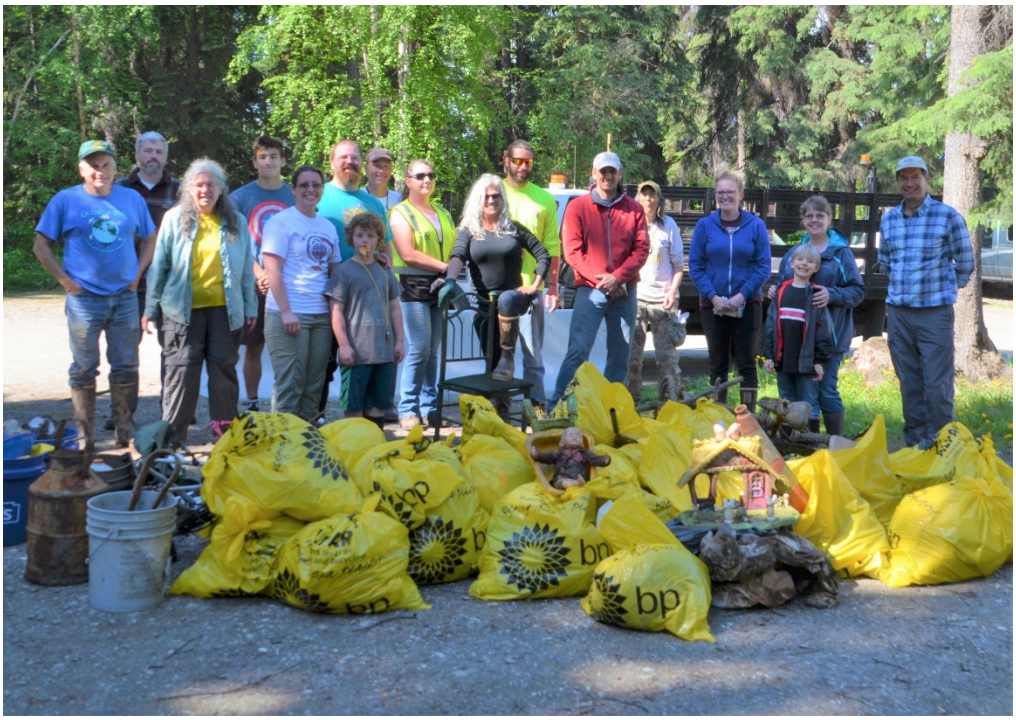
2019 ANNUAL REPORT

Alaska Pollutant Discharge Elimination System Permit No. AKS-053406



January 2020

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This Annual Report documents the activities undertaken January through December 2018 to comply with the requirements of Alaska Pollutant Discharge Elimination System Permit No. AKS-053406 issued by the Alaska Department of Environmental Conservation to the City of Fairbanks, City of North Pole, University of Alaska Fairbanks, and Alaska Department of Transportation & Public Facilities - Northern Region. By signature below, this report is hereby certified in accordance with 18 AAC 83.385 by each of the aforementioned permittees.

"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 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."

CITY OF FAIRBANKS

Jim Matherly, Mayor

1/9/2020

Date

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CITY OF NORTH POLE

Michael Welch, Mayor

January 10, 2020
Date

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UNIVERSITY OF ALASKA FAIRBANKS

DocuSigned by:
Jennifer Campbell
9154516DEE9D481...

Jennifer Campbell, Interim Associate Vice Chancellor for Facilities Services Date January 10, 2020

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ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES - NORTHERN REGION

Jason Sakalaskas, Maintenance & Operations Chief

Date 1/9/20

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Storm Water Permit Overview

1.0 INTRODUCTION

This Annual Report documents the activities undertaken January through December 2019 to comply with the requirements of Alaska Pollutant Discharge Elimination System (APDES) Permit No. AKS-053406 issued by the Alaska Department of Environmental Conservation (ADEC) to the City of Fairbanks, City of North Pole, University of Alaska Fairbanks (UAF), and Alaska Department of Transportation & Public Facilities (ADOT&PF) Northern Region as "co-permittees." In accordance with Section 1.5.3 of the permit, the co-permittees updated the intergovernmental agreement that describes each organization's respective roles and responsibilities related to the Permit in 2018. A copy of this document is provided in Appendix H, (H01).

Annual Reports are required to be submitted to the ADEC in accordance with Section 4.3 of the permit. The last report documented activities undertaken January 2019 through December 2019. Annual reports are required to be submitted to the ADEC by February 15.

1.1 PERMIT HISTORY

The co-permittees were originally issued a Phase II National Pollutant Discharge Elimination System (NPDES) Permit from the U.S. Environmental Protection Agency (EPA) on June 1, 2005 for a term of five years. The ADEC later assumed authority over the permit in October 2009 under the APDES Program and provided an administrative extension for the existing permit's requirements to remain effective and enforceable until a new permit could be developed and issued. The new permit, with new requirements, was issued to the co-permittees in June 2013 with an effective five-year term beginning August 1, 2013 and expiring July 31, 2018. On May 11, 2018 ADEC re-issued a five-year permit with an effective five-year term beginning July 1, 2018 and expiration of June 30, 2023. A copy of the permit can be found at http://www.co.fairbanks.ak.us/pw/StormWater/FbanksPermit.pdf. This annual report documents compliance with the current permit that covered the calendar year 2019.

1.2 COVERAGE AREA

The permit covers all areas within the boundary of the Fairbanks Urbanized Area that are served by the municipal separate storm sewer system (MS4) owned and operated by the co-permittees. Urbanized area boundaries are established by U.S. Census Bureau and defined as the core census block groups or blocks that have a population density of at least 1,000 people per square mile and surrounding census blocks that have an overall density of at least 500 people per square mile. The current boundary of the Fairbanks Urbanized Area was established using data from the 2010 Census. A map of this boundary can be found at http://www.co.fairbanks.ak.us/pw/StormWaterDocuments/MS4boundary.pdf.

1.3 AUTHORIZED DISCHARGE

With some limitations, the permit authorizes the co-permittees to discharge storm water to waters of the U.S. from (1) all portions of the MS4 owned and operated by the City of Fairbanks, City of North Pole, and UAF; and (2) the portions of the MS4 within ADOT&PF rights-of-way located within the boundary of the Fairbanks Urbanized Area. The limitations are outlined in Section 1.4 of the permit and include non-storm

water discharges, discharges threatening water quality, snow disposal to receiving waters, and discharges to water quality impaired receiving waters.

1.5 PERMIT REQUIREMENTS

The permit requires the co-permittees develop and implement a Storm Water Management Plan and meet the following six minimum control measures:

1. Public Education & Outreach
2. Public Involvement & Participation
3. Illicit Discharge Detection & Elimination
4. Construction Site Storm Water Runoff Control
5. Post-construction Storm Water Management
6. Pollution Prevention & Good Housekeeping

The plan, which was first written by the co-permittees in April 2014, and amended in February 2019, can be found at http://www.co.fairbanks.ak.us/pw/StormWater/FbanksMPlan.pdf and in Appendix H. The plan identifies best management practices (BMPs) and other strategies to meet the requirements of the minimum control measures and reduce the discharge of pollutants from the MS4 to the maximum extent practicable to protect the water quality of receiving waters. Documentation of the activities undertaken in accordance with the plan is included in the following sections of this report and Appendices A through G.

MINIMUM CONTROL MEASURES

Minimum Control Measures

The following subsections list the individual requirements for each minimum control measure, a description of the activities undertaken by the co-permittees to comply with those requirements, and measureable goals for the next reporting period.

2.0 PUBLIC EDUCATION & OUTREACH

2.1 Permit Requirements

To date, the co-permittees have met all the requirements under Minimum Control Measure 1 – Public Education & Outreach. The following table provides a summary of the individual requirements, compliance dates, and status as of December 2019.

Permit Requirements	Compliance Date	Status
Co-permittees must maintain a public education program to educate the community about the impacts of storm water discharges on water bodies and the steps that citizens and businesses can take to reduce pollutants in storm water runoff. [Section 3.1.1]	Annually	Complete, ongoing
At least annually, the co-permittees must distribute storm water educational materials to target audiences that encourage the public to improve water quality. [Section 3.1.2]	Annually	Complete, ongoing
At least annually, the co-permittees must prepare and distribute appropriate information that encourages the public to improve water quality to local media outlets. [Section 3.1.3]	Annually	Complete, ongoing

2.2 Compliance Activities

The co-permittees and Fairbanks North Star Borough (FNSB), which has a separate but similar APDES permit, have worked together since 2005 to implement a unified public education program on local storm water issues. The program's education and outreach activities are focused in the month of April of each year when snowmelt runoff is prevalent, parking lots and streets are flooded, and storm water concerns are easily identifiable to residents of the community. The program is focused on creating awareness and educating the public about the impacts of storm water discharges to the MS4 and local water bodies, and provides information on how citizens and businesses can take steps to reduce pollutants in storm water runoff. Program activities completed during the 2019 reporting year included the following:

- Fairbanks Storm Water Management Program Webpage
- Providing educational presentations on storm water at local schools
- Providing guest presentation on Storm Water
- Educational Material Distribution

- Other Public Education and Outreach Activities

2.2.1 Fairbanks Storm Water Management Program Webpage

The website can be viewed at http://www.co.fairbanks.ak.us/pw/Pages/Storm-Water.aspx. It provides an overview of storm water and pollutants of concern in the Fairbanks area, program information for each of the six Minimum Control Measures, a list of ways the public can get involved (i.e. attending storm water committee meetings, participating in stream cleanup events, etc.), links to the Cities of Fairbanks and North Pole and FNSB storm water ordinances and corresponding site development plan review requirements, a link to access and view the comprehensive storm drain system GIS map of the entire FNSB, links to local publications such as the Green Infrastructure Resource Guide for Fairbanks and Best Management Practice (BMP) Effectiveness Report for Fairbanks, directions on how to report illicit discharges, and contact information for the storm water coordinators for each of the co-permittees and FNSB. The website also provides viewers links to the ADEC Storm Water Program webpage, ADEC Construction General Permit, ADEC Alaska Storm Water Guide, Cities of Fairbanks and North Pole Storm Water Management Program Guide (3rd Edition) that includes a map and storm water plan submittal flowchart for the Fairbanks Urbanized Area and Site Development Plan Review Requirements and Fee Schedule, FNSB BMP Design Guide, the most recent APDES MS4 Permit, the most recent FNSB and Fairbanks MS4 Annual Report, and brochures such as the Snow Storage & Disposal for Local Contractors and 10 Ways You Can Prevent Storm Water Runoff Pollution. In 2019 the website had 1040 visitors.

