- Annual Stream Cleanup Events
- Tanana Valley Watershed Association
  - Adopt-a-Stream
  - Volunteer Water Quality Monitoring
- Storm Drain Stenciling
- Community Surveys



## APDES MS4 Permit (cont'd)

### (3) Illicit Discharge Detection & Elimination

- Ordinance Adoption
- Outfall Sampling
- Dry-weather Outfall Screening
- Comprehensive Storm Drain Map
- Employee Training



## APDES MS4 Permit (cont'd)

### (4) Construction Site Storm Water Runoff Control

- Ordinance Adoption
- Plan Reviews & Inspections
- Workshops for Developers, Engineers, & Contractors



## APDES MS4 Permit (cont'd)

### (5) Post-construction Storm Water Management

- Ordinance Adoption
- Design Guide
- Plan Reviews
- Workshops for Developers, Engineers, & Contractors



## APDES MS4 Permit (cont'd)

### (6) Pollution Prevention & Good Housekeeping for Municipal Operations

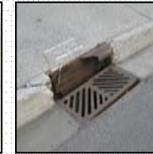
- Winter Maintenance Activities - TRACK, REVIEW, REPORT
  - Snow Removal & Storage
  - Street Sanding



## APDES MS4 Permit (cont'd)

### (6) Pollution Prevention & Good Housekeeping for Municipal Operations (cont'd)

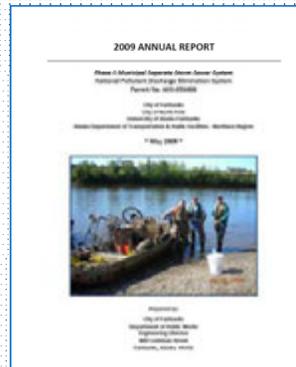
- Summer Maintenance Activities – TRACK, REVIEW, REPORT
  - Spring Pumping & Thawing
  - Street Sweeping
  - Storm Drain Cleaning & Repairs
  - Snow Storage Site Maintenance



## APDES MS4 Permit (cont'd)

### Annual Report

- Documents all Permit Compliance Activities for the (6) Program Elements
- Penalty for Violation of Permit Conditions: \$37,500/day /violation



## Storm Water Submittals

### Design Phase

- Engineering Plan Review
- Permanent Storm Water Control Plan (PSWCP)

### Construction Phase

- Erosion and Sediment Control Plan (ESCP)
- Storm Water Pollution Prevention Plan (SWPPP)

### Industrial Facilities

- Storm Water Pollution Prevention Plan (SWPPP)

### Notice of Intent/Termination



## Design – Engineering Plan Review

Division of Water  
**Wastewater Discharge Authorization**  
Part of a Discharge of Sewerage, a Wastewater Discharge Authorization, a Storm Water, a Plan Review

**Engineering Plan Review (Letter of non-objection)**

According to 18 AAC 72.600, engineering plans should be submitted to DEC for review and approval. To obtain a "letter of non-objection" an applicant must submit:

1. Short project description containing information of
  - a. Project name
  - b. Contact name, address, phone and fax numbers and e-mail address
  - c. Project area (total and "soil disturbed")
  - d. Receiving water body and estimated distance from the project site
  - e. Methods of runoff flow and treatment (down to the discharge point)
  - f. Treatment system's maintenance procedures
  - g. Snow storage/disposal
2. Runoff flow calculation based on a 2-year 6-hour rain event (before and after project is completed)
3. Treatment system sizing estimation (e.g. pipe: length, cross section, bank and longitudinal slopes, flow velocity, detention time etc.)
4. One set of drainage plans clearly showing drainage boundaries and flow directions (please highlight them with a marker if your plans do not identify drainage boundaries and/or flow direction)
5. All engineering design and calculations will need to be stamped by Alaska licensed engineer as required by 18 AAC 72.600 and 18 AAC 72.350 (2)
6. Check payable to "State of Alaska" for the amount described in 18 AAC 72.355 Table D, "Plan Review Fees (5) (A-C)"



