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Stormwater Pollution Prevention Plan



Des Moines Airport Authority

Des Moines International Airport

Updated: January 2024

Project I.D.: 23D001.08

Contract No.: 2023-20-50



Board No.: A24-018
Date: 2/13/24

Des Moines Airport Authority SWPPP Certification

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

A handwritten signature in blue ink, appearing to read "Kevin Foley", written over a horizontal line.

Kevin Foley
Executive Director
Des Moines Airport Authority

**Stormwater Pollution Prevention Plan
The Des Moines International Airport
Des Moines, Iowa**

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Stormwater Pollution Prevention Plan

Project ID: 23D001.08
Contract No: 2023-20-50

Prepared for
The Des Moines International Airport
Des Moines, Iowa

Prepared by
Foth Infrastructure & Environment, LLC

January 2024

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Stormwater Pollution Prevention Plan

The Des Moines International Airport

Des Moines, Iowa

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List of Abbreviations, Acronyms, and Symbols

AFFF	Aqueous Film Forming Foam
AOA	Air Operations Area
AST	Aboveground Storage Tank
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
BMP	Best Management Practices
CBOD	Carbonaceous Biochemical Oxygen Demand
CWA	Clean Water Act
DMAA	Des Moines Airport Authority
DNR	Iowa Department of Natural Resources
DO	Dissolved Oxygen
FAA	Federal Aviation Administration
EPA	United States Environmental Protection Agency
FBO	Fixed Base Operator
FDSM	Fly Des Moines
Foth	Foth Infrastructure & Environment, LLC
IAC	Iowa Administrative Code
IANG	Iowa Air National Guard
NPDES	National Pollutant Discharge Elimination System
SIC	Standard Industrial Classification
SPCC	Spill Prevention Control and Countermeasures
SWPPP	Stormwater Pollution Prevention Plan
TSS	Total Suspended Solids
UST	Underground Storage Tank
WRA	Wastewater Reclamation Authority

1 Introduction

1.1 Regulatory Background

1.1.1 Federal Requirements

In 1972, the Federal Water Pollution Control Act, also known as the Clean Water Act (CWA), was enacted requiring that discharges of pollutants to waters of the United States from any point source be covered by a National Pollutant Discharge Elimination System (NPDES) permit. In 1987, amendments to the CWA required the United States Environmental Protection Agency (EPA) to develop a framework for regulating Stormwater discharges from municipal and industrial activities under the NPDES program. Stormwater is defined as precipitation runoff, surface runoff and drainage, street runoff, and snow melt runoff. The intent of the Stormwater regulation was to improve water quality by reducing or eliminating contaminants in Stormwater.

In 1990, the EPA issued final regulations for Stormwater discharges from municipal and industrial activities. The regulation included discharges from eleven categories of industrial activities. Category eight included transportation facilities with Standard Industrial Classifications (SIC) within Major Group 45 (Transportation by Air) which have activities involved in vehicle maintenance (including vehicle rehabilitation mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, or Airport deicing operations. As a result, Airports with operations involving these activities were required to develop a Stormwater Pollution Prevention Plan (SWPPP) and apply for coverage under a NPDES permit.

1.1.2 State Requirements

Since 1978, the Iowa Department of Natural Resources (DNR) has been delegated authority to administer the federal NPDES wastewater (point source) discharge permit program. Since Iowa retained authority to administer the wastewater program, authority to administer the Stormwater discharge permit program was also requested. In August 1992, the DNR received authorization from EPA to issue general permits for Stormwater discharges. DNR continues issuing NPDES permits for all Stormwater discharges subject to the federal permit requirements.

Pursuant to the authority of Section 402(b) of the CWA, Iowa Code Section 455B.174 and rule 567-64.13 of the Iowa Administrative Code (IAC), the DNR issued Permit No. 77-27-0-08 to The Des Moines Airport Authority (DMAA) and co-permittees on May 1, 2022. The permit expires on April 30, 2027. A copy of the NPDES permit is provided in Appendix A.

Discharges authorized by the NPDES permit consist of Stormwater discharges associated with industrial activity from vehicle maintenance areas, equipment cleaning areas, deicing/anti-icing areas, and any other areas where activities take place which could introduce pollutants into Stormwater and be discharged through Outfalls 001, 002, and 003. No other Stormwater discharges associated with industrial activity are covered by the NPDES permit. Amendment of the permit is required for any additional Stormwater discharges associated with an industrial activity.

Airport tenants or operators with activities associated with commercial air transportation are co-permittees and share responsibility for compliance with permit conditions on portions of the Airport where they conduct operations. In addition, tenants conducting commercial or industrial activities not related to commercial air transportation but associated with Stormwater discharges also share responsibility for compliance with permit conditions on portions of the Airport where they conduct operations. DMAA maintains responsibility for coordinating efforts with co-permittees to achieve permit compliance. In accordance with Part I.A.4 of the NPDES permit, DMAA is responsible for notifying the DNR of any changes in co-permittee status or conditions that may require a co-permittee to obtain coverage under a separate individual NPDES permit. A listing of co-permittees is provided in Table 2-3.

2 Facility Information

2.1 General Information

Facility Owner:	The Des Moines International Airport 5800 Fleur Drive Des Moines, IA 50321-2854
Facility Operator:	The Des Moines International Airport - Des Moines Airport Authority 5800 Fleur Drive Des Moines, IA 50321-2854
Facility Contact(s):	Bryan Belt, Director of Engineering (515) 256-5160
SIC:	4581 (Airports, Flying Fields, and Airport Terminal Services)
Permit Information:	Iowa NPDES Permit No. 77-27-0-08 (expires April 30, 2027) EPA No. IA0075931
Outfalls:	001, 002, 003
Receiving Water(s):	Yeader Creek Frink Creek Middle Creek

The site location and layout maps are provided as Figures 1- 3.

2.2 Land Use Activities

The Des Moines International Airport is a commercial service Airport located within the City of Des Moines at the physical address of 5800 Fleur Drive. The facility consists of approximately 2,625 acres of land situated west of Fleur Drive, south of McKinley Avenue, and north of Army Post Road. Surrounding property uses to the east and north are primarily residential and commercial. The property uses to the west and south consist of farmland, sparse residential and commercial.

The primary SIC for the Airport is 4581 (Airports, Flying Fields, and Airport Terminal Services). Activities performed by the Airport and its tenants primarily include a variety of operations associated with commercial passenger service, air cargo, and general aviation services. Industrial activities with potential to impact Stormwater include aircraft deicing and anti-icing activities; vehicle and aircraft maintenance, washing, and fueling; equipment degreasing, cleaning, and maintenance; fuel and chemical storage; and building and ground maintenance.

2.3 Drainage System

Five watersheds are included on the Airport property and were identified during assessment of the facility property (see Figure 3). Industrial activities are conducted within three of these drainage areas. Stormwater monitoring is conducted at Outfalls 001, 002, and 003 to evaluate compliance with the conditions established in the NPDES permit (Appendix A). The size of each drainage area, amount of impervious surface, and receiving waters is presented in Table 2-1. Characteristics of each drainage area are described in the following paragraphs.

**Table 2-1
Stormwater Drainage Areas**

Outfall	Area (acres)	Impervious Surface %	Receiving Water
001*	320.1	53.6%	Yeader Creek
002*	1,786.1	13.7%	Frink Creek
003*	259.9	20.3%	Middle Creek (Littel Basin)
004	24.0	17.2%	Southern Hills Basin
005	63.0	0.1%	Highland Hills Basin
006A 006B	77.6	0.0%	Echo Valley Basin

* Permit required monitoring location.