2.2.2 Educational Presentations on Storm Water at Local Schools

As in previous reporting years, the co-permittees and FNSB partnered to deliver storm water educational presentations to various FNSB elementary and middle schools in Fairbanks and North Pole. The presentation consists of a 30-minute slideshow on the types of pollutants carried in storm water, how those pollutants reach area water bodies, and what can be done to limit the effects, followed by a 20-minute watershed model demonstration using the EnviroScape® Nonpoint Source Model. The model helps children make the visual connection between what they learned during the slide show and what happens in their local watershed. The children watch storm water pick up pollutants (i.e. colored drink mixes) in a suburban area and carry them to a lake. After each presentation, promotional items such as bracelets, magnets, pencils, stickers, and education materials are also given out. In 2019, there were 29 presentations delivered to 647 elementary and middle school children in April, May, and September. A copy of the slide show presentation, spreadsheet outlining participation, and a picture of the model and goodies given to students are included in Appendix A, (A01-A05).

The co-permittees also participated in the Pearl Creek Elementary school's STEM (Science, Technology, Engineering, & Mathematics) event held on February 1, 2019, the Earth Day Celebration at Fort Wainwright on April 18th, and UAF Outdoor Days on May 7-9th. At each event a storm water educational station was hosted with watershed model demonstrations and hands-on laboratory experiments. Combined with in-class presentations, 1857 local students from a total of 20 elementary school classes had an opportunity to learn from, and interact with, the watershed model demonstration. A summary of all educational presentations and the number of FNSB School District students in attendance is included in Appendix A, (A03).

2.2.3 Guest Presentations on Storm Water

The co-permittees also provided the following guest presentations on Fairbanks storm water in 2019:

- Greater Fairbanks Chamber of Commerce Transportation Infrastructure Committee Guest Speaker– "Storm water Management in Fairbanks, Alaska" – 25 local transportation leaders in attendance.

- UAF Natural Resources Management F370 Introduction to Watershed Management class- "Storm water Management"-10 students and faculty in attendance.

  Copies of the slideshows for these presentations are included in Appendix A, (A06-A07).

2.2.4 Educational Material Distribution

2019 Fairbanks IABA Home Show– The co-permittees distributed educational materials at the Home Show in Fairbanks during the weekend of March 22-24, 2019, at the Fairbanks Soil & Water Conservation District's (FSWCD's) booth. The Home Show is an annual event held in Fairbanks each spring to kick off the construction season, and includes a wide variety of local vendors showcasing building materials, equipment, and services. Approximately 140 vendors participate each year with an average of 5,000 people attending over a 3-day weekend. At this year's event, the co-permittees distributed copies of the Green Infrastructure (GI) Resource Guide for Fairbanks and corresponding GI brochures and raffled off a rain barrel to the public. The brochures provided the step-by-step installation process, materials and tools needed, cost and time estimates for installation, and maintenance requirements for green infrastructure applications such as rain barrels, rain gardens, tree pits, infiltration planters, vegetated swales/retention grading, dry wells, riparian buffers, green roofs, permeable pavers, and grass car parks. A copy of the guide, which includes copies of the brochures appended to the guide, can be found at http://www.fairbanksgig.com/benefits/.

In conjunction with the Home Show event, the FNSB also placed a storm water advertisement in a special section of the Fairbanks Daily News-Miner newspaper – the "Building, Home & Garden Tab," section that was published on March 25, 2019. The advertisement was republished in the "Homes Magazine" on April 22, 2019 and targeted local developers/engineers/contractors to make them aware of the local storm water plan review and permitting requirements for the City of Fairbanks, City of North Pole, and FNSB. A copy of the advertisement is included in Appendix A, (A08).

2019 Fort Wainwright Earth Day Fair – At the invitation of the U.S. Army Garrison, the co-permittees hosted a booth at the Earth Day Fair held on April 18th, 2019. The booth showcased the educational materials used in classrooms, including the EnviroScape® Nonpoint Source Model and posters showing pictures of storm water conveyance systems and examples of illicit discharges. As giveaways, the people who stopped by the booth were given storm water bracelets, magnets, pencils, and stickers. Over 516 local school children visited the booth during the fair.

2019 Outdoor Days - Tanana Valley Watershed Association (TVWA) and UAF had a booth, May 7th, 8th, and 9th at the US Fish and Wildlife Service, Outdoor Days. TVWA and UAF distributed and displayed information on Adopt-A-Stream (AAS), Green Infrastructure, bio-accumulation of plastics within food chains, and Storm Water Pollution Prevention to 544 Fairbanks North Star Borough 6th graders. All students who attended the event were given water quality equipment, shown how to conduct water quality sampling, and then participated in sampling water from Tanana Lakes.

2019 Fairbanks Midnight Sun Festival – TVWA had a booth at the June 23, 2019 festival and distributed and displayed information on Adopt-A-Stream (AAS), Green Infrastructure, and Storm Water Pollution Prevention. Additionally, information about the Annual Stream Clean-up Day and the Storm Drain Art contest was made available.

Direct Mailings - In the spring of 2019, the FNSB sent out the *Erosion and Sediment Control Practices for Small Construction Sites* pamphlet to licensed general, residential, and landscape contractors in the Fairbanks Area. In the summer, Tanana Valley Watershed Association sent out *Living Alongside Salmon Homes* booklet, *Voices of the Chena* postcard, and *Resident/Business Cleaner Chena* (https://static1.squarespace.com/static/52bdf76de4b0d60918f1e592/t/5baac92de2c4833a6f7c9b37/1537919297949/Living+Alongside+Salmon+Homes+2018+-+Final+Draft.pdf) brochures. In the fall, *the Snow Storage and Disposal Practices for Local Contractors* pamphlet was sent to known landscape and snow removal contractors. See Appendix A, (A09-A13) for pamphlets.

Public Handouts-The City of Fairbanks provided a stack of Living *Alongside Salmon Homes* booklets for citizens to take home off a table when visiting City Hall. See a copy of booklet in Appendix A, (A11).

Public Service Announcements-In the spring of 2019, the co-permittees arranged for a "Don't Pollute" Public Service Announcement (PSA) on local radio stations that reminds people of the function of the storm drain systems and the importance of keeping them clean. PSA text provided in Appendix A, (A14).

2.2.5 Other Public Education & Outreach Activities

Additional public education and outreach activities completed during the 2019 reporting year included hosting a stream cleanup day event, funding the local Adopt-A-Stream (AAS) Program, implementing a storm drain stenciling program, conducting a storm drain art contest, convening monthly storm water advisory committee meetings open to the public, conducting interviews with local TV and radio programs, and publication of a new City of Fairbanks Storm Water Management webpage; all of which are later discussed under Minimum Control Measure 2 – Public Involvement & Participation.

2.3 Staff Responsible for Compliance Activities

The following individuals were responsible for implementing and coordinating the public education and outreach activities during the 2019 reporting period:

- City of Fairbanks – Andrew Ackerman, Environmental Manager
- City of North Pole – Bill Butler, Director of City Services
- UAF – Russ Steiger, Environmental Compliance Officer
- ADOT&PF – Katrina LeMieux and Cynthia Nelson, Maintenance & Operations Environmental Impact Analyst
- FNSB – Janet Smith, Deputy Director, Public Works & Chad Hosier, Civil Engineer/Storm Water

2.4 Measurable Goals

The following table details the Measurable goals set forth in the co-permittees' February 2019 Storm Water Management Plan, whether or not the goals were achieved during the current reporting period, and lists proposed changes, if any, for the next reporting period.

MINIMUM CONTROL MEASURES

Measurable Goals	Achieved during the current reporting period?	Proposed changes for next reporting period?
Maintain the Storm Water Management Program website for the duration of the permit term	Yes	No
Annually provide a minimum of 15 educational presentations on storm water at local schools	Yes	No
Annually provide guest presentations on storm water to local interest groups, as requested	Yes	No
Annually distribute storm water educational brochures at a minimum of two local events	Yes	No
Annually mail educational brochures to landscaping, snow removal, and building contractors	Yes	No
Annually issue at least one PSA to local media outlets for broadcast	Yes	No

3.0 PUBLIC INVOLVEMENT & PARTICIPATION

3.1 Permit Requirements

To date, the co-permittees have met all of the requirements under Minimum Control Measure 2 – Public Involvement & Participation. The following table provides a summary of the individual requirements, compliance dates, and status as of December 2019.

Permit Requirements	Compliance Date	Status
Co-permittees must comply with applicable state and local public notice requirements when implementing a public involvement/participation program. [Section 3.2.1]	Annually	Complete, ongoing
Co-permittees must continue to make the Storm Water Management Plan and all Annual Reports available to the public through the municipal library system, a co-permittee-maintained website, or other easily accessible location. Public outreach should include location information whenever appropriate. [Section 3.2.2]	Annually	Complete, ongoing
Co-permittees must continue the Storm Water Advisory Committee. The Storm Water Advisory Committee meeting schedule must be made known to the public	Annually	Complete, ongoing

and ADEC through direct mail or e-mail notification, if possible, and other locally appropriate means. [Section 3.2.3]		
Co-permittees must continue to implement a storm drain stenciling program. [Section 3.2.4]	Annually	Complete, ongoing
At least annually, co-permittees must continue to host a community Stream Cleanup Day. [Section 3.2.5]	Annually	Complete, ongoing
Co-permittees must continue an ongoing volunteer monitoring program and an Adopt-a-Stream program. [Section 3.2.6]	Annually	Complete, ongoing

3.2 Compliance Activities

3.2.1 Public Notices

The co-permittees follow the public notice requirements of the State of Alaska's Administrative Procedures Act (AS 44.62), including but not limited to the Open Meetings Act (AS 44.62.310), as well as all internal policies of the co-permittees' respective agencies.

3.2.3 Storm Water Management Program Plan & Annual Reports

Consistent with Section 2.1.1 of the permit, the co-permittees updated their Storm Water Management Program Plan in February 2019. Copies of both the co-permittees' and FNSB's APDES permits, Storm Water Management Plans, and most recent Annual Reports submitted to ADEC are made available to the public through the Fairbanks Storm Water Management Program website at http://www.co.fairbanks.ak.us/pw/Pages/Storm-Water.aspx. The City of Fairbanks Engineering Department also established a new website specific to Storm Water Management and Compliance within the urbanized area (see: https://www.fairbanksalaska.us/engineering/page/storm-water-management).