## Design – PSWCP

- BMP Selection Narrative
- Site Plan
- Sizing and Design Information
  - Runoff Volume
  - Runoff Quality



Prepared by CPESC or PE

## Construction – ESCP

- Site Description Narrative
- Site Plan
- BMP Detail Sheets

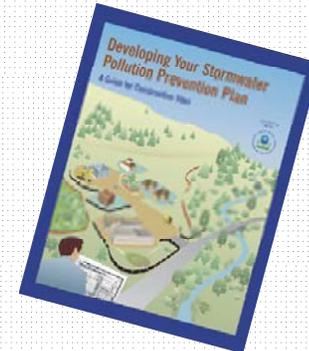


Does not require a CPESC or PE



## Construction – SWPPP

- Contact information
- Site and activity description
- Potential pollutant sources
- BMPs to reduce pollutants
- Maintenance/Inspection
- Records
- Amendments
- Certification



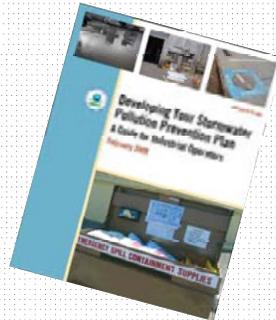
Prepared by CPESC or PE

<http://cfpub.epa.gov/npdes/stormwater/swppp.cfm>



## Industrial Facilities – SWPPP

- Contact information
- Site and activity description
- Potential pollutant sources
- BMPs to reduce pollutants
- Maintenance/Inspection
- Records
- Amendments
- Certification

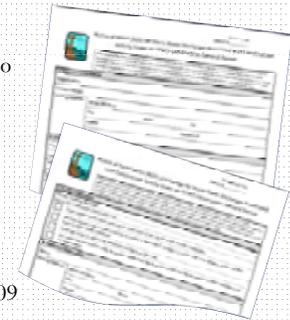


[http://www.epa.gov/npdes/pubs/industrial\\_swppp\\_guide.pdf](http://www.epa.gov/npdes/pubs/industrial_swppp_guide.pdf)



## Notice of Intent / Termination

- File NOI/NOT with ADEC
- If you filed NOI with EPA continue to work under it and file NOT with DEC
- Use the ADEC CGP 2010
- ADEC will conduct inspections
- EPA retains oversight role
- Authorization Fee started 12/23/2009



## Notice of Intent / Termination (cont'd)

**APDES eNOI**  
ADEC's Electronic Notice of Intent (eNOI)

ADEC has developed an eNOI system for electronic entry and validation of the forms to apply for discharge permits from ADEC's storm water permits. Operations seeking coverage under the APDES storm water permit should use the eNOI system. This system uses the APDES eNOI system. We currently have the Construction General Permit Table of Fees (CGP) and Table of Fees for APDES eNOI available on-line. Operations seeking coverage under the Construction General Permit may file their NOI online using the eNOI system or submit paper forms to DEC at the address listed below. At the time the Storm Water General Permit form is submitted on paper form, and should be sent to DEC at the address listed below.

Please to submit the APDES eNOI system we recommend the following steps to make it easier to use the system:

1. Read the general available on the Construction General Permit page.
2. Read the instructions that go with the NOI or NOT form available on the APDES Storm Water Permit page.
3. Read the Feeing Fee information on-line for the eNOI or eNOT available in the APDES eNOI system to the right.
4. Fill out the form. If you are submitting the system on-line, you do not need to fill out the information when you are printing into the system. eNOI
5. If you have questions about the Construction General Permit use the frequently asked questions (FAQ) found available on the Construction General Permit page.