2.3.1 Outfall 001 Yeader Creek

The Yeader Creek Basin includes the passenger terminal, short-term and long-term parking, maintenance facilities, Aircraft Rescue and Fire Fighting (ARFF), detention pond and glycol storage areas.

Stormwater drainage from this area is directed through underground conveyance that drains ultimately to Yeader Creek, located just east of Fleur Drive, north of Fleur Drive Car Wash and south of Quality Inn & Suites Des Moines Airport. This outfall is the headwaters of Yeader Creek. Drainage flows through a box culvert underneath Fleur Drive and flows over riprap and a weir drop structure. The banks of this outfall area are armored with riprap and volunteer vegetation. Drainage from this outfall is dispersed through rip rap installed in the substrate and a concrete weir drop structure that dissipates energy during flow to reduce erosion.

2.3.2 Outfall 002 Frink Creek

The Frink Creek Basin includes the western half of the Airport property. Included in this area is the Iowa Air National Guard Base, the South Air Cargo apron used by UPS, FedEx, Signature Flight Support mobile refueling operation, T-Hangars, Des Moines Flying Service, and Modern Aviation. Activities at these facilities are described later in this SWPPP.

Stormwater drainage from the South Cargo apron is directed via storm drains to the northwest side of the Airport property where it drains to Frink Creek during non-winter months. During the deicing/anti-icing season, runoff from the south air cargo apron is diverted either to the stormwater detention facility located north of the air carrier terminal building, or to stormwater detention tanks located along the north edge of the cargo apron. Stormwater from the Iowa Air National Guard (IANG) Base also drains to the southwest under Runway 13/31 and northwest toward Frink Creek. Frink Creek is a tributary to the Raccoon River, which ultimately enters the Des Moines River. This outfall location has vegetative growth on the banks, protecting from stormwater erosion. Drainage flows through naturally formed channels and a corrugated drainage pipe underneath 42nd Street.

2.3.3 Outfall 003 Middle Creek

Land use in the area surrounding Outfall 003 includes DMAA maintenance department, consolidated fuel farm, UPS, Rental Car facility, aircraft maintenance hangar, Signature Flight Support, ground equipment fuel farm, and surface parking lot facilities and are located within the Middle Creek Basin.

Airport Stormwater drainage into the Middle Creek Basin is to the south through a detention pond, beneath Army Post Road and ultimately into Middle Creek. Drainage flows from a culvert located just south of the Airport gate and flows south through a wooded drainage area. A catchment basin located just north of Army Post Road intercepts Stormwater drainage and detains water. The drainage flow is then directed through a box culvert and concrete catchment basin and ultimately through a culvert underneath Army Post Road.

2.3.4 Outfall 004 Southern Hills Basin

Land use surrounding the area in the Southern Hills watershed basin is predominated by the IANG campus.

Airport drainage from this watershed area drains out of a culvert south of McKinley Avenue and is dispersed into a concrete apron that is dispersed into grass and a gravel access road. Continuous drainage does not occur from this outlet and Stormwater is conveyed into the grass area and contained within the Airport grounds.

2.3.5 Outfall 005 Highland Hills Basin

Land was acquired for the Runway 31 protection zone located southeast of Fleur Drive and Army Post Road intersection. This area is the only land owned by the Airport that is included in the Highland Hills basin watershed.

The majority of this area is open space covered by grass and other vegetation. Only 0.1% of the land has impervious surfaces. The land slopes to the southeast and there is a small drainage feature draining to the south. This feature is naturally occurring and the banks are covered with vegetation.

2.3.6 Outfall 006A and 006B Echo Valley Basin

Area within the Echo Valley Basin watershed includes two small areas that were acquired during the extension of Runway 5 projects. These parcels are located on the northeast corner of Army Post Road and SW 42nd St (006A) and land located west of Highway 28 near Army Post Road intersection (006B).

These two areas have no impervious surfaces and land use includes vegetated open space and farming. Outfall 006A is a low-lying area near Army Post Road that conveys Stormwater through a culvert under Army Post Road. Outfall 006B is a low-lying area located north of Highway 5 where a farm field drains through a culvert south underneath Highway 5.

2.4 Stormwater Pollution Prevention Team

The SWPPP team members and their areas of responsibility are presented on the following table.

**Table 2-2
SWPPP Team Members and Responsibilities**

Team Member	Title	Phone Number	Responsibilities
Bryan Belt	Director of Engineering	(515) 897-9724	Signatory authority; authorizes the coordination of all stages of Stormwater plan development and

			implementation, the employee training program, the keeping of all records and ensures that all reports are submitted.
Airport Staff and Tenants	Co-Permittees	(See Table 2-3)	Responsible for maintenance of BMPs; reporting operational or process changes; participates in training, inspections; and spill response efforts; provides recommendations for Stormwater pollution prevention measures.

**Table 2-3
SWPPP Co-Permittees**

Facility	Phone Number	Contact Person
Des Moines Airport Authority	515-256-5160	Bryan Belt
Allegiant Airlines	515-991-6715	Ariana Babara-Santiago
American Airlines	515-256-5165	Susan Steemer
Delta	515-256-5764	Jim Grabill
Frontier	515-256-5227	Dustin Power
Southwest	515-256-5630	Aleigha Jones
United Airlines	515-256-5227	Dustin Power
Des Moines Flying Service	515-256-5305	Josh Boyd
FAA – Des Moines Airport Traffic Control Tower	515-963-5097	Kyle Thurston
FAA – Des Moines Airport Surveillance Radar	515-963-5097	Kyle Thurston
FAA - Runway 31 ALSF	515-963-5097	Kyle Thurston
FAA – Runway 31 Glideslope	515-963-5097	Kyle Thurston
FAA – Runway 31 Localizer	515-963-5097	Kyle Thurston
FAA – Remote Transmitter/Receiver	515-963-5097	Kyle Thurston
Modern Aviation	515-285-6551	Sam Elliott
Federal Express	515-256-5975	Rob Toncar
United Parcel Service	502-329-3913	Brent Snyder
Meredith Corporation Aviation Dept.	515-282-2252	Ryan Campbell
Endeavor Air	515-953-7911	Dewayne Keating
Signature Flight Support	515-256-5330	Sean Kuhl
Principal Financial Group Aviation Dept.	515-256-5433	Daryl Bartek
Avis	515-256-5619	Wesley Miw
Budget/Payless	515-256-5619	Wesley Miw
Enterprise/National/Alamo	515-256-5665	Noah Holms
Hertz	515-473-8152	Jeff Rav
American Rent-A-Car	260-414-6685	James Silane

3 Description of Potential Pollutant Sources

3.1 Potential Pollutant Sources

A variety of routine Airport activities occur on the leaseholds of DMAA. Many of these activities present the potential for Stormwater pollutants to be discharged into the Stormwater system. The activities conducted at DMAA having the greatest potential of contributing to Stormwater pollution are:

- Aircraft, runway, ground vehicle, and equipment maintenance and cleaning
- Aircraft and ground vehicle fueling
- Aircraft and runway deicing/anti-icing operations
- Outdoor storage activities
- Loading and unloading operations
- Onsite waste disposal

A description of the nature of these activities is presented below. Pollutants potentially present in stormwater discharges as a result of tenant activities were identified based on the tenant questionnaires and the site visits. The potential pollutants may consist of petroleum products (such as fuels, oils, and greases), deicing fluids (ethylene glycol, propylene glycol and potassium acetate), solid deicing compounds (sodium acetate and sand mixed with 10% sodium chloride), halogenated and non-halogenated solvents, soap, pesticides and herbicides, metals (cadmium, chromium, and nickel), paint, aqueous film forming foam (AFFF) and acid wastes. These pollutants can be transported to the stormwater system either as direct spills, rainfall runoff, or surface area wash downs mobilizing residual contaminants. Industrial activities conducted at the Airport with significant potential to impact Stormwater are presented in Table 3-1. Pollutant and indicator parameters for each source/activity are also provided.