3.2.4 Fairbanks Storm Water Advisory Committee

In 2003, the co-permittees and FNSB formed the Fairbanks Storm Water Advisory Committee (FSWAC) to coordinate and carry out the development, implementation, and review of the Fairbanks Storm Water Management Program. The FSWAC is comprised of agency representatives from each of the co-permittees' agencies, FNSB, and ADEC, as well as two citizen members from Fairbanks and North Pole serving as representatives of their respective communities. The FSWAC meets at Fairbanks City Hall on the second Thursday of each month from 10:30 to 11:30 a.m., in July meeting times changed to 11:00 a.m. to noon. All meetings are open and advertised to the public. The meeting schedule is posted on the Fairbanks Storm Water Management Program website, in the local newspaper at least one week in advance of each meeting, and via email to the FSWAC's email distribution list. Minutes are drafted and approved by the FSWAC for every meeting held. Copies of the minutes for the 2019 reporting period are included in Appendix B, (B01).

3.2.5 Storm Drain Stenciling Program

The co-permittees annually stencil storm drain inlets to bring attention to inlets, educate the public on where storm water drains empty to, and discourage illicit discharges. There is a common misconception that storm drains flow to the City's sewer treatment plant, and the stenciling program helps clear up this

misconception. The co-permittees have four types of storm drain stencils – one with an outline of a salmon on it and one with a duck on it with the words "Dump No Waste, Drains to River" for those inlets draining to the Chena River, and another with an outline of an arctic grayling and one with a beaver with the words "Dump No Waste, Drains to Slough" for those inlets draining to Noyes and Chena Sloughs. During the 2019 reporting year, the co-permittees stenciled a total of over 102 inlets (32 City of Fairbanks and 95 University of Alaska). An interactive Google map showing the location and number of storm drains stenciled 2017-2019 can be found here: https://drive.google.com/open?id=1ooo1TJw5us0TvsqumAasIMEZ2oA&usp=sharing and a hardcopy of the updated program report from 2006-2019 and an article in the Fairbanks Daily News-Miner are included in Appendix B, (B02).

3.2.6 Storm Drain Art Contest

In coordination with the storm drain stenciling program, the co-permittees held the 6th annual Storm Drain Art Contest in downtown Fairbanks with help from the TVWA. In total, 9-artists painted 10-storm drains on 5th Avenue, June 15, 2019. The art was themed to bring awareness to the public that our storm drains empty into the river (i.e. not the wastewater treatment plant). Pictures of the finished artwork, as well as the 2019 T-shirt, advertisements/social media posts for the contest, and TVWA report are included in Appendix B, (B03-B06).

3.2.7 2019 Annual Stream Cleanup Day Event

The co-permittees and FNSB held the 15th Annual Stream Cleanup Day event in Fairbanks on June 8, 2019. Volunteers were assigned to clean up the various sections of the 5.5-mile long Noyes slough and the 2.5-mile long section of the Chena River running through downtown Fairbanks. In total, 35 people volunteered for the event and removed over 1000 pounds of trash (including litter, bags, tires, vehicle parts, bicycles, and various other items) out of the waterways. Volunteers included residents who live or work along the waterways, as well as a number of other citizens and community groups who responded to the advertisements. Copies of the 2019 Stream Cleanup Day advertisements, social media posts, photos, maps, participants briefing sheet, and other associated materials are included in Appendix B, (B07).

3.2.8 Fairbanks Storm Water Management Program Website

The FNSB maintains and hosts the Fairbanks Storm Water Management Program website. As described in the previous sections the website can be viewed at: http://fnsb.us/pw/Pages/Storm-Water.aspx. It provides an overview of storm water and pollutants of concern in the Fairbanks area, program information for the six Minimum Control Measures, a list of ways the public can get involved (i.e. attending storm water committee meetings, participating in stream cleanup events, etc.). links to the FNSB, City of Fairbanks, and City of North Pole storm water ordinances, corresponding site development plan review requirements, a link to access and view the comprehensive storm drain system map of the entire FNSB, links to local publications such as the Green Infrastructure Resource Guide for Fairbanks and Best Management Practice (BMP) Effectiveness Report for Fairbanks, directions on how to report illicit discharges, and contact information for the storm water coordinators for each of the Fairbanks Permittees and FNSB. The website also provides viewer's links to the ADEC Storm Water Guide, and a Fairbanks Urbanized Area map and storm water submittal flowchart for the Area. The website address is printed on educational brochures distributed at local events and through the mail.

3.2.9 Volunteer Water Quality Monitoring & AAS Programs

The co-permittees entered into a Memorandum of Agreement (MOA) with the TVWA in 2008 to implement the Volunteer Water Quality Monitoring and AAS Programs on behalf of the co-permittees. Under the terms of the MOA, the TVWA agreed to administer the programs contingent on funding support and additional, in-kind assistance from the co-permittees. Elements of the programs include water quality monitoring, bio-assessment studies, additional litter cleanup activities, and stream bank restoration and maintenance. In January 2019, the co-permittees increased program funding and re-signed the MOA with improved language to more accurately describe the arrangement between the co-permittees and TVWA, and set a term for the MOA to follow the term of the permit. A copy of the new MOA is included in Appendix B, (B08).

The co-permittees provided $14,000 in program funding to the TVWA in 2019. A copy of TVWA's 2019 Annual Report of program activities is included in Appendix B, (B09). TVWA provided three trainings for volunteers (aka "Citizen Scientists") in 2019 that performed water quality sampling in the Chena River, Noyes Slough, and Tanana River. All of the data collected was uploaded to the EPA's Storage & Retrieval Data Warehouse (STORET) database, which is accessible by agencies and the general public to look up the analytical details of each sample taken.

3.2.10 Public Comments Log

In addition to all of the activities listed above, the co-permittees maintain a log of public comments related to storm water. Comments are accepted via telephone, electronic mail, postal mail, and in person; and directed to appropriate staff to be addressed. Public comments received during the 2019 reporting period are included in Appendix B, (B10).

3.3 Staff Responsible for Compliance Activities

The following individuals were responsible for implementing and coordinating the public involvement and participation activities during the 2019 reporting period:

- City of Fairbanks –Andrew Ackerman, Environmental Manager
- City of North Pole – Bill Butler, Director of City Services
- FNSB – Janet Smith, Deputy Director, Public Works & Chad Hosier, Civil Engineer/Storm Water
- UAF – Russ Steiger, Environmental Compliance Officer
- ADOT&PF – Katrina LeMieux and Cynthia Nelson, Maintenance & Operations Environmental Impact Analyst

3.4 Measurable Goals

The following table details the Measurable goals set forth in the co-permittees' April 2014 Storm Water Management Plan, whether or not the goals were achieved during the current reporting period, and lists proposed changes, if any, for the next reporting period.

Measurable Goals	Achieved during the current reporting period?	Proposed changes for next reporting period?

MINIMUM CONTROL MEASURES

Continue holding monthly FSWAC meetings for the duration of the permit term	Yes	No
Annually stencil a minimum of 75 storm drain inlets	Yes	No
Annually host a Stream Cleanup Day event	Yes	No
Annually fund the AAS Program	Yes	No

MINIMUM CONTROL MEASURES

4.0 ILLICIT DISCHARGE DETECTION & ELIMINATION

4.1 Permit Requirements

To date, the co-permittees have met some, but not all, of the requirements under Minimum Control Measure 3 – Illicit Discharge Detection & Elimination. The following table provides a summary of the individual requirements, compliance dates, and status as of December 2019.

Permit Requirements	Compliance Date	Status
The co-permittees shall review and revise as necessary, the program to detect and eliminate illicit discharges. The co-permittees must, as part of this activity, maintain an information management system to track illicit discharges. [Section 3.3.1]	Annually	Complete, ongoing
The co-permittees must review and update an inventory and map of industrial facilities and activities that are covered by the APDES Multi–Sector General Permit (MSGP) AKR050000, and that discharge directly to their MS4. At a minimum, the inventory must include the facility name and address, the nature of the business or activity, Standard Industrial Classification code(s) or the newer North American Industry Classification System code(s) that best reflect the facility product or service, the receiving water body, and type of pollutants that may be discharged by the facility or activity. [Section 3.3.2]	Annually	Complete, ongoing
Co-permittees must review the effectiveness and revise, as necessary, ordinances or procedures that effectively prohibit non-storm water discharges into their MS4s. Co-permittees must implement appropriate enforcement procedures and actions, including enforcement escalation procedures for recalcitrant or repeat offenders. [Section 3.3.3]	Annually	Complete, ongoing
Co-permittees must prohibit any of the non-storm water flows listed in Part 1.4.1.3 through ordinance if such flows are identified by ADEC or the co-permittees as a source of pollutants to the MS4. Co-permittees must document any existing local controls or conditions placed on such discharges. [Section 3.3.4]	August 1, 2017	Complete, ongoing
The co-permittees must inform users of the MS4 and the general public of hazards associated with illegal discharges and improper disposal of waste. [Section 3.3.5]	Annually	Complete, ongoing
Co-permittees must review and revise the comprehensive MS4 map. At a minimum, the map must show jurisdictional boundaries, the location of all inlets and outfalls, names and locations of all waters that receive discharges from those outfalls, and locations of all municipally-owned and operated facilities, including public snow disposal sites. If available, locations of all privately operated snow	Annually	Complete

disposal sites must also be indicated on the comprehensive map. A copy of the completed map must be submitted to DEC as part of the Annual Report. [Section 3.3.6]		
Co-permittees must continue dry weather field screening for non-storm water flows from all outfalls. By no later than the expiration date of this permit, all of the co-permittees' outfalls within the permit area must be screened for dry weather flows. The screening should include field tests of selected chemical parameters as indicators of discharge sources where sufficient flow is found at an outfall to allow for monitoring. Screening level tests may utilize less expensive "field test kits" using test methods not approved by EPA under 40 CFR Part 136 (adopted by reference at 18 AAC 83.010), provided the manufacturer's published detection ranges are adequate for the illicit discharge detection purposes. The co-permittees must investigate any illicit discharge within 15 days of its detection and must take action to eliminate the source of the discharge within 45 days of its detection. Raw data and narrative review of screening and mapping shall be included in the following year's Annual Report from the year the data was collected. [Section 3.3.7]	June 30, 2023	Not complete, on going

4.2 Compliance Activities

4.2.1 Illicit Discharge Investigations

Illicit discharge investigations are initiated when one of the co-permittees has been notified a discharge occurred. Most notifications come from either the general public or co-permittee public works and maintenance staff working in the field that observe a discharge actively occurring and/or evidence a discharge recently occurred. Commonly the discharge is observed at its source and the responsible party is readily apparent; however, other discharges are detected at the outfall with dry-weather, non-storm water flows and/or an abnormal color or odor to the water. These discharges are tracked "up-pipe" back to their source using the co-permittees' comprehensive MS4 map and through manhole observations until a manhole junction is reached that shows no evidence of discharge, indicating that the discharge originated down-pipe that manhole junction. The responsible party is then determined by examining and investigating nearby facilities based on the type of discharge/pollutant observed, land and building use, and history of public complaints and/or previously confirmed illicit discharges.

