Stormwater Pollution Prevention Plan (SWPPP)

Prepared for:
Gerald R. Ford International Airport
Gerald R. Ford International Airport Authority
January 2023

Prein&Newhof
Engineers ▪ Surveyors ▪ Planners ▪ Environmental ▪ Laboratory

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Prepared for:
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SPILL NOTIFICATION PHONE NUMBERS:

GFIA 24-Hour Airport Communications: (616) 233-6055

Michigan EGLE Spills/Emergency Hotline: (800) 292-4706
National Response Center: (800) 424-8802

Most Current Revision: January 2023

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SWPPP PLAN REVISION HISTORY

Revision No.	Comments/Revision Comments	Date	Cert. Initials
0.0	Revision performed by Environmental Health Resources, Inc.	Sept. 8, 2003	
1.0	Revision by Limno-Tech – Updating SWPPP to reflect new stormwater permit dated December 1, 2005.	July 26, 2006	
1.1	Revision to add Figure 6, modify Table 3-2 and clarify Section 5.2. Changes made to incorporate MDEQ comments on Revision 1.0.	November 17, 2006	
1.2	Updated App. F with 2007-2008 Deicing Management and Monitoring Plan	November 1, 2007	
1.3	Updated Table 3-2.	November 15, 2007	
1.4	Updated Table 3-2, Text revisions/clarifications per Airport response to MDEQ inspection.[1]	July 31, 2008	
1.5	Updated Table 3-2, revised annual DMMP	November 2009	
1.6	Updated Table 3-2	June 2010	
1.7	Updated Table 3-1 and Table 3-2, revised annual DMMP	January 2011	
1.8	Revision by Limno-Tech – Updated SWPPP to reflect new stormwater permit dated January 1, 2011. Updated Table 3-2 and Figures.	April 2011	
1.9	Updated Table 3-2	July 2011	
1.10	Updated Table 3-2	October 2011	
1.11	Updated Table 3-2	January 2012	
1.12	Updated Table 3-2, Section 6 and 9 text revisions/clarifications per Airport response to MDEQ inspection.[2]	March-May 2012	
1.13	Updated Table 3-2 and Section 9 (Corporate Officer)	August 2012	
1.14	In response to Delta Airlines ADF truck spill incident on August 15, 2012, added language to section 5.2 describing additional equipment inspection requirements.	August 2012	
1.15	Updated Table 3-2	January 2013	

[1] See MDEQ letter to Airport (March 4, 2008) and Airport response (March 28, 2008) – on file with this document.

[2] See MDEQ letter to Airport (February 17, 2012) and Airport response (March 15, 2012) – on file with this document.

Revision No.	Comments/Revision Comments	Date	Cert. Initials
1.16	Updated Table 3-2	April 2013	
1.17	Updated Table 3-2	August 2013	
1.18	Updated Tables 3-1 and 3-2	October 2013	
1.19	Updated Table 3-2	January 2014	
1.20	Updated SWPPP to reflect modified NPDES permit dated August 1, 2013. Updated figures to reflect current facility layout, storage, and monitoring/inspection locations. Updated Figures and Tables 3-1 and 3-2. Separated SPCC/PIPP (spill prevention, control, and countermeasure / pollution incident prevention plan) document from SWPPP	Feb-May 2014	
1.21	Updated Table 3-2	August 2014	
1.22	Updated Table 3-2	October 2014	
1.23	Updated Table 3-2, revised annual DMMP	January 2015	
1.24	Updated Tables 3-1 and 3-2	April-May 2015	
1.25	Updated Table 3-2	July 2015	
1.25	Updated Table 3-2	October 2015	
1.26	Updated figures to reflect current facility layout and monitoring/inspection locations. Updated Table 3-2	January 2016	
1.27	Updated Table 3-2	April 2016	
1.28	Updated SWPPP to reflect current facility layout and best management practices. Updated Figures and Tables 3-1 and 3-2	May 2016	
1.29	Updated Table 3-2	July 2016	
1.30	Updated Figure 5	August 2016	
1.31	Updated Table 3-2, revised annual DMMP	October 2016	
1.32	Updated Figure 3 and Table 3-2	January 2017	
1.33	Updated Figure 2, Table 3-1, and Table 3-2	April-May 2017	

Revision No.	Comments/Revision Comments	Date	Cert. Initials
1.34	Updated Table 3-2	July 2017	
1.35	Updated Table 3-2, revised annual DMMP	October 2017	
1.36	Updated Table 3-2	January 2018	
1.37	Updated Table 3-2	April 2018	
1.38	Updated SWPPP to reflect current facility layout and best management practices. Updated Table 2-1, Figures 2, 4, and 6	May 2018	
1.39	Updated Table 3-2	July 2018	
1.40	Updated Table 3-2, revised annual DMMP	October 2018	
1.41	Updated Table 3-2	January 2019	
1.42	Updated Table 3-2	April 2019	
1.43	Updated SWPPP to reflect current facility layout, activities, and best management practices. Added figures 7-11 and made revisions/clarifications per Airport response to MDEQ (now Department of Environment, Great Lakes and Energy (EGLE)) inspection.[3]	May 2019	
1.44	Updated Table 3-2	August 2019	
1.45	Updated Table 3-2, revised annual DMMP	October 2019	
1.46	Updated Table 3-2	January 2020	
1.47	Updated SWPPP to reflect current facility layout and best management practices. Updated Tables