**Table 3-1
Potential Pollutant Sources**

Activity	Location(s)	Pollutant/Indicator Parameters
Aircraft Deicing/Anti-Icing	Drainage Area 1 – Passenger Terminal Apron Drainage Area 2 – Air Cargo Apron	Propylene Glycol, Ethylene Glycol, CBOD, DO
Aircraft Deicing Fluid Storage	Drainage Area 1 – Passenger Terminal Apron Drainage Area 3 – Facilities Operations	Propylene Glycol, Ethylene Glycol, CBOD, DO
Fuel/Oil Storage	Drainage Area 1 – Passenger Terminal Apron Drainage Area 2 – IANG Drainage Area 3 – Facilities Operations	Oil & Grease, BTEX
Aircraft Fueling	Drainage Area 1 – Passenger Terminal Apron Drainage Area 2 – Air Cargo Apron	Oil & Grease, BTEX
Aircraft Cleaning	Drainage Area 1 – Passenger Terminal Apron, tenant facilities, FBO facilities Drainage Area 2 – Air Cargo Apron	Oil & Grease, TSS
Vehicle/Equipment Fueling	Drainage Area 1 – Passenger Terminal Apron Drainage Area 2 – Air Cargo Apron Drainage Area 3 – Airfield Maintenance, Rental Car Facility	Oil & Grease, BTEX

BTEX = benzene, toluene, ethylbenzene, xylenes
CBOD = carbonaceous biochemical oxygen demand
DO = dissolved oxygen
TSS = total suspended solids

3.1.1 Aircraft, Runway, Ground Vehicle, and Equipment Maintenance and Cleaning

Aircraft, ground vehicles, and/or equipment are maintained by the majority of industrial tenants at DMAA. Some tenants maintain aircraft, vehicles and/or equipment at their facility, either directly or through a contracted service provider. Tenants perform these activities both indoors and outdoors.

Because lubricating oils, hydraulic oils, degreasers, and miscellaneous cleaning products are commonly used during maintenance activities, small leaks or spills may occur. Tenants typically respond to these leaks and spills by using a variety of methods, including the use of absorbent pads, dry absorbent materials, rags or mops.

3.1.2 Floor Drains

Some tenants have floor drains which are located in maintenance and hangar areas. Discharges resulting from some maintenance activities may run to either the ground, storm drain, or sanitary sewer if left uncontained.

Equipment degreasing and equipment and ground vehicle washing activities are also performed by some tenants and DMAA maintenance. The tenants and DMAA maintenance conduct equipment degreasing indoors and equipment and vehicle washing occurs both indoors and outdoors. The drains from the wash bay locations drain to the sanitary sewer system.

3.1.3 Aircraft and Runway Anti-icing/Deicing Operations

Deicing and anti-icing chemicals are generally used on aircraft and ground surfaces to eliminate or prevent ice build-up during winter weather conditions.

Runoff from the air carrier and southwest quarter of the south air cargo aprons is directed toward a 3.8 million gallon underground stormwater detention facility located immediately north of the air carrier apron. Runoff from the remaining south cargo apron is directed toward a combined one million gallon underground detention facility located north of the south cargo apron. Runoff from the glycol storage area is directed to two 10,000-gallon underground tanks. These systems are designed to capture glycol-contaminated runoff during the deicing/anti-icing season in this underground facility, where it is periodically discharged to the Des Moines Metropolitan Wastewater Reclamation Authority (WRA) in accordance with Wastewater Discharge Permit No. A10016 (See Appendix A) for treatment. During non-winter months, runoff from these aprons enters the stormwater systems of their respective drainage basin.

Per NPDES Permit No. 77-27-0-08, periodic sampling of water from specified points along the outfalls of the appropriate basin is conducted with reporting of the test results forwarded to the DNR on a monthly basis. NPDES outfalls are shown on Figure 3.

Figure 4 summarizes locations of aircraft deicing operations at DMAA. Aircraft deicing/anti-icing is performed at or near the passenger gates on concourses A and C of the air carrier apron and at the northwest portion of the South Cargo area apron. Aircraft deicing/anti-icing is not allowed on the IANG apron and the Modern Aviation apron. Also, aircraft utilizing the Signature Flight Support and East Cargo aprons perform these operations on the areas east of gate C6 and south of gate A5, respectively, as directed. Aircraft deicing/anti-icing is not allowed at any other areas of the Airport.

The deicing materials used by tenants at DMAA consist of ethylene glycol and/or propylene glycol. The deicing chemicals are typically stored in bulk quantities and generally applied by spraying the aircraft with a mixture of hot water and a glycol-based fluid. Once applied, a portion of the deicer may drip from the aircraft and fall to the ground.

DMAA maintains records of the type (including Safety Data Sheets), monthly estimated quantities, and total annual quantities of deicing/anti-icing chemicals used.

DMAA is responsible for deicing/anti-icing runways and other land and airside ground surfaces except at the IANG base. DMAA applies potassium acetate and sodium acetate as its deicing agent to airside ground surfaces. Potassium acetate and sodium acetate have the lowest environmental impact of the available options. In addition to potassium acetate and sodium acetate, sand is occasionally applied to airside ground surfaces to increase traction. Mechanical pavement brushers are used to remove snow and ice from the terminal and runway areas. During the winter months, snow is stockpiled in designated areas so that meltwaters are directed to the storage tanks that are directed to the sanitary sewer system.

On landside ground surfaces, sand mixed with 10% salt (sodium chloride) is applied to promote melting of frozen precipitation.

3.1.4 Outdoor Storage Areas

A large variety of chemicals and petroleum products (i.e. gasoline, diesel and jet fuels) are stored by tenants at DMAA. Many tenants have indoor and outdoor storage areas. Chemicals, oils, and waste oils are typically stored in 55-gallon drums or smaller containers; fuels and deicing fluid are typically stored in underground storage tanks (USTs) or aboveground storage tanks (ASTs). Other materials such as cleansers, paints and paint-related products are stored in small containers indoors.

3.1.5 Fuel Farms

Fuel farms or individual USTs and ASTs are located at numerous facilities on Airport property. Figure 2 identifies the location and contents of USTs and ASTs at DMAA. Fueling can be performed from transfer trucks or directly from a pump system. All delivery trucks and pump locations are equipped with spill kits.