Every illicit discharge detected is compiled into the co-permittee's jointly-maintained Illicit Discharge Log, which records the date, location, and nature of the discharge, as well as a written description of the follow-up investigations and resolutions. A copy of the log for the 2019 reporting year is included in Appendix C (C01-02).

4.2.2 Industrial Facilities Map

In June 2016 the FNSB updated the MS4 map to include the locations of all industrial facilities and activities covered by the APDES MSGP in the Fairbanks area. In February 2017 the FNSB published an updated online MS4 map of industrial activity storm water permits at:

https://gisportal.fnsb.us/enterprise/apps/webappviewer/index.html?id=37bbc56b8f73477f8ee1c0f2ec2d161c. A copy of the map showing the new MSGP layer is included in Appendix C, (C03).

4.2.3 Illicit Discharge Ordinances

The Cities of Fairbanks and North Pole are the only co-permittees that have municipal authority to adopt and enforce ordinances. The City of Fairbanks approved and adopted an Illicit Discharge Ordinance (No. 07-5703) in July 2007, and the City of North Pole adopted a similar ordinance (No. 08-21) in November 2008. The two ordinances are nearly identical in content, which provides users of the MS4 a clear understanding of the type of discharges and acts prohibited throughout the Fairbanks Urbanized Area, regardless of the separate jurisdictions of the municipal authorities. Copies of the ordinances can be found at http://www.co.fairbanks.ak.us/pw/Pages/Storm-Water-Ordinances.aspx. The Cities of Fairbanks and North Pole adopted updates to storm water codes, in January and June 2017 respectively, in accordance with the requirement set forth in the permit.

- Ordinance No. 6038 an Ordinance Amending Fairbanks General Code Chapter 82 and Adopting Revised Wastewater Treatment Regulations
- Ordinance No. 17-13 an Ordinance to Amend Codes Associated with the City of North Pole's Storm Water Management Ordinances Chapter 12.24 Illicit Discharge Detection and Elimination; Chapter 15. 66 Construction Site Storm Water Runoff; and Chapter 15.74 Post-Construction Storm Water Management

Enforcement Policy & Jurisdiction

As stated in the codified ordinances, whenever the City of Fairbanks or North Pole finds that a person, business, or public entity has violated a prohibition of the ordinances, compliance will be ordered by verbal or written notice of the violation to the responsible party. The notice may require the performance of monitoring, analyses, and reporting; elimination of illicit connections, discharges, practices, or operations; abatement or remediation of storm water pollution or contamination hazards and the restoration of any affected property; payment of a fine to cover administrative and remediation costs; and implementation of source control or treatment BMPs. If the abatement of a violation and/or restoration of affected property are required, the notice will provide a deadline for completion of the remediation or restoration. The notice will also advise that, should the violator fail to remediate or restore affected property within the established deadline, the work will be performed by the City of Fairbanks or North Pole, or a designated contractor, and the expense thereof will be charged to the violator. In such cases where the investigation indicates the illicit discharge originated outside the City of Fairbanks' or North Pole's jurisdiction, the co-permittees will notify the appropriate agency which has jurisdiction, namely the FNSB or ADEC. The City of Fairbanks' and North Pole's jurisdiction to enforce the ordinance applies to the MS4, in its entirety, within the Fairbanks Urbanized Area inside the City Limits of Fairbanks and North Pole; including the portions of the MS4 with State of Alaska ROWs located within the Fairbanks Urbanized Area inside the City Limits of Fairbanks and North Pole which are owned or operated by the DOT&PF. The FNSB has jurisdiction over the portion of MS4 owned and operated by UAF and DOT&PF within the Fairbanks Urbanized Area outside the City Limits of Fairbanks and North Pole.

4.2.4 Non-storm Water Discharges

The existing ordinances address non-storm water flows within their "Discharge Prohibitions" subsections. Certain non-storm water flows listed in the permit (i.e. water line flushing, landscape irrigation, dechlorinated swimming pool discharges, firefighting activities, etc.) are allowed to discharge to the MS4; however, none of these flows are allowed to contain any pollutants prohibited to be discharged to waters of the U.S. under the federal Clean Water Act (CWA).

4.2.5 Public Awareness Efforts

As discussed under the "Public Education & Outreach" and "Public Involvement & Participation" subsections, efforts are made annually to inform the public about illicit discharges and improper disposal of waste. Efforts include (1) maintaining the Fairbanks Storm Water Management Program website, which outlines procedures for reporting illicit discharges to the co-permittees and FNSB; (2) incorporating information about the types and causes of illicit discharges into the educational/guest presentations on storm water; (3) implementing the Storm Drain Stenciling Program, which creates public awareness about where storm water goes after it enters a storm drain inlet; and (4) mailing brochures to local landscaping and snow removal contractors, which apprises them of the local illicit discharge ordinances.

4.2.6 Annual Employee Training

The co-permittees conduct annual employee training(s) using three storm water training DVD kits from Excal Visual. One training is titled "Storm Water Pollution Prevention for MS4 Operations" and includes a 30-minute employee training DVD, training acknowledgement forms, pocket guides, and quizzes covering the topics of good housekeeping and spill prevention/control/response, vehicle and equipment fueling/maintenance/washing, waste and materials management, facility maintenance, parking lot and street sweeping, storm drain cleaning, landscaping and grounds maintenance, and working over or near surface waters. The second training is titled "Illicit Discharge Detection & Elimination for MS4 Employees" and similarly includes a 15-minute employee training DVD and amenities covering the topics of spotting illicit discharges at their source and outfalls, as well as the employees' role in illicit discharge detection and elimination. The third training is titled, "Spills and Skills, Non-Emergency HazMat Spill Response" and includes a 19 minute video training designed to help train non-HAZWOPER employees on dealing with a hazardous material (or hazardous waste) spill, leak or release. Every April the co-permittees gather up their public works/maintenance/parks employees and have them watch the DVDs, and are thereafter requested to maintain a continued surveillance of storm water conveyance systems when in the field. Training acknowledgement forms for each of the co-permittees' respective agencies for the 2019 reporting year are included in Appendix C, (C04-09).

4.2.7 Comprehensive MS4 Map Update

In 2008 the co-permittees and FNSB combined their individual MS4 maps into a single comprehensive map showing all storm water conveyance systems within the Fairbanks Urbanized Area. The map currently resides within the FNSB's Geographical Information System (GIS) database and was last update in February 2017, and can be accessed by the public at: https://gis.fnsb.us/portalarcgis/apps/webappviewer/index.html?id=9a73f3f15edd49cd86305ae23476aa36. The map contains all jurisdictional boundaries, storm drain inlets and outfalls, outfall receiving waters, and FNSB and co-permittee owned and operated facilities, including snow disposal sites. From 2013 to the present, the ADOT&PF Northern Region Hydraulics Section furthered this effort by hiring a consultant to

perform additional field surveying and modeling of the MS4. The initial study area was bound by Davis Road, Lathrop Street, Peger Road, and the Chena River, and the consultant is now working in downtown Fairbanks. The previous 2008 mapping efforts collected only horizontal data for the MS4, whereas this new effort is collecting both horizontal and vertical data and modeling different storm events using Bentley CivilStorm® software to look for deficiencies in the system. The progress report titled "Fairbanks Area Drainage Improvements Plan, Phase II" on this effort is included in Appendix C, (C10).

4.2.8 Dry-weather Outfall Screening

The co-permittees began conducting dry-weather screening outfalls in 2007. The co-permittees screened approximately one-third of the outfalls each summer in 2007, 2008, and 2009 until every outfall had been screened. A second, larger effort to screen outfalls was also completed in 2011 where every outfall was screened in a single summer. In accordance with the requirements of the new permit, the co-permittees screened all outfalls between Hamilton Acres and Aurora Power Plant. Dry-weather outfall sampling will continue in summer 2020.

4.3 Staff Responsible for Compliance Activities

The following individuals were responsible for implementing and coordinating the illicit discharge detection and elimination activities during the 2019 reporting period:

- City of Fairbanks –Andrew Ackerman, Environmental Manager
- City of North Pole – Bill Butler, Director of City Services
- UAF – Russ Steiger, Environmental Compliance Officer
- ADOT&PF – Katrina LeMieux and Cynthia Nelson, Maintenance & Operations Environmental Impact Analyst

4.4 Measurable Goals

The following table details the Measurable goals set forth in the co-permittees' February 2019 Storm Water Management Plan, whether or not the goals were achieved during the current reporting period, and lists proposed changes, if any, for the next reporting period.

Measurable Goals	Achieved during the current reporting period?	Proposed changes for next reporting period?
Annually review and revise an inventory and map of MSGP-covered facilities and activities.	Yes	No
Annually review Illicit Discharge and associated ordinances and procedures.	Yes	No
Annually provide employee training on illicit discharges to the MS4.	Yes	No
Annually review and revise the comprehensive MS4 map.	Yes	No

Screen 100% of the outfalls owned and operated by the co-permittees by June 30, 2023.	No	No

MINIMUM CONTROL MEASURES

5.0 CONSTRUCTION SITE STORM WATER RUNOFF CONTROL

5.1 Permit Requirements

To date, the co-permittees have met all but one of the requirements under Minimum Control Measure 4 – Construction Site Storm Water Runoff Control. These procedures currently do not have provisions for receipt and consideration of information submitted by the public; however, such provisions will be developed and added to the procedures before the end the new permit term, June 30, 2023. All other provisions were developed and implemented by the end of the last permit term – August 1, 2018 and are available on the new City of Fairbanks Storm Water Management website (https://www.fairbanksalaska.us/engineering/page/storm-water-management). The following table provides a summary of the individual requirements, compliance dates, and status as of December 2019.