To enter the APDES eNOI system please click on the button below:

**Complete APDES eNOI Online**

Pages submitted will be:

Please submit your paper forms to:

Water Department of Environmental Administration  
Division of Water - Storm Water Program  
100 Lombard St.  
Annapolis, MD 21401



## Data Links

- Design Considerations
- Design Resources

## Design Considerations

Geology, Climate, & Precipitation Data  
Total Maximum Daily Loads (TMDLS)  
Snow Disposal Sites  
Septic Systems  
Parking Lots



## Design Resources

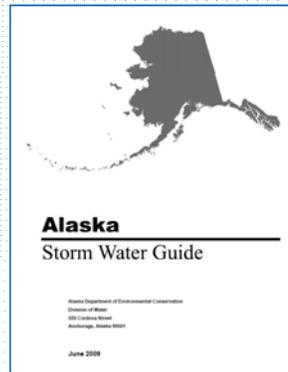
Comprehensive MS4 Map (available at FNSB & City of Fairbanks)



## Design Resources (cont'd)

**Alaska Storm Water  
Guide (ADEC, 2009)**

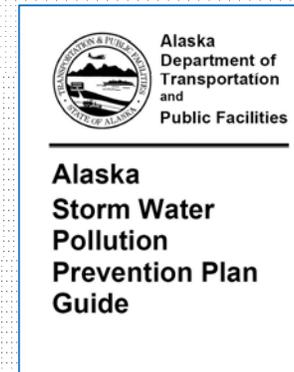
- Regulations
- Alaska Considerations
- Design Considerations
- Temporary Controls
- Permanent Controls



## Design Resources (cont'd)

**DOT&PF Alaska SWPPP  
Guide (DOT&PF, 2005)**

- Appendix F
  - Velocity Controls
  - Erosion Controls
  - Sediment Controls



## Design Resources (cont'd)

### BMP Effectiveness Report for Fairbanks (Shannon & Wilson, 2006)

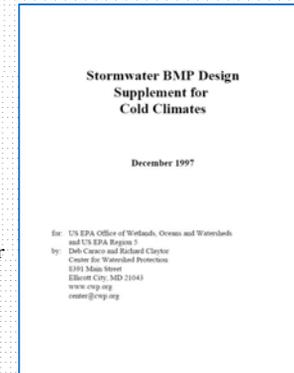
- List of Effective BMPs
- List of non-Effective BMPs
- Literature Review



## Design Resources (cont'd)

### Storm Water BMP Design Supplement for Cold Climates (Center for Watershed Protection, 1997)

- Sizing Criteria
- Cold Climate Modifications for  
specific BMPs

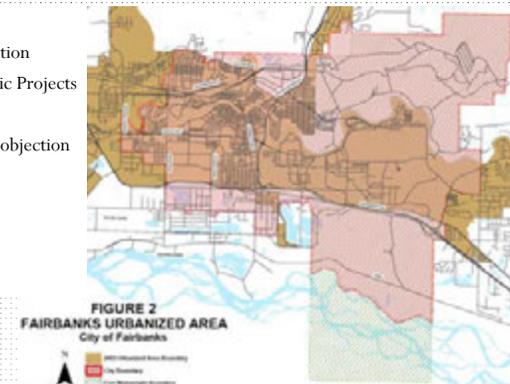


## Authority having jurisdiction

City of Fairbanks  
City of North Pole  
FNSB  
ADEC

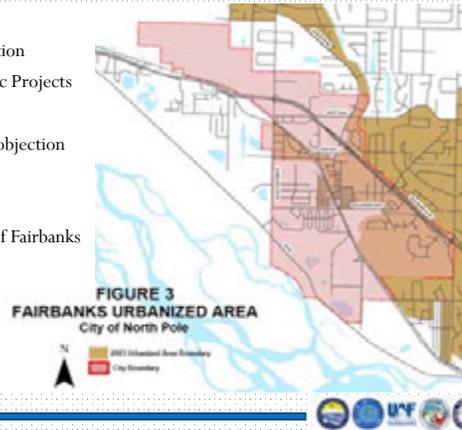
## City of Fairbanks

- Area of Jurisdiction
- Private vs. Public Projects
- Plan Reviews
- Letters of Non-objection
- Inspections
- Fee Schedule