Aircraft fueling activities are conducted on paved surfaces such as the concrete aprons around the air carrier terminal gates and at the South and East Cargo areas. The two FBOs, Signature Flight Support and Modern Aviation, provide fueling services to most tenants. Modern Aviation provides fueling services to corporate and transient aircraft. Meredith Corporation and Principal Mutual Insurance fuel their own aircraft from fuel facilities located on their leaseholds. The IANG is also responsible for its own fueling services. Vehicle and ground support equipment fueling is typically conducted at the East Cargo apron, South Cargo apron, Rental Car facility, DMAA Field Maintenance area, and ground equipment fuel farm using Airport-owned facilities.

DMAA is responsible for five fuel farms and associated pumps noted above (see Figure 2) for vehicle fueling with diesel and ethanol blended gasoline. All five facilities drain to the storm drain system.

3.1.6 Chemical Storage Areas

Chemicals including waste oils and miscellaneous cleaning products were identified in many areas of the Airport, particularly at ground support equipment storage areas and field maintenance areas. Most of these materials are stored within buildings and are not exposed to stormwater.

Glycol storage areas located near the passenger terminal drain to the underground storage basin system that is directed to the sanitary sewer system. The glycol storage area located near FedEx apron also drains to an underground storage basin system that is directed to sanitary sewer. Waste oil tanks have secondary containment measures.

3.1.7 Loading and Unloading Operations

Materials that tenants use within their operations and involve loading and unloading include ethylene and propylene glycol, waste oils and/or fuel, chemicals, aircraft fuel, automotive and aircraft fluids, lavatory chemicals and sanitary waste, and municipal solid waste.

DMAA's operations include the loading and unloading of vehicle fuel, pavement deicing/anti-icing materials, waste fuel and/or oil, chemicals, automotive fluids and municipal solid waste.

3.1.8 On-Site Waste Disposal

Sanitary wastes from aircraft are pumped by air carriers and FBO's from the aircraft into a lavatory tanker vehicle. The wastes are pumped into a DMAA-provided common use indoor sanitary disposal area located at the intersection of the 'A' and 'C' concourses, apron level.

Domestic solid wastes are stored in covered dumpsters at various outdoor locations on the Airport. These dumpsters are provided by DMAA, and the City of Des Moines waste disposal vehicles empty these dumpsters on a scheduled basis. In addition, DMAA is responsible for the solid waste dumpsters positioned around the terminal building and concourses.

Waste oil and/or fuel, automotive fluids, solvents, chemicals and other special waste materials are routinely removed on a regular schedule by approved waste handling vendors.

3.2 Inventory of Exposed Materials

Materials that have been treated, stored, used, or disposed in a manner to allow exposure to Stormwater during the past three years and industrial activities that may contribute contaminants to storm runoff are discussed below. Information regarding the method of management and Stormwater control measures is provided in Table 3-2. Further information describing the storage location, method(s) of management to reduce exposure to Stormwater, and control measures is provided in the following paragraphs.

3.2.1 Drainage Area 1 – Yeader Creek

Significant materials within this area consist of fuel, deicing fluid, and firefighting foam. These materials are stored in USTs below aprons at the air carrier terminal gates and East Cargo, at the glycol storage

areas, and at ARFF. The majority of de-icing and fueling operations occur within the Yeader Creek Drainage Area.

Maintenance activities during the winter months include snow/ice removal and application of sand and salt to the roadways and parking lots in the passenger terminal area. Snow storage areas are designated within this area to contain snow removal. These designated areas drain to glycol containment storage basins which are discharged to the Des Moines Metropolitan WRA. Discharge is conducted in accordance with Wastewater Discharge Permit No. A10016, included in the Annual Site Compliance Evaluation Report. The ASTs within this drainage area are for glycol storage and are located within the drainage containment system, which does not drain to the storm sewer system.

3.2.2 Drainage Area 2 – Frink Creek

Significant materials within this area consist of fuel and deicing fluid. These materials are stored at different locations including IANG, Fed-Ex, and Signature’s mobile refuelers.

Aircraft fueling and deicing operations are performed on the cargo apron. Stormwater runoff from these areas are collected in tanks and transferred via sanitary sewer to the Des Moines Metropolitan WRA.

3.2.3 Drainage Area 3 – Middle Creek

Significant materials stored or used within this area consist of fuel and deicer material. These materials are stored at the ground equipment fuel farm, Signature fuel farm, Endeavor maintenance facility, South Cargo, and the rental car facility.

Ground support vehicles are fueled at three dispenser pumps located on the south side near the facilities maintenance operations. The dispenser area concrete pad slopes toward trench drains that route Stormwater to an oil/water separator system. Discharge of the treated Stormwater from the oil/water separator is to the adjacent drainage ditch. Facilities maintenance operations stores used oil in an AST. Other materials are stored indoors with concrete floors and drains with oil/water separator systems.

The Rental Car Facility is located on the east side of Leland Avenue. Vehicle washing activities are conducted inside the enclosed wash bay and vehicle servicing is conducted inside the maintenance bays.

**Table 0-2
Inventory of Exposed Materials**

Drainage Area	Description	Period of Exposure	Quantity (gallons)	Method of Storage	Structural or Non-Structural Control Measures
1	Road Salt and Sand	On-going	Varies	Application Vehicles	Stored in enclosed shed/Restricted use
	Lawn Care Products	On-going	Varies	Application Vehicles	Restricted use
	Glycol Deicer Type 1	On-going	6,000	6,000 AST	Double-walled within containment zone
	Glycol Deicer Type 1	On-going	9,200	9,200 AST	Double-walled within containment zone
	Glycol Deicer Type 1	On-going	4,600	4,600 AST	Double-walled within containment zone
	Glycol Deicer Type 1	On-going	10,000	10,000 AST	Double-walled within containment zone
	Glycol Deicer Type 4	On-going	1,600	1,600 AST	Double-walled within containment zone
	Glycol Deicer Type 4	On-going	6,000	6,000 AST	Double-walled within containment zone
	Glycol Deicer Type 4	On-going	1,440	6 x 240 Gal. Totes	Double-walled within containment zone
	Glycol Deicer	On-going	Varies	ASTs, Totes, and Application Vehicles	Restricted Use/Storage Containment/Collection System and Basin
2	Road Salt and Sand	On-going	Varies	Application Vehicles	Stored in enclosed shed/Restricted use
	Lawn Care Products	On-going	Varies	Application Vehicles	Restricted use
	AFFF (ARFF)	On-going	1,000	1,000 mobile AST	Double-walled with oil/water separator system
	Diesel Fuel (IANG)	On-going	300	300 AST	Double-walled with oil/water separator system
	JP8 (IANG)	On-going	212,300	300; 2 x 105,000; 2,000 AST	Double-walled with oil/water separator system
	JP8 (IANG)	On-going	3,100	Variable mobile ASTs	Double-walled with oil/water separator system
	LOX (IANG)	On-going	6,000	2 x 3,000 AST	Double-walled with oil/water separator system
	LIN (IANG)	On-going	4,000	2 x 2,000 AST	Double-walled with oil/water separator system
	E36 (IANG)	On-going	4,800	4 x 1,200 AST	Double-walled with oil/water separator system
	DF2 (IANG)	On-going	500	300; 200 AST	Double-walled with oil/water separator system
	AC Deicer (IANG)	On-going	2,400	2 x 1,200 AST	Double-walled with oil/water separator system
	Used Oil (IANG)	On-going	2,240	Variable ASTs	Double-walled with oil/water separator system
	Potassium Acetate Deicer	On-going	10,000	1 – 10,000 AST (Indoor)	Enclosed Shed/Restricted Use
	Road Salt and Sand	On-going	Varies	Inside Storage Shed	Enclosed Shed/Housekeeping
	Sodium Acetate	On-going	Varies	Inside Storage	Indoor Storage/Restricted use
	Glycol Deicer (Fed-Ex)	On-going	3,750	15 x 250 Gal. Totes	Double-walled within containment zone
Glycol Deicer (Fed-Ex)	On-going	8,500	8,500 AST	Double-walled within containment zone	