Permit Requirements	Compliance Date	Status
The co-permittees must annually review and implement their existing program that reduces pollutants in any storm water runoff to the MS4 from construction activities consistent with this permit and the current version of the APDES General Permit for Storm Water Discharges from Large and Small Construction Activities in Alaska Permit # AKR10000 (Construction General Permit or CGP). The co-permittees must discuss revisions, planned improvements, and schedule in the Annual Report. [Section 3.4.1]	Annually	Complete, ongoing
If DEC waives the permit requirements for storm water discharges associated with a specific small construction activity (i.e., a single project) in accordance with 40 CFR §122.26(b)(15)(i)(A) or (B), the co-permittee is not required to develop, implement, or enforce the program to reduce pollutant discharges from that particular site. [Section 3.4.2]	Annually	Complete, ongoing
The co-permittees must maintain an ordinance or other regulatory mechanism to be consistent with this Permit and with the current version of the CGP. This ordinance or regulatory mechanism must include sanctions to ensure compliance. [Section 3.4.3]	Annually	Complete, ongoing
Co-permittees must continue to publish and distribute requirements for construction site operators to implement appropriate erosion and sediment control BMPs and to control waste such as discarded building materials, concrete truck washout, chemicals, litter and sanitary waste at the construction site that may cause adverse impacts to water quality. Availability of published materials can be verified via a permittee-maintained website or other easily accessible location. [Section 3.4.4]	Annually	Complete, ongoing
Co-permittees must review, and implement procedures for reviewing all site plans as required in Part 3.4.1 for potential water quality impacts, including erosion and sediment control, control of other wastes, and any other impacts	Annually	Complete, ongoing; except

that must be examined according to the requirements of the law, ordinance, or other enforceable mechanism of Part 3.4.3. These procedures must include provisions for receipt and consideration of information submitted by the public. [Section 3.4.5]		public info. req.
Co-permittees must review and implement procedures for site inspection and enforcement of control measures established as required in Parts 3.4.3 and 3.4.4, including enforcement escalation procedures for recalcitrant or repeat offenders. The co-permittees shall inspect all construction activities as required in Part 3.4.1 in their jurisdictions for appropriate erosion, sediment, and waste control at least once per year. [Section 3.4.6]	Annually	Complete, ongoing
Co-permittees must conduct a biennial training session for the local construction, design, and engineering audiences related to the construction ordinance and BMP requirements referenced in Parts 3.4.3 and 3.4.4. [Section 3.4.7]	Biennially	Complete, ongoing

5.2 Compliance Activities

The co-permittees' efforts to control construction site storm water runoff include codified ordinances, publication of a local BMP design guide, a municipal plan review and site inspection program, and biennial trainings for local developers, engineers, and contractors. The co-permittees annually review and update these program elements for their appropriateness and consistency with permit requirements and the ACGP.

5.2.1 Construction Site Storm Water Runoff Control Ordinances

The Cities of Fairbanks and North Pole are the only co-permittees that have municipal authority to adopt and enforce ordinances. The City of Fairbanks originally approved and adopted a Construction Site Storm Water Runoff Ordinance (No. 07-5702) in July 2007, but later amended it with a new ordinance (No. 08-5751) in May 2008 to streamline its content and requirements. The City of North Pole adopted a similar ordinance (No. 08-14) to that of the amended City of Fairbanks ordinance in June 2008. Similarity in these ordinances provides users of the MS4 a clear understanding of the storm water plan review and inspection requirements throughout the Fairbanks Urbanized Area, regardless of the separate jurisdictions of the municipal authorities. Copies of the ordinances can be found at http://www.co.fairbanks.ak.us/pw/Pages/Storm-Water-Ordinances.aspx. In January 2017 the City of Fairbanks and City of North Pole adopted updated ordinances related to Construction Storm Water Runoff Control.

- Ordinance No. 6038 an Ordinance Amending Fairbanks General Code Chapter 82 and Adopting Revised Wastewater Treatment Regulations
- Ordinance No. 17-13 an Ordinance to Amend Codes Associated with the City of North Pole's Storm Water Management Ordinances Chapter 12.24 Illicit Discharge Detection and Elimination; Chapter 15. 66 Construction Site Storm Water Runoff; and Chapter 15.74 Post-Construction Storm Water Management

5.2.2 BMP Design Guide

The Cities of Fairbanks and North Pole published an update (3rd Edition) to Fairbanks & North Pole Storm Water Management Program Guide in April 2017. The guide provides an overview of both construction and post-construction storm water management design and construction requirements for new development and redevelopment projects within the Fairbanks Urbanized Area with updated references to the code revisions. Additionally, the guide provides more accurate maps of the MS4 area and jurisdictions. The focus of the guide is to educate developers, engineers, contractors, and the general public on local storm water pollution control laws, and provide resources for effective structural and non-structural BMPs for the Fairbanks area. Included in the manual is a brief overview of the local storm water management program, agency review requirements, general design considerations, and list of effective BMPs for the Fairbanks area, including a discussion of the design and construction requirements for snow disposal sites, septic systems, and parking lots. A two-page handout was also created for local developers, engineers, and contractors which covers the different agencies' jurisdictions and plan submittal requirements for storm water within the Fairbanks Urbanized Area. Both the guide and handout are posted on the Fairbanks Storm Water Management Program website at http://www.co.fairbanks.ak.us/pw/Pages/SiteRequirements.aspx.

5.2.3 Plan Reviews & Site Inspections

The construction site storm water runoff plan review and inspection program has been added to the Residential & Commercial Building Permit application process at the Cities of Fairbanks and North Pole, which directs all contractors/owners applying for a permit to submit storm water plans in accordance with the requirements of the ordinances and all applicable review fees before a permit will be issued. At the City of Fairbanks, plans must be submitted for all projects resulting in a ground disturbance of 10,000 square feet or greater, and at the City of North Pole for all projects resulting in a ground disturbance of one acre or greater. The program also apprises contractors/owners that their construction site(s) will be inspected at least once per year for proper erosion and sediment controls. Inspections involve a tour of the entire construction site, close inspection of each BMP installed, and a secondary review of the storm water plan, which must be maintained onsite. All BMP and/or storm water plan components needing corrective action are documented on an inspection checklist and signed by both the site inspector and onsite contact. Corrective action items may be resolved by verbal agreement, written agreement, re-inspection, and/or fines or temporary stop-work orders. In the event that any person holding a permit pursuant to these ordinances violates the terms of the permit, the Cities of Fairbanks and North Pole may issue a notice of violation, suspend, or revoke the permit. The procedures are reviewed, updated, and made public via the publication of the Fairbanks and North Pole Storm Water Management Program Guide. The publication is in its 3rd Edition and was last updated April 2017. The construction plan review and inspection process is made available in the Program Guide, which is published on the Storm Water webpage, and discussed during contractor trainings every other year. The procedures currently do not have provisions for receipt and consideration of information submitted by the public; however, such provisions will be developed and added to the procedures before the end of the new permit term – June 30, 2023.

In total, five plan reviews and five site inspections were conducted during the 2019 reporting period. Three of the construction projects were within the City of Fairbanks' jurisdiction and two within the City of North Pole. No sanctions or enforcements actions were necessary for compliance. Site inspections were completed for all three of the projects.

5.2.4 Training for Local Developers/Engineers/Contractors

The Cities of Fairbanks and North Pole, FNSB, and ADEC jointly conduct a three-hour storm water training biennially to educate developers, engineers, and contractors about the local construction site storm water runoff and post-construction storm water management requirements within the Fairbanks Urbanized Area. This training was completed in April 2019 and is scheduled to be offered again in April 2021 to meet the biennial training requirement of the permit.

Annually the ADOT&PF, ADEC, and Associated General Contractors of Alaska also host "Alaska Certified Erosion & Sediment Control Lead [AK-CESCL]" trainings in Fairbanks. The training consists of either a two-day course or a one day refresher class that covers erosion and sedimentation processes, ACGP regulatory requirements, BMPs, site inspections, record-keeping, and cold climate challenges. In May 2017, Andrew Ackerman, Environmental Manager, City of Fairbanks attended a 2-day AK-CESCL training at DOT&PF. His certificate # is DOT-17-107 and expires in May 2020. A summary of all of the AK-CESCL trainings held in Fairbanks during the 2019 reporting period are included in Appendix D, (D01).

5.3 Staff Responsible for Compliance Activities

The following individuals were responsible for implementing and coordinating the construction site storm water runoff control activities during the 2019 reporting period:

- City of Fairbanks – Andrew Ackerman, Environmental Manager
- City of North Pole – Bill Butler, Director of City Services
- UAF –Russ Steiger – Environmental Compliance Officer
- ADOT&PF – Katrina LeMieux and Cynthia Nelson, Maintenance & Operations Environmental Impact Analyst

5.4 Measurable Goals

The following table details the Measurable goals set forth in the co-permittees' February 2019 Storm Water Management Plan, whether or not the goals were achieved during the current reporting period, and lists proposed changes, if any, for the next reporting period.

Measurable Goals	Achieved during the current reporting period?	Proposed changes for next reporting period?
Incorporate provisions for receipt and consideration of information submitted by the public into the plan review process.	No	No
Conduct a training/workshop for local developers, engineers, and contractors in April 2019, April 2021, and April 2023.	Yes	No

MINIMUM CONTROL MEASURES

6.0 POST-CONSTRUCTION STORM WATER MANAGEMENT

6.1 Permit Requirements

To date, the co-permittees have met some, but not all, of the requirements under Minimum Control Measure 5 – Post-construction Storm Water Management. The following table provides a summary of the individual requirements, compliance dates, and status as of December 2019.