## City of North Pole

- Area of Jurisdiction
- Private vs. Public Projects
- Plan Reviews
- Letters of Non-objection
- Inspections
- Fee Schedule
- MOA w/ City of Fairbanks



## Fairbanks North Star Borough

- Area of Jurisdiction
- Private vs. Public Projects
- Plan Review
- Site Development Permit
- Inspections
- Fee Schedule



## MS4 Program Information



### Fairbanks Urbanized Area Storm Water Management Program

**News and Events**

**Attendee List Local Storm Water Implementation**

April 4, 2012 from 9:00 am to noon in the PFD Assembly Chambers. **CLERK MEMO** for a complete description of the agenda and to register to participate.

**Fairbanks Storm Water Advisory Committee Meeting Notes for 2012**

See in the Fall: Attendance at the Fairbanks Storm Water Advisory Committee meetings is open to the public.

**PCOP, COMP, SIF, ADOTMTP Co-Permittees**

**MS4 Fee Schedule**

**MS4 Fairbanks Co-Permittees Annual Report**

**News**

**What is storm water?**

Storm water is water that runs off or soaks into the ground. Instead, storm water flows across surfaces such as roofs of pavements and pools up pollutants like herbicides, grass clippings, motor oil, sediments, pet waste, tires, and other chemicals or debris. Storm water that flows into storm drains carries these pollutants to rivers, lakes, and streams including the Chena, Chena Slough, and Noyah Slough. Pools containing these pollutants can even affect our ground water.

**Storm Water and the Clean Water Act of 1972**

The Clean Water Act of 1972, as amended in 1987, requires that storm water discharges to surface waters comply with a National Pollutant Discharge Elimination System (NPDES) permit. At the end of 2002, the U.S. Forest Service designated the Fairbanks area as an urban area and on April 15, 2003, the City of Fairbanks, City of North Pole, University of Alaska Fairbanks, State of Alaska ADOTMTP, and the Fairbanks North Star Borough were required to comply with newly issued NPDES permits under the Storm Water Management Program.

**Program Information**

Fairbanks Urbanized Area MS4  
 MS4 MS4 User Guide  
 City of Fairbanks and North Star Storm Water Management Program Guide

**Quick Links**

MS4 Storm Water Program  
 MS4 Storm Water Guide  
 MS4 Construction General Permits  
 MS4 SIFMTP Submittal Requirements  
 MS4 Storm Water Pollution Prevention Plan Guide

**WebMail Contact**

Fairbanks North Star Borough  
 Storm Water  
 City of Fairbanks

## ADEC

**Division of Water  
Wastewater Discharge Authorization**

DEC • Division of Water • Wastewater Discharge Authorization • Storm Water

**Storm Water**

The goal of the Storm Water Program is to reduce or eliminate pollutants in storm water. Storm water discharges are generated by runoff from land and impervious areas such as paved streets, parking lots, and building rooftops, during rainfall and snowmelt events. Storm water discharges often contain pollutants in quantities that could adversely affect water quality.

Program Links	Of Interest	Permits/Approvals
<ul style="list-style-type: none"> <li>ADEC Storm Water Guide</li> <li>15 AAC 72 Wastewater Disposal Regulations</li> <li>15 AAC 83 APDES Regulations</li> <li>Resources</li> <li>Related Links</li> <li>WQI Search</li> </ul>	<ul style="list-style-type: none"> <li>How Storm Water is Regulated</li> <li>Brief Legislative History</li> <li>What's Hot</li> <li>Staff Contacts</li> <li>Transfer from EPA to DEC</li> <li>Frequently Asked Questions</li> <li>Storm Water Training</li> </ul>	<ul style="list-style-type: none"> <li>Construction General Permit</li> <li>Multi-Sector General Permit</li> <li>MS4 Permits</li> <li>APDES eNOI</li> <li>APDES Storm Water Forms</li> <li>Engineering Plan Review (Letter of Non-Objection)</li> </ul>



## Closing

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Questions?