**Table 0-2
Inventory of Exposed Materials**

Drainage Area	Description	Period of Exposure	Quantity (gallons)	Method of Storage	Structural or Non-Structural Control Measures
2 (Cont.)	Glycol Deicer (Fed-Ex)	On-Going	5,500	5,500 AST	Double-walled within containment zone
	Glycol Deicer	On-going	12,000	2 x 6,000 gal ASTs	Enclosed Shed/ Restricted Use
3	Road Salt and Sand	On-going	Varies	Application Vehicles	Stored in enclosed shed/Restricted use
	Lawn Care Products	On-going	Varies	Application Vehicles	Restricted use
	AFFF (Aircraft Maintenance)	On-going	2,000	2 x 1,000 ASTs	Restricted use
	Jet Fuel (Jet A) (Signature)	On-going	440,000	2 x 220,000 ASTs	Double-walled with containment system
	Av Gas (Signature)	On-going	12,000	12,000 AST	Restricted use
	Waste Fuel (Signature)	On-going	500	500 AST	Restricted use
	AFFF (Signature)	On-going	300	300 AST	Restricted use
	Ground Equipment Fuel Farm	On-going	36,000	3 x 12,000 ASTs	Double-walled with containment system

3.3 Spills and Leaks

Incidents Resulting in a “Hazardous Condition”:

A “hazardous condition” as defined in 567 IAC Chapter 131, is “any situation involving the actual, imminent or probable spillage, leakage, or release of a hazardous substance onto the land, into a water of the state or into the atmosphere which, because of the quantity, strength and toxicity of the hazardous substance, its mobility in the environment and its persistence, creates an immediate or potential danger to the public health or safety or to the environment.”

Any spills resulting in a “hazardous condition” will be recorded along with details of the cleanup actions. The incidents will be reported and recorded in accordance with the procedures outlined in Section 3 and 5 of the facility Spill Prevention Control and Countermeasures (SPCC) Plan. The reporting form is included in Appendix F of the SPCC Plan. Records of any incidents will be maintained for the term of the permit.

In the event of a “hazardous condition”, the NPDES permit requires this SWPPP be modified to provide a description of the release, the circumstances leading to the release, date of the release, and response actions. Any resulting changes to pollution prevention measures and/or controls must also be described.

In accordance with the requirements established within the Airport’s NPDES Permit, the Annual Inspection Report contains a historical profile of spills at areas of the Airport that are exposed to precipitation or otherwise drain to a Stormwater conveyance. This record maintains occurrences at least three years prior to the issuance of the NPDES Permit to the present.

Incidents Exceeding Effluent Limitations:

Records of incidents resulting in discharges in excess of the NPDES permit effluent limitations are recorded and maintained in the Annual Site Compliance Evaluation Report. The records include the date, a description of the incident, response actions, and measures taken to prevent reoccurrence of pollutant discharges to Waters of the State.

3.4 Sampling Data

Stormwater discharge sampling data is provided in the Annual Site Compliance Evaluation Report. The data will be reviewed to evaluate compliance with the effluent limitations established in Part IV of the NPDES permit and to identify any control measures that are not functioning properly.

4 Measures and Controls

4.1 Source Reduction

Source control of Stormwater pollution is always the first approach to consider, since it provides control for the contamination without treatment. Personnel deicing aircraft are trained and knowledgeable of techniques to prevent excessive application. Adjusting application rates and formulation ratios will be evaluated by qualified personnel, consistent with applicable flight safety and Federal Aviation Administration (FAA) requirements. Source reduction at the Airport is also achieved through periodic review of less toxic alternatives.

Mechanical means of snow and ice removal within the airfield is the primary practice. The use of urea-based pavement deicers is prohibited. In addition, use of chemical pavement deicers is restricted, and only used when necessary. The Airport Authority has an in-pavement ice detection system for runways 5-23 and 13-31. This system is a valuable tool in decision-making regarding chemical application to the runways, thereby reducing as much as possible its use and eventual entry into the Stormwater system. For landside operations, calcium chloride products will be utilized on all landside areas including the multistory auto parking ramps.

4.2 Best Management Practices

A Stormwater Best Management Practice (BMP) is defined as any program, technology, process, siting criteria, operating method, measure, or device that controls, removes, or reduces pollution. The NPDES Permit requires the development and implementation of BMPs to address pollutants originating from industrial sources. Appropriate BMPs are selected for industrial facilities based on facility-provided information and site inspections. Areas of actual or potential pollutant contact are evaluated and applicable BMPs implemented to eliminate or minimize the pollutants. BMPs are classified into the categories *quality* control and *quantity* control, based on the intended Stormwater control objective.

Quality control BMPs are designed to limit the types and concentrations of pollutants found in Stormwater runoff. Quality control BMPs can be subdivided into *source control* BMPs and *treatment control* BMPs. Source control BMPs are operational practices intended to prevent pollutants from entering surface waters by altering activities to eliminate or minimize pollution produced as a result of the activity. Source control BMPs are categorized as general or activity-based BMPs.

Examples of general source control BMPs include:

- Moving an outdoor operation indoors
- Placing storage containers for recyclable oil in sheds or under cover
- Storing hazardous materials/wastes in covered, contained areas

Activity-based source control BMPs focus on specific activities such as:

- Aircraft, ground vehicle, and equipment maintenance
- Aircraft and ground vehicle fueling
- Lavatory service operations

Treatment control BMPs are optional practices intended to remove pollutants in Stormwater through treatment. Examples of treatment control BMPs include:

- Retention ponds

- Oil/water separators
- Grass swales

A properly designed and implemented spill response program can also be an effective method for protecting Stormwater quality. Spill response programs rely upon employee awareness and training to be effective.

Quantity control BMPs are designed to control the runoff volume or peak discharge rate of Stormwater. The use of Stormwater detention basins is one example of a quantity control BMP. However, a properly designed and maintained detention basin can also decrease the amount of pollutants entering surface waters, thereby improving receiving water quality.

The following discussion describes existing source control and treatment control BMPs implemented at DMAA. A listing of potential BMP's is provided in Appendix D. An implementation program detailing scheduling, pollution prevention team (PPT) personnel, training requirements, and facility inspection protocol is provided for proper installation and maintenance of proposed and existing BMPs for DMAA tenants.