Permit Requirements	Compliance Date	Status
Co-permittees must review and continue the implementation and enforcement of a program to address post-construction storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale that disturb one acre or more, that discharge into the MS4. The program must ensure that controls are in place that would prevent or minimize water quality impacts. [Section 3.5.1]	Annually	Complete, ongoing
Co-permittees must review the effectiveness and revise, as necessary, ordinances or other regulatory mechanisms to the extent allowable under state or local law to address post-construction runoff from new development and redevelopment projects. Co-permittees must implement appropriate enforcement procedures and actions, including enforcement escalation procedures for recalcitrant or repeat offenders. [Section 3.5.2]	Annually	Complete, ongoing
Co-permittees must review and revise the publishing and distribution of a BMP design manual for post-construction storm water management, which includes a list of strategies reflecting a combination of structural and non-structural BMPs appropriate to the MS4s. [Section 3.5.3]	Annually	Complete, ongoing
Co-permittees must ensure proper long-term operation and maintenance of post-construction BMPs. [Section 3.5.4]	Annually	Complete, ongoing
Co-permittees must continue to conduct biennial training for local construction, design, and engineering audiences. [Section 3.5.5]	Biennially	Complete, ongoing
Green Infrastructure/Low Impact Development (LID) Incentive Strategy and Pilot Project. [Section 3.5.6]	August 1, 2017	Pilot project complete, GI panel boards complete; pilot project evaluation complete

Snow Disposal Sites. Within one year of the permit effective date, the permittee must inventory and map locations of all permittee-owned and privately owned snow disposal sites that discharge directly to the MS4 or to receiving waters. The snow disposal site inventory and map must be updated annually thereafter. [Section3.5.7]	June 30, 2019	Complete, ongoing
The permittee must evaluate whether to further protect water quality by explicitly regulating the operation of private snow disposal sites within the boundaries of the MS4 through ordinance or other regulatory mechanism. [Section3.5.7.1]	June 30, 2021	Not complete, ongoing

6.2 Compliance Activities

The co-permittees' existing efforts to manage post-construction storm water include codified ordinances; a municipal plan review program for permanent storm water controls for sites disturbing greater than or equal to one acre; publication of a local BMP design guide; biennial training/workshops for local developers, engineers, and contractors; publication of a green infrastructure application guide; mapping priority areas for green infrastructure in Fairbanks; and construction of a green infrastructure/LID pilot project. The co-permittees also initiated a program in 2019 via a partnership between the City of Fairbanks and TVWA that incentivized local GI/LID projects by providing up to $1000.00 grants to Fairbanks property owners and businesses willing to install small scale GI/LID projects on their property and make them visible to the public. A copy of the grant application is provided in Appendix E, (E01). The co-permittees annually review and update these program elements for their appropriateness and consistency with permit requirements.

6.2.1 Post-construction Storm Water Management Ordinances

The Cities of Fairbanks and North Pole are the only co-permittees that have municipal authority to adopt and enforce ordinances. The City of Fairbanks originally approved and adopted a Post-Construction Storm Water Management Ordinance (No. 07-5704) in July 2007, but later amended it with a new ordinance (No. 09-5780) in August 2009 to streamline its content and requirements. The City of North Pole adopted a similar ordinance (No. 09-10) to that of the amended City of Fairbanks ordinance in September 2009. Similarity in these ordinances provides users of the MS4 a clear understanding of the post-construction storm water management requirements throughout the Fairbanks Urbanized Area, regardless of the separate jurisdictions of the municipal authorities. Copies of the ordinances can be found at http://www.co.fairbanks.ak.us/pw/Pages/Storm-Water-Ordinances.aspx. Post-construction Storm Water division updates were made with COF Ordinance No. 6038 and CNP No. 17-13 in January and June 2017.

- Ordinance No. 6038 an Ordinance Amending Fairbanks General Code Chapter 82 and Adopting Revised Wastewater Treatment Regulations.
- Ordinance No. 17-13 an Ordinance to Amend Codes Associated with the City of North Pole's Storm Water Management Ordinances Chapter 12.24 Illicit Discharge Detection and Elimination; Chapter 15. 66 Construction Site Storm Water Runoff; and Chapter 15.74 Post-Construction Storm Water Management.

Long-term Operation & Maintenance of BMPs – In accordance with the requirements set forth in the ordinances, developers are required to submit a Permanent Storm Water Control Plan (PSWCP) to the cities of Fairbanks and North Pole for review and approval prior to being granted a Residential or Commercial

Building Permit. Included in the PSWCP, a signed statement must be submitted stating the owner of the site will operate, maintain, and/or schedule all permanent BMP(s) in accordance with the PSWCP. The PSWCP must also be developed by a Certified Professional in Erosion and Sediment Control or a Professional Engineer registered in the State of Alaska.

6.2.2 BMP Design Guide

As stated previously, the Cities of Fairbanks and North Pole published an update (3rd Edition) to Fairbanks & North Pole Storm Water Management Program Guide in April 2017. The guide provides an overview of both construction and post-construction storm water management design and construction requirements for new development and redevelopment projects within the Fairbanks Urbanized Area. The focus of the guide is to educate developers, engineers, contractors, and the general public on local storm water pollution control laws, and provide resources for effective structural and non-structural BMPs for the Fairbanks area. Included in the manual is a brief overview of the local storm water management program, agency review requirements, general design considerations, and list of effective BMPs for the Fairbanks area, including a discussion of the design and construction requirements for snow disposal sites, septic systems, and parking lots. The 3rd Edition of the guide is posted on the Fairbanks Storm Water Management Program website at http://www.co.fairbanks.ak.us/pw/StormWaterDocuments/FbanksNPSWGuide.pdf. The Cities of Fairbanks and North Pole will review and revise the guide, as necessary, on an annual basis.

Design Criteria & Performance Goals – The design criteria and performance goals for post-construction (permanent) BMPs are outlined in Section 4.3 of the guide and in both of the City of Fairbanks' and North Pole's ordinances. For runoff volume, post-construction peak runoff is required to be limited to 5% over pre-construction peak runoff using the 10-year, 1-hour duration storm event. For runoff quality, the initial 1/2-inch of runoff must be treated, and after this first flush, treatment must be provided at a minimum rate of 0.005 inches per minute. These design criteria and performance goals were developed by the City of Fairbanks and FNSB engineers in close coordination with ADEC and in consideration of Fairbanks's rainfall intensity data and design standards used by the Municipality of Anchorage.

6.2.4 Training for Local Developers/Engineers/Contractors

The Cities of Fairbanks and North Pole, FNSB, and ADEC jointly conduct a three-hour storm water training biennially to educate developers, engineers, and contractors about the local construction site storm water runoff and post-construction storm water management requirements within the Fairbanks Urbanized Area. This training was completed in April 2019 and is scheduled to be offered again in April 2021 to meet the biennial training requirement of the permit. The 2019 attendee's sign-in sheet and presentation for the training are included in Appendix D, (D02-04).

6.2.5 Green Infrastructure Application Guide

In late 2009, the City of Fairbanks partnered with the Cold Climate Housing Research Center, GeoWatersheds Scientific, and FSWCD, and successfully applied for a grant from the Alaska Department of Natural Resources to develop a local Green Infrastructure Resource Guide for Fairbanks. The project was kicked off by having each of the project partners compile their personal collections of research data and publications related to green infrastructure in Alaska and other cold-climate regions to assist in the selection of 10 green infrastructure applications appropriate for use in the Fairbanks area. The applications ultimately included the rain barrel, rain garden, tree pit, infiltration planter, vegetated swale/retention

grading, dry well, riparian buffer, green roofs, permeable pavers, and grass car park. For each of these applications, design drawings were drafted, local and stock photographs acquired, and text written discussing the step-by-step installation process, materials and tools needed, cost and time estimates for installation, maintenance requirements, and pros and cons of each application. The final guide, titled Green Infrastructure Resource Guide for Fairbanks, was published in November 2010, and posted to the Cold Climate Housing Research Center's website for homeowners to download at http://www.cchrc.org/green-infrastructure. In addition to being made available online, each year the co-permittees print hundreds of copies of the guide to give away at a variety of local events, as well as to all of the local plant nurseries and home improvement stores in the Fairbanks area to provide to their customers free of charge. A copy of the guide can be found at http://www.fairbanksgig.com/benefits/. In 2018, co-permittees worked with partners at ADEC, TVWA, and DNR to draft a new version of the local Green Infrastructure Guide that highlights local examples of green infrastructure installations. This was finalized in May of 2019. A copy can be found in Appendix E, (E02).

6.2.6 Green Infrastructure Priority Area Maps

In late 2011, the City of Fairbanks also completed a mapping project to identify which subdivisions in the Fairbanks area are in the greatest need of Green Infrastructure applications (i.e. permanent/post-construction BMPs). The effort produced three new maps showing what portion of the Fairbanks area was served by a piped storm drain system, land use types (residential, commercial/public exempt, and industrial) within this area, and a five-tier ranking scheme to categorize each subdivision by their level of need for permanent/post-construction BMPs to help improve storm water quality and reduce the quantity of runoff to the piped storm drain system. The ranking scheme included factors such as storm water discharge location, percent of impervious land cover, amount of area served by a pipe storm drain system, and amount of roads with curb and gutter as opposed to ditches and/or swales. Copies of the maps produced by this effort were included in the 2014 Annual Report. In 2017, the City of Fairbanks collaborated with TVWA to solicit nominations for Green Infrastructure projects within the Urbanized Area. The results were also compiled and made into an interactive Google map: https://drive.google.com/open?id=1Sy15ATv8TKIJYvtHa5i3QqKlGZU&usp=sharing. Some of the photos that were collected around town in 2017 by the GIG were used to highlight poorly drained areas.

6.2.7 Salmon Smart Mini-Grants

As mentioned above the co-permittees also initiated a Green Infrastructure (GI) incentive program in 2019 via a partnership between the City of Fairbanks and TVWA Salmon Smart program that incentivized local GI/LID projects by providing up to $1000.00 project construction grants to Fairbanks property owners and businesses willing to install small scale GI/LID projects on their property and make them visible to the public. TVWA in partnership with the City of Fairbanks, Fairbanks Area Surface Transportation Planning (formerly Fairbanks Metropolitan Area Transportation System), and the ADEC worked to expand green infrastructure projects and public awareness in the Fairbanks downtown area as part of the Salmon Smart program. They selected five local property owners to participate in the installation of green infrastructure projects on their properties. Selected applicants received up to $1000 in materials, equipment rental, and/or labor toward their project. In return, the applicants would contribute a 33% match (up to $500) with a maximum project total of $1500. The application period was open from March 12 - April 10, 2019.

TVWA received 10 applications and 5 applications were funded.

1. 524 Juneau Ave-The property owner had rain gutters on the north and south side of their home and wanted to install a rain catchment system to water their lawn. A 500 gallon Poly tank was installed to store water captured by rain gutters in place on the south facing side of the home.

2. 833 4th Ave (Parking area is on 5th Ave)-At this property the owner was parking their car in the yard, resulting in large ruts due to the soil having no structure to support the weight of the vehicles. The project began by leveling the parking area and filling in existing ruts. A plastic grass mesh surface was installed to add structure to the parking area. After installation the area was hand seeded with a mix of Alaska grass seed and then hydro seeded two weeks later to improve stabilization of the mesh.

3. 816 5th AVE-The property owner had a dirt driveway that was rutted and uneven along their yard. The parking area was leveled to fill in ruts and reestablish sloping for drainage. A landscaping mesh was installed to add structure to the parking area. After installation the area was hand seeded with a mix of Alaska grass seed and then hydro seeded two weeks later.