4.2.1 Good Housekeeping Practices

Good housekeeping practices are maintained by DMAA and tenant facilities to keep the facility clean and orderly. The objective of the practice is to reduce potential pollutants in Stormwater by preventing exposure of industrial activities and significant materials. Common practices employed during operations at the Airport facilities include:

- ◆ Maintaining clean and organized work/material storage areas
- ◆ Maintain updated materials inventory to prevent overstocking/overflow into outdoor storage areas
- ◆ Keeping floors of maintenance and repair areas clean and dry to prevent tracking of materials outdoors
- ◆ Conduct regular sweeping and manual litter pickup
- ◆ Use drip pans when performing maintenance activities
- ◆ Thoroughly drain oil filters prior to recycling
- ◆ Use biodegradable or alternative products if available
- ◆ Reduce any unnecessary storage of equipment or parts
- ◆ Follow oil/fuel transfer procedures to prevent accidental spills or leaks
- ◆ Immediately clean up any incidental spills of oil, fuel, or deicer using dry absorbent materials
- ◆ Drain all parts of fluids prior to recycling or disposal
- ◆ Keep lids on outdoor refuse containers closed
- ◆ Maintain regular pickup schedule for refuse
- ◆ Restrict equipment washing activities to designated areas
- ◆ Conduct routine inspections to identify housekeeping issues requiring attention

4.2.2 Aircraft, Ground Vehicle and Equipment Maintenance Areas

Aircraft, ground vehicle, and equipment maintenance activities are performed at the Airfield Maintenance Facility, Rental Car Facility, Des Moines Flying Service, and Fed-Ex. All maintenance and material storage areas are inside the facility buildings, preventing exposure to Stormwater. Good housekeeping practices are employed at each location to reduce potential outdoor tracking or exposure of significant materials to Stormwater.

4.2.3 Aircraft, Ground Vehicle, and Equipment Cleaning Areas

Aircraft, ground vehicle, and equipment cleaning operations are conducted at the Rental Car Facility, Airfield Maintenance Facility, Cargo Apron, and tenant and FBO facilities.

Car washing at the Rental Car Facility is conducted in the enclosed car wash bay. Vehicle and equipment washing at the Airfield Maintenance Facility is performed in an enclosed wash bay, located inside the building. Water from the wash bays is routed to the sanitary sewer system.

Vehicle and aircraft cleaning that occurs at tenant and FBO facilities occurs in wash bays with floor drains that drain to the sanitary sewer system.

4.2.4 Aircraft, Ground Vehicle, and Equipment Storage Areas

Maintenance activities are performed at the Airfield Maintenance Facility, Rental Car Facility, Des Moines Flying Service, and FedEx. Aircraft, ground vehicles, and equipment awaiting maintenance are stored inside the facility buildings to prevent exposure to Stormwater. Small commercial and private aircraft are stored inside hangars.

4.2.5 Material Storage Areas

New and used oil products associated with maintenance of aircraft and ground equipment are stored at the Rental Car Facility, Airfield Maintenance Facility, and Cargo area. The materials are stored indoors and are not exposed to precipitation. In addition to indoor storage, structural control measures are employed at the oil storage areas, including: spill pallets, drip pans, double-walled tanks, concrete floors and walls, overfill prevention devices, interstitial monitors, level gauges and/or high level alarms. The containers and storage areas are inspected during daily operations and on a regular schedule in accordance with the facility SPCC Plan.

Bulk fuel is stored outdoors in USTs and ASTs. ASTs are listed below. All of the aboveground storage tanks are double-walled, equipped with interstitial monitors, and spill/overfill prevention devices. The systems are operated, maintained, and inspected in accordance with the requirements outlined in the facility SPCC Plan.

- ◆ Aircraft Rescue and Fire Fighting
- ◆ Ground Equipment Fuel Farm
- ◆ Endeavor Maintenance Facility
- ◆ Signature Flight Support mobile refuelers
- ◆ IANG

Deicer material is stored in aboveground containers at the Airfield Operations, Glycol Storage Facility, Air Cargo facility, and FedEx. The deicer containers at FedEx are positioned on the apron in an area that drains to the underground storage containment system. The deicer storage areas are inspected during daily operations and on a monthly schedule.

Road salt and sand is stored in an enclosed building located adjacent to the Airfield Maintenance Facility. Any spills occurring during loading/unloading operations are promptly cleaned up by sweeping.

4.2.6 Airport Fuel System and Fueling Areas

Bulk fuel for aircraft is stored in both USTs and ASTs. ASTs are double-walled, equipped with interstitial monitors, and spill/overfill prevention devices. The loading/unloading areas are constructed with curbed concrete containment systems. The systems are operated, maintained, and inspected in accordance with the requirements outlined in the facility SPCC Plan.

Aircraft fueling operations are performed on the Passenger Terminal Apron, South Cargo Apron, Signature Flight Support FBO Apron, and Modern Aviation FBO Apron. Minor fuel spills are contained and cleaned up using spill kits on the service trucks. In the event of larger spills, cleanup materials maintained in the facility spill response trailer will be employed to contain and clean up the spill.

Fueling of support vehicles is conducted at three dispenser pumps located near the Airfield Maintenance Facility and inside of Gate 5. The concrete surrounding the dispensers is sloped to a trench drain that routes fluids to an oil/water separator system.

4.3 Preventative Maintenance

The preventive maintenance program includes monthly inspection of facility equipment and Stormwater management controls to identify any conditions that could result in system breakdown or failures. The inspections include review of equipment (e.g. mobile and stationary storage tanks and dispensing systems) and Stormwater management systems, such as intakes, valve gates, oil/water separators, diversion berms and channels, and collection/detention basins. During the winter months frequent inspection of the underground stormwater containment tanks occur weekly and monthly. Deficiencies or potential problems are recorded on the monthly inspection form and maintenance personnel are notified of any required maintenance or repairs. Follow up on the implementation of corrective actions is performed during the subsequent inspection. Inspection forms are provided in the Annual Site Compliance Evaluation Report.

In addition, Stormwater monitoring results are evaluated to identify any problem areas that could contribute pollutants to Stormwater discharges. Implementation of additional controls will be pursued to address any elevated constituent levels observed in the Stormwater sampling data.

4.4 Spill Prevention and Response Procedures

This SWPPP identifies significant materials and their storage and use locations. Flow pathways and directions within each drainage area are described to assist with response and recovery of any leaked or spilled materials. Indications of a spill or release include obvious visible signs such as leaking from a container or vehicle, a visible sheen on water, colors in water, or detection of an odor.

Facility personnel are trained to respond to spills in a prompt, safe, and effective manner. While maintaining personal safety, the immediate objective is to stop the source of the release to prevent further migration into storm sewers or channels flowing off the property. Minor spills are contained and cleaned up using dry absorbent materials from the spill kits maintained on the service trucks or at various locations on the property. In the event of larger spills, Airport equipment and cleanup materials in the facility spill response trailer will be employed to contain and clean up the spill.

This SWPPP also references the provisions outlined in the facility SPCC Plan. The SPCC Plan establishes standard operating procedures for system maintenance and spill prevention at fuel storage and dispensing areas. In addition, the plan outlines spill response actions and establishes inspection and employee training schedules.

Spills requiring notification of the State Agency (DNR) include discharges meeting the definition of a "hazardous condition." A hazardous condition is defined in 567 IAC Chapter 131 as "any situation involving the actual, imminent or probable spillage, potassium acetate, or release of a hazardous substance onto the land, into a water of the state or into the atmosphere which, because of the quantity, strength and toxicity of the hazardous substance, its mobility in the environment and its persistence, creates an immediate or potential danger to the public health or safety or to the environment." Detailed hazardous condition notification and reporting procedures are outlined in the facility SPCC Plan.

In the event of a “hazardous condition”, the NPDES permit requires this SWPPP be modified to provide a description of the release, the circumstances leading to the release, date of the release, and response actions. Any resulting changes to pollution prevention measures and/or controls must also be described.

Spills, releases, or other incidents resulting in discharges of pollutants in excess of the NPDES permit effluent limitations are recorded and maintained within the Annual Site Compliance Evaluation Report. The records include the date and a description of the incident, response actions, and measures taken to prevent reoccurrence of pollutant discharges to waters of the State.

4.5 Management of Runoff

Structural and non-structural control measures implemented to contain and reduce potential pollutant discharges from Airport deicing and fueling activities include:

- ◆ Runoff from deicing containment areas is collected by storm sewer intakes and routed underground to two 10,000 gallon storage tanks. The fluids are then discharged from the basins into sanitary sewer system at a determined rate for treatment at the Des Moines Metropolitan WRA. Discharge is conducted in accordance with Wastewater Discharge Permit No. A10016 (see Appendix A).
- ◆ Snow plowing and stockpile placement within containment areas is conducted to reduce the amount of glycol contaminated snow at deicing areas.
- ◆ Structural and non-structural controls in-place at the bulk fuel transfer and storage locations are outlined in the SPCC Plan. Controls include double-walled tanks, containment structures, oil/water separators, and maintenance and inspection procedures.

In addition, existing traditional Stormwater management measures at the facility are continually maintained to reduce potential pollutants in Stormwater discharges. These measures include:

- ◆ Stormwater infiltration and detention basins
- ◆ Vegetated swales and diversion berms
- ◆ Maintenance of vegetated cover
- ◆ Inlet filtration and riprap protection
- ◆ Outlet sluice gate valves
- ◆ Outlet let down and riprap protection
- ◆ Check dams and velocity dissipation structures
- ◆ Silt fencing and straw bale filters
- ◆ Oil/water separator systems

Considering the physical and chemical nature of potential pollutants associated with industrial activities at the Airport, the existing Stormwater management features, practices, and planned improvements are deemed reasonable and appropriate in preventing pollutant discharges in Stormwater.

4.6 Inspections

Monthly inspections of operational and inactive areas are conducted to ensure Stormwater management measures are effective in reducing pollutant loadings in Stormwater runoff and to identify any potential problems with procedures or controls. Tenants (co-permittees) are allowed to use inspection forms specific to their operations, provided the forms are approved by DMAA. Inspection forms are provided in the Annual Site Compliance Evaluation Report.

The inspections include the following activities.

- ◆ Review Stormwater drainage areas and outfalls for any evidence of pollutants entering the system

- ◆ Inspect active operational areas that are used for the storage of materials or wastes that are exposed to precipitation
- ◆ Evaluate the integrity and operation of the Stormwater collection system including valve systems, diversion ditches and detention basins
- ◆ Inspect locations where equipment and vehicles enter and exit the site
- ◆ Observe/inspect fixed fuel-dispensing areas and dispensing equipment
- ◆ Evaluate the effectiveness of non-structural measures to reduce pollutant loadings and whether additional measures are needed
- ◆ Observe structural measures, sediment controls, and other BMPs to ensure proper operation
- ◆ Inspect and inventory the equipment required for implementation of pollution prevention and spill response measures
- ◆ Monitor all on-going construction to confirm the adequacy of the erosion control measures being implemented
- ◆ Monitor the operations of Airport tenants, including fueling and deicing operations to ensure their cooperation with implementation of this SWPPP
- ◆ Prepare a report summarizing the inspections results.
- ◆ Notify maintenance personnel of any procedural changes or required corrective actions
- ◆ Follow up to ensure implementation of any corrective actions
- ◆ Records of inspections shall be maintained for a period of at least 5 years. The use of a checklist developed by the pollution prevention team is advised.

4.7 Pollution Prevention Training

Employee training on Stormwater management practices will be conducted annually. The training session will cover the contents of this SWPPP, pollution prevention, maintenance activities, spill containment and cleanup procedures, control measures implemented to achieve compliance with effluent limitations, Stormwater monitoring, inspections, and reporting requirements.

This SWPPP and issues related to its implementation will be communicated to the responsible management personnel for all Airport tenants and facility operators within the Airport. Tenants (co-permittees) choosing not to participate in the Airports' training session shall perform annual training of their staff. The training program implementation, including tenant participation, will be documented.

4.8 Recordkeeping and Internal Reporting Procedures

The following records will be maintained for the duration of the permit or for a period of at least five years from the date of measurement, report, or inspection and incorporated into this SWPPP. See the Annual Site Compliance Evaluation Report for records.

- ◆ Records of inspections, maintenance, corrective actions and related reports
- ◆ Records documenting spills, leaks, and discharges exceeding effluent limitations (See Annual Site Compliance Evaluation Report)
- ◆ Records of monitoring information, including sampling forms and laboratory reports

4.9 Non-Stormwater Discharges

The following non-Stormwater discharges are authorized by the facility NPDES permit provided the non-Stormwater component of the discharge is in compliance with the conditions set forth in Part III.A.3.i of the NPDES permit and this SWPPP.

- ◆ Discharges from firefighting activities
- ◆ Fire hydrant flushing

- ◆ Potable water sources including waterline flushing, drinking fountain water, uncontaminated compressor condensate
- ◆ Irrigation drainage
- ◆ Lawn watering
- ◆ Routine external building wash-down that does not use detergents or other compounds
- ◆ Pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents or other compound are not used
- ◆ Air-conditioning condensate
- ◆ Uncontaminated springs
- ◆ Uncontaminated groundwater
- ◆ Uncontaminated flows from foundation or footing drains

A Certification Statement for these non-stormwater discharges, satisfying the requirements of Part III.A.3.i of the NPDES permit is included in Appendix B.

4.10 Sediment and Erosion Control

The Airport continually maintains vegetation on the property to reduce potential for erosion and enhance Stormwater filtration and infiltration. Monthly inspections include review of Stormwater conveyances and outfall locations to identify any erosion problems.

Construction projects pose the greatest potential for erosion and mobilization of sediment. Construction activities such as clearing, grading, excavating, grubbing or filling have potential to transport sediments away from the site. These activities are primarily performed by temporary contractors hired by the Airport Authority. For land disturbances greater than one acre, the construction contractor is required by state regulations to submit a NPDES General Permit Number 2, "Stormwater Discharges Associated with Industrial Activities for Construction Activities", to limit sedimentation and erosion. In addition, a Notice of Incident (NOI) must be submitted to IDNR 24 hours prior to the start of construction. DMAA will require construction contractors to submit a Sediment and Erosion Control Plan to the design engineer and implement appropriate sediment and erosion control measures for all construction activities that involve land disturbances.

The purpose of these control measures is to:

- ◆ Minimize the amount of time that soil is exposed
- ◆ Prevent runoff from flowing across disturbed areas and provide drainage for the increased runoff
- ◆ Stabilize the exposed soil as soon as possible
- ◆ Slow runoff flowing across the disturbed area(s)
- ◆ Remove the sediment from Stormwater before it leaves the facility

Measures utilized at the Airport to control sediment and erosion from Stormwater include:

- ◆ Earthen berms
- ◆ Interceptor trenches
- ◆ Diversion ditches
- ◆ Conduits and let-down pipes
- ◆ Riprap inlet/outlet protection
- ◆ Stormwater detention basins
- ◆ Straw bale filters and silt fences
- ◆ Mulching and seeding
- ◆ Maintenance of vegetative buffers on and surrounding the operational areas.