4. 4437 Wood River Drive-The property owner had been using trash cans on two of the homes installed gutter spouts and wanted to add a rain barrel to a gutter spout coming off their back porch. A 75 gallon rain barrel with debris screen was installed on the west side of the home. A stand using blocks was built to raise the barrel approximately 2 feet off the ground. This allowed the homeowner the ability to connect a 4 inch house to the on/off value at the bottom of the barrel and water the surrounding grass using gravity. There is an overflow tube at the bottom of the barrel where a hose is attached. The homeowner can install another rain barrel to this tube to capture attentional water. At the time of installation the homeowner chose to attach a garden hose to the overflow tube to reach her flower beds.

5. 901 Cushman Street- This is a business that had installed a rain barrel and infiltration planter. The business owner wanted to expand their green infrastructure to include a rock rain garden around there rain barrel and infiltration planters. The infiltration planters were not both connected to a gutter spout. We purchased another infiltration planter, and installed permeable pavers as a base for the planter to sit on. The infiltration planters area was constructed into a rain garden set up to help with rainwater runoff. This project will be completed during 2020 after snow melt to connect the three infiltration planters to the gutter system.

The co-permittees annually review and update these program elements for their appropriateness and consistency with permit requirements.

6.2.8 LID Incentive Strategy

Public Sector Development Projects – In 2017 the City of Fairbanks worked with the Fairbanks Metropolitan Area Transportation System (FMATS) Office to adopt a new "Green Streets Policy." The policy aims to have transportation projects minimize environmental impacts by retaining and treating, or even eliminating, runoff at the source using green infrastructure applications. FMATS is allocated state and federal money each year for local transportation projects, and they developed the policy for the projects they fund. When projects are nominated to FMATS, having green-street elements included in their scope will help projects score better. The City of North Pole, City of Fairbanks, and FNSB passed Resolutions of Support for the policy on October 3, October 10, and November 10, respectively. In May 2017 the City of Fairbanks and TVWA developed Green Streets informational panel boards that are now displayed at City Hall and copies have

been used by TVWA at public outreach events. Copies of the Green Streets panels, adopted policy and Resolutions of Support are included in Appendix E (E04-E10).

As mentioned above the co-permittees also initiated a Green Infrastructure (GI) incentive program in 2019 via a partnership between the City of Fairbanks and TVWA Salmon Smart program that will incentivize local GI/LID projects by providing up to $1000.00 project construction grants to Fairbanks property owners and businesses willing to install small scale GI/LID projects on their property and make them visible to the public. A copy of the grant application is provided in Appendix E (E01). The co-permittees annually review and update these program elements for their appropriateness and consistency with permit requirements.

6.2.9 Green Infrastructure/LID Pilot Project

The co-permittees completed construction of the Green Infrastructure/LID pilot project in August 2013. The project was located at Shoreway Park on the north bank of the Chena River directly across from downtown Fairbanks. The park has a large, 21,000-square-foot parking area for residents and visitors alike to park, have a picnic lunch, and access downtown on foot via a pedestrian bridge over the river. There were two problems with the park that needed attention. One problem was that the rainwater runoff, which collects pollutants such as leaking vehicle fluids and litter from the parking lot, drained directly into the river via a concrete chute without any form of treatment. The other problem was that there was a missing segment of pedestrian pathway between the park and the pedestrian bridge. Both of these problems were fixed in 2013 through a collaborative effort by the City of Fairbanks Public Works Department, ADOT&PF Maintenance Division, TVWA, Student Conservation Association, U.S. Fish & Wildlife Service, Wounded Warrior Project, and FSWCD Youth Corps crew. First, the concrete chute was removed from the river bank and a catch basin for the runoff was installed. Then, approximately 125 feet of new concrete pathway was poured and 40 feet of riparian area was rehabilitated with topsoil, grass seed, and 70 willows that were hand-dug and replanted along the riverbank. The catch basin is intended to capture sediment and litter from the parking lot runoff, while the flow leaving the catch basin trickles down the newly vegetated banks to help filter out some of the other pollutants such as vehicle fluids before they reach the river. Copies of the project design plans and before and after photographs of the construction were included in the 2014 Annual Report.

The effectiveness of this project in reducing the amount of pollutants reaching the river has been evaluated based on the square feet of impervious surface that was removed and the installation of curbs and a storm drain sediment trap catch basin. Co-permittees utilized the EPA National Stormwater Calculator (SWC) Desktop ver. 1.2.0.2 to analyze the effects of the improvements. The Calculator estimates the annual amount of rainwater and frequency of runoff from a specific site. Estimates are based on local soil conditions, land cover, and historic rainfall records.

The SWC accesses several national databases that provide soil, topography, rainfall, and evaporation information for a chosen site. The user supplies information about the site's land cover and selects low impact development (LID) controls they would like to use. The LID controls include seven green infrastructure practices. The evaluation for the Shoreway Park LID pilot project is included in Appendix E, (E03). Additional data and recommendations have been added to the 2018 evaluation. The additional data will be utilized to revise the Green Infrastructure Resource Guide for Fairbanks, AK by June 30, 2020.

6.2.10 Snow Disposal Sites

In 2018, the co-permittees began development of an inventory and GIS map of public and known commercial snow disposal locations within the Fairbanks Urbanized Area. The application also includes a database schema designed to collect attributes about each site. The dataset is designed to easily collect updated information about sites in the future. The co-permittees added two new snow disposal sites in 2019 to the inventory map after sending a mailer out to contractors with information on snow storage. The co-permittees will review and update annually, as appropriate.

6.3 Staff Responsible for Compliance Activities

The following individuals were responsible for implementing and coordinating the post-construction storm water management activities during the 2019 reporting period:

- City of Fairbanks – Andrew Ackerman, Environmental Manager
- City of North Pole – Bill Butler, Director of City Services
- UAF – Russ Steiger, Environmental Compliance Officer
- ADOT&PF – Katrina LeMieux and Cynthia Nelson, Maintenance & Operations Environmental Impact Analyst

6.4 Measurable Goals

The following table details the measurable goals set forth in the co-permittees' February 2019 and amended February 2019 Storm Water Management Plan, whether or not the goals were achieved during the current reporting period, and lists proposed changes, if any, for the next reporting period.

Measurable Goals	Achieved during the current reporting period?	Proposed changes for next reporting period?
Annually review effectiveness of Post-construction Storm Water Management Ordinances and regulatory mechanisms.	Yes	No
Annually Review and revise, as necessary, the Fairbanks & North Pole Storm Water Management Program Guide.	Yes	No
Conduct a training/workshop for local developers, engineers, and contractors in April 2019, April 2021 and April 2023.	Yes	No
Annually promote and distribute copies of the Green Infrastructure Resource Guide for Fairbanks at local events, nurseries, and home improvement stores.	Yes	No
Develop an LID Incentive Strategy for private and public sector development projects by August 1, 2018	Yes	No

Evaluate the effectiveness of the Green Infrastructure/LID pilot project (constructed in August 2013) by February 15, 2019.	Yes, ongoing	Yes
Review and implement strategy that provides incentives for the increased use of GI/LID techniques or practices by July 1, 2019.	Yes	No
Revise Green Infrastructure Resource Guide for Fairbanks, AK using recommendations obtained through the LID demonstration pilot project by July 1, 2020	No	No
Inventory and map locations of snow disposal sites that discharge to MS4 by July 1, 2019. Update annually.	Yes, ongoing	No
Create evaluation report to determine if additional regulation of snow disposal sites is wanted by July 1, 2020.	No	No
Revise all applicable requirements in accordance with evaluation report by July 1, 2021	No	No

7.0 POLLUTION PREVENTION & GOOD HOUSEKEEPING

7.1 Permit Requirements

To date, the co-permittees have met all the requirements under Minimum Control Measure 6 – Pollution Prevention & Good Housekeeping. The following table provides a summary of the individual requirements, compliance dates, and status as of December 2019.

Permit Requirements	Compliance Date	Status
Co-permittees must continue to maintain and implement an operation and maintenance program intended to prevent or reduce pollutant runoff from municipal activities. [Section 3.6.1]	Annually	Complete, ongoing
Annually, co-permittees must continue appropriate training for municipal personnel related to optimum maintenance practices for the protection of water quality. [Section 3.6.2]	Annually	Complete, ongoing
Co-permittees must continue to ensure that new flood management projects are assessed for impacts on water quality and existing projects are assessed for incorporation of additional water quality protection devices or practices. [Section 3.6.3]	Annually	Complete, ongoing

7.2 Compliance Activities

7.2.1 Operation & Maintenance Program

Within their respective rights-of-way, each co-permittee is responsible for snow removal and street sanding operations during the winter months and street sweeping and storm drain cleaning operations during the summer months. Beginning in 2006, the co-permittees instituted an information tracking system for these activities to assist with reducing the discharge of pollutants, including sediment, to the MS4.

Winter Operation & Maintenance Activities – Comparatively, the DOT&PF maintains major and minor arterials while the Cities of Fairbanks and North Pole maintain major and minor collectors and local streets. Snow plowing, street sanding, and snow removal is primarily focused on routes to the local hospital, area schools, primary business districts, and core downtown areas of the Cities of Fairbanks and North Pole; followed by local streets within residential neighborhoods. The co-permittees utilize designated snow storage sites that are generally suitable for onsite containment of accumulated sediment and miscellaneous debris. Snow removal and storage operations are tracked by date of operation, area and subarea, number of loads and cubic yards hauled, haul time, and snow storage site used. Debris is collected following spring break-up and disposed of at the FNSB Solid Waste Landfill. Street sanding operations are similarly scheduled by area of priority depending on street surface conditions, and tracked by date of operation, area, and number of loads, cubic yards, and tonnage spread. Copies of the co-permittees' snow removal and street sanding logs are included in Appendix F, (F01-06).

Summer Operation & Maintenance Activities – During spring break-up, which typically commences in early to mid-April, the co-permittees focus on ensuring the MS4 is operating effectively. Steam is often used to open frozen storm drains and culverts, and pumps are used to transfer water from areas of ponding, in an attempt to maintain flow in the MS4 and minimize damage to residential, commercial, and public property. Street sweeping operations generally commence after spring break-up in late April through early May, and continue until all arterials, collectors, and local streets are clean of aggregate. Street sweeping operations are tracked by date of operation, broom number, area and subarea, street location, number of loads and cubic yards hauled, haul time, and storage site used. During the summer months, the co-permittees also clean and maintain the MS4 using a vacuum truck to flush and pump accumulated sediment and debris from catch basins, lateral lines, manholes, sedimentation collection devices, and culverts. Storm drain cleaning operations are tracked by date of operation, equipment number/type, area and subarea, street location, number of loads hauled, haul time, and storage site used, and gallons of liquid and cubic yards of solids collected. Copies of the co-permittees' street sweeping and storm drain cleaning logs are included in Appendix F, (F01-06).

Hazardous Wastes – In coordination and compliance with EPA Hazardous Waste Regulations, each of the co-permittees also control discharges of hazardous wastes and other pollutants to the MS4 from their respective facilities and rights-of-way such as streets, parking lots, maintenance yards, storage yards, waste transfer stations, maintenance shops, sand and gravel storage locations, and snow storage sites. Permanent controls include oil recycling, glycol recycling, sand and gravel recycling, designated vehicle wash down areas, sumps and oil/water separators in vehicle storage buildings, wash racks that drain to the sanitary sewer, and containment and retention BMPs at sand/gravel and snow storage sites. Day-to-day operations and the use of heavy equipment therein, also generate small quantities of non-recyclable oils and fuels, non-recyclable hydraulic fluid, solvents and degreasers, petroleum-contaminated pads, and empty petroleum

product containers. All hazardous wastes generated are properly stored and later transferred and released to a licensed Hazardous Waste Contractor for processing and offsite disposal.

Industrial Facilities – The co-permittees do not own or operate any industrial facilities that discharge to the MS4.

7.2.2 Annual Employee Training

As stated previously, the co-permittees conduct annual employee training using three storm water training DVD kits from Excal Visual. One training is titled "Storm Water Pollution Prevention for MS4 Operations" and includes a 30-minute employee training DVD, training acknowledgement forms, pocket guides, and quizzes covering the topics of good housekeeping and spill prevention/control/response, vehicle and equipment fueling/maintenance/washing, waste and materials management, facility maintenance, parking lot and street sweeping, storm drain cleaning, landscaping and grounds maintenance, and working over or near surface waters. A second training is titled "Illicit Discharge Detection & Elimination for MS4 Employees" and similarly includes a 15-minute employee training DVD and amenities covering the topics of spotting illicit discharges at their source and outfalls, as well as the employees' role in illicit discharge detection and elimination. The third training is new and titled, "Spill & Skills: Non-Emergency HazMat Spill Response" and includes a 19-minute employee training video on BMPs for non-emergency spills. Every April the co-permittees gather up their public works/maintenance/parks employees and have them watch the DVDs to meet the annual employee training requirements of the permit. Training acknowledgement forms for each of the co-permittees' respective agencies for the 2019 reporting year are included in Appendix C, (C04-C09).

7.2.3 Flood Management Projects

Assessment of flood management projects for impacts on water quality do not fall under the purview of the co-permittees unless the projects meet the criteria for plan review under one of the Cities of Fairbanks' or North Pole's Construction Site Storm Water Runoff or Post-Construction Storm Water Management Ordinances. This would be a rare case, however, since the Cities of Fairbanks and North Pole only have jurisdiction over privately-funded projects occurring on private property. It is presumed that most or all flood management projects would be publicly-funded occurring on public property. In addition, all flood management projects require federal, state, and FNSB authorization, often in the form of a permit.

Flood management projects generally result in dredge or fill in wetlands and other water bodies, which fall under the purview of the U.S. Army Corps of Engineers (USACE) and ADEC. The USACE requires a Department of the Army Permit for all dredge and fill activities regulated under Section 404 of the CWA and Section 10 of the Rivers and Harbors Act. The ADEC also requires a Certificate of Reasonable Assurance be issued for the project(s) in accordance with Section 401 of the CWA before the Department of the Army Permit can be issued. The Certificate of Reasonable Assurance is the state's proclamation the project(s) will meet Alaska Water Quality Standards and the requirements of the CWA; and retains conditioning authority therein, under the Federal Power Act, to require implementation of erosion and sediment control BMPs to ensure the project(s) will not violate Alaska Water Quality Standards or the CWA.

All flood management projects within the Fairbanks Urbanized Area, regardless of whether or not they result in dredge or fill in wetlands and other water bodies, additionally require a Title 15 Floodplain Permit from the FNSB. The Floodplain Permit is required for any new or substantially improved structure,

alteration of a watercourse, or other development within the flood hazard area, Flood Zone A, inundated by the 100-year flood event. The goal of this permitting process is to ensure the cumulative effect of the proposed development would not create an obstruction in the floodplain, increase water surface elevation of the base flood more than one foot at any point within the Fairbanks area, or increase flood heights or velocities.

For smaller flood management projects within the Fairbanks area, such as bank stabilization projects, a multi-agency permitting process has also been established to streamline the permit application process. The permit application is collectively reviewed by the USACE, ADEC, Alaska Department of Fish & Game, Alaska Department of Natural Resources, USFWS, U.S. Department of Agriculture Natural Resources Conservation Service, and FNSB; and subsequently approved by the Alaska Department of Fish & Game in accordance with prevention of stream bank erosion, protection of fish and wildlife habitats, and adherence to Alaska Water Quality Standards and the CWA.

7.3 Staff Responsible for Compliance Activities

The following individuals were responsible for implementing and coordinating the pollution prevention and good housekeeping activities during the 2017 reporting period:

- City of Fairbanks – Andrew Ackerman, Environmental Manager
- City of North Pole – Bill Butler, Director of City Services
- UAF – Russ Steiger, Environmental Compliance Officer
- ADOT&PF – Katrina LeMieux and Cynthia Nelson, Maintenance & Operations Environmental Impact Analyst

7.4 Measurable Goals

The following table details the Measurable goals set forth in the co-permittees' February 2019 Storm Water Management Plan, whether or not the goals were achieved during the current reporting period, and lists proposed changes, if any, for the next reporting period.

Measurable Goals	Achieved during the current reporting period?	Proposed changes for next reporting period?
Continue current operation and maintenance efforts intended to prevent and reduce pollutant runoff from state and municipal activities for the duration of the permit term	Yes	No
Annually provide employee training on storm water pollution prevention for MS4 operations	Yes	No

MONITORING EVALUATION, REPORTING, AND RECORD KEEPING REQUIREMENTS

Monitoring Evaluation, Reporting, and Record Keeping Requirements

8.0 MONITORING PROGRAM PLAN

8.1 Permit Requirements

The co-permittees are required by the permit to monitor the water discharging from the MS4 outfalls to local water bodies at least two times per year – once during the spring when snowmelt runoff is prevalent, and once in late summer when Fairbanks typically receives its largest rain events.

8.2 Compliance Activities

8.2.1 Outfall Monitoring

The permit does not specify how many outfalls are required to be monitored; however, monitoring efforts are planned to target 12 outfalls per monitoring event, which equates to 10 percent of the total number of outfalls owned and operated by the co-permittees. Additionally, effort is made during every monitoring event to monitor at least one outfall owned by each co-permittee, monitor at least one outfall for each impaired water body (Chena River, Noyes Slough, & Chena Slough), and repeat monitoring locations year to year whenever possible, so the data sets can be compared. The parameters monitored include dissolved oxygen, pH, temperature, turbidity, flow, conductivity, total suspended solids, chloride, oil and grease, and BTEX. The co-permittees purchased a new multi-probe field instrument and flow meter in 2014 to assist with the monitoring effort. The permit also requires the co-permittees conduct monthly visual screening for petroleum sheens on Noyes Slough during the summer months.

The co-permittees have been annually monitoring outfalls since 2006, but recently drafted a new Quality Assurance Project Plan (QAPP) most recently in December 2018 to reflect the above monitoring plan in coordination with the requirements of the new permit. A copy of the new QAPP is included in Appendix G (G07). During the 2019 reporting period, the co-permittees conducted the following monitoring efforts:

- Spring Outfall Monitoring – 10 outfalls sampled in April
- Monthly Visual Screenings for Petroleum Sheens on Noyes Slough – completed May, July, August, and September
- Fall Outfall Monitoring – 10 outfalls sampled in September

Copies of the Outfall Discharge Monitoring Reports for the spring and fall monitoring efforts, as well as a summary of the analytical results and Noyes Slough Visual Screening sheets are included in Appendix G (G01-06).

MONITORING EVALUATION, REPORTING, AND RECORD KEEPING REQUIREMENTS

9.0 EVAULATION OF OVERALL PROGRAM EFFECTIVNESS SUMMARY

9.1 Summary

Each year the co-permittees are required to evaluate the program's effectiveness and address any needed improvements/modifications. Overall, the co-permittees believe the program has been very effective in reducing the discharge of pollutants from the MS4 through implementation of the compliance activities under each minimum control measure. This is evidenced by the water quality data collected by the co-permittees and ADEC since the original permit was issued in 2005. Over time the data has shown improvement in water quality in both the Chena River and Chena Slough – the two primary water bodies in Fairbanks and North Pole to which the MS4 discharges. Both water bodies were previously listed as impaired by petroleum products and sediment from urban runoff. In 2010 the ADEC determined both water bodies met state water quality standards for petroleum products. In December 2013 ADEC announced the Chena River, Chena Slough, and Noyes Slough also met state water quality standards for sediment. ADEC has proposed de-listing the sediment impairment on all three water bodies in the 2014/16 Integrated Water Quality Monitoring and Assessment Report, but this has not yet been approved by the U.S. Environmental Protection Agency. Noyes Slough is still impaired for petroleum and debris (litter), and Total Maximum Daily Load (TMDLs) have been set for both of those pollutants at zero discharge.

To improve the program's effectiveness in the next year or two, snow disposal sites are being evaluated. In 2006 the co-permittees evaluated their snow disposal sites for siting, maintenance, and use of BMPs. A new evaluation, as required, will help to further reduce discharge of pollutants to the MS4 and/or nearby water bodies. Additionally, in 2017 the FSWAC revised their Snow Storage brochure (sent out annually to contractors) to include more information on site selection and permanent storm water control measures and BMPs, as well as the regulations surrounding snow storage. The new brochure is included in Appendix A, (A15). In 2018, the co-permittees began work on a comprehensive mapping and inventory of public and private snow disposal sites in the urbanized area. This work is on-going and will continue throughout the term of the new permit.

APPENDIX A

Public Education & Outreach

APPENDIX B

Public Involvement & Participation

APPENDIX C

Illicit Discharge Detection & Elimination

APPENDIX D

Construction Site Storm Water Management

APPENDIX E

Post-construction Storm Water Management

APPENDIX F

Pollution Prevention & Good Housekeeping

APPENDIX G

Monitoring Data