All of these measures are ongoing and will continue to be implemented as a part of standard operations at the Airport. The DMAA will monitor all such construction activities for compliance with the permit.

5 Comprehensive Site Compliance Evaluation

A comprehensive site compliance evaluation will be performed by qualified personnel on an annual basis. The compliance evaluation may be conducted in place of one of the routine monthly inspections required by the NPDES Permit. The evaluation will include the following activities.

- ◆ A review and evaluation of visual monitoring and sample analytical results collected during the annual period.
- ◆ Industrial activity areas (e.g. deicing areas and controls, fueling areas, material storage areas) that contribute to Stormwater discharges will be visually inspected. The areas will be inspected for evidence of, or potential for, pollutants entering the drainage system.
- ◆ Measures to reduce pollutants in Stormwater will be evaluated to determine if they are adequate and properly implemented in accordance with the terms of the NPDES permit. If any measures are determined inadequate, additional controls or alternative measures will be evaluated and implemented as appropriate to reduce pollutants in Stormwater discharges.
- ◆ Structural controls, sediment and erosion control measures, collection systems and basins, and other structural pollution prevention measures identified in this SWPPP will be inspected to ensure that they are in good condition and operating correctly.
- ◆ Equipment required for implementing the provisions of this SWPPP will be visually inspected to ensure proper operation and necessary supplies (e.g. inventory of supplies in spill response trailer, on service trucks, and other spill kits on the property).
- ◆ If the evaluation identifies changes to the Stormwater management program, this SWPPP will be revised within 2 weeks of the evaluation. Any required changes in procedures or control measures will be implemented within 12 weeks after the evaluation.
- ◆ A report summarizing the scope of the evaluation will be prepared and retained with this SWPPP for 5 years from the date of the evaluation. The report will be signed in accordance with Part VII.E. of the NPDES permit (Signatory Requirements) and will include the following information.
 - Personnel making the evaluation.
 - Date(s) of the evaluation.
 - Major observations relating to the implementation of the SWPPP, including a summary of sample analytical results collected during the monitoring period.
 - A description of any changes in procedures or controls resulting from the evaluation.
 - A description of any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the SWPPP and NPDES permit.

5.1 Additional Pollution Prevention Plan Requirements

The facility (DMAA) must comply with applicable requirements in the municipal Stormwater management program developed under the NPDES permit issued to the City of Des Moines to operate its wastewater treatment facility.

5.2 Signature and Plan Review

The SWPPP shall be signed in accordance with specifications outlined under Part VII of the NPDES permit. The SWPPP shall be retained on-site at the facility (Airport). The facility shall make the SWPPP, annual site compliance inspection reports, comprehensive site compliance evaluation reports, or other information available upon request to the IDNR.

The IDNR may notify the co-permittees at any time that the SWPPP does not meet one or more of the minimum requirements of the NPDES permit. Such notification shall identify those provisions of the permit that are not being met by the Plan and identify which provisions of the Plan require modification in order to meet the minimum requirements of the Permit. Co-permittees shall make the required changes and shall submit to the IDNR, within guidelines set forth in the Permit, a written certification that the requested changes have been made.

6 Stormwater Discharge Monitoring and Reporting

Stormwater monitoring activities are conducted in accordance with Parts IV and V of the NPDES permit (Appendix A). Effluent limitations for specific water quality parameters at each outfall location are established in Part IV. Sampling frequencies, analytical parameters, and additional monitoring and reporting requirements are outlined in Part V of the NPDES permit.

The monitoring and reporting requirements include:

- ◆ Sampling and analysis of discharges from Outfalls 001, 002, and 003
- ◆ Visual inspection of samples collected during sampling activities
- ◆ Maintenance of records and analytical results from sampling events
- ◆ Monitoring the underground deicing tanks levels, pumping volume, and precipitation
- ◆ Submittal of analytical data and visual observations to the DNR within 15 days of the end of each quarter
- ◆ The quarterly analytical data is to be submitted in the DNR electronic format

Table 6-1
Permit Required Monitoring Locations

Outfall	Location(s)	Latitude / Longitude
001	Yeader Creek, culvert east of Fleur Drive	41.536766° N / -93.644849° W
002	Frink Creek, east of SW 42 nd Street	41.535955° N / -93.674015° W
003	Middle Creek, culvert north of Army Post Road	41.521305° N / -93.656368° W

A summary of the sampling frequencies, analytical parameters, and effluent limitations for each outfall is provided in Appendix C.

7 Effluent Limitations and Compliance

The NPDES permit establishes effluent limitations for the following parameters:

- ◆ CBOD
- ◆ Oil and Grease
- ◆ Ethylene Glycol
- ◆ Propylene Glycol
- ◆ pH

The effluent limitations vary for each outfall depending on the location of the outfall and classification of the receiving water. A summary of the effluent limitations is provided in Appendix C.

In accordance with Part VII.Q. of the NPDES permit, DMAA will orally report any noncompliance that may endanger human health or the environment within 24 hours of discovering the condition. Within 5 days of the occurrence, a written submission will be prepared and submitted to DNR.

The written report will include:

- ◆ A description of the noncompliant event and its cause
- ◆ the period of noncompliance including exact dates and times
- ◆ whether the noncompliance has been corrected or the anticipated time it is expected to continue
- ◆ and the steps taken or planned to reduce, eliminate, and prevent a reoccurrence of the noncompliance

The following instances of noncompliance will be reported within 24 hours of occurrence:

- ◆ any unanticipated bypass which exceeds any effluent limitation
- ◆ any upset which exceeds an effluent limitation
- ◆ any violation of a maximum daily discharge limit for any of the pollutants listed in the permit

8 SWPPP Revisions

As outlined in Section 5 of this SWPPP, a Comprehensive Site Compliance Evaluation will be conducted annually. If the evaluation results in changes to the Stormwater pollution prevention program, the NPDES permit requires this SWPPP be revised within 2 weeks of the evaluation to describe the changes in pollution prevention measures and/or controls.

Within 14 days of the occurrence of any “hazardous condition”, this SWPPP must be modified to provide a description of the release, the circumstances leading to the release, date of the release, and response actions. Any resulting changes to pollution prevention measures and/or controls must also be described.

The SWPPP must be amended whenever there is a change in design, construction, operation, or maintenance, that has a significant effect on the potential for the discharge of pollutants in Stormwater or if the SWPPP proves ineffective in eliminating or significantly minimizing the discharge of pollutants associated with industrial activity.

9 Additional SWPPP Requirements

Discharge of liquid from the three underground containment tanks into the City of Des Moines sanitary sewer is authorized by a Wastewater Discharge Permit with the Des Moines Metropolitan WRA. A copy of the permit is provided in Appendix A.

DMAA will ensure conformance with the conditions outlined in the agreement and will renew or amend the agreement as necessary to authorize the discharge of Stormwater contaminated by glycol or other deicing products. Any additional discharge requirements established by the Des Moines Metropolitan WRA will be incorporated into this SWPPP.


10 SWPPP Certification

STORMWATER POLLUTION PREVENTION PLAN CERTIFICATION STATEMENT

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

Elyse Kalber

Name (Printed)



Signature

Environmental Scientist

Title

1/8/2023

Date

Figures

Appendix A

Permits

Appendix B
Non-Stormwater Discharge Assessment and Certification

Appendix C
Sampling Parameters, Frequencies, and Effluent Limits

Appendix D
Best Management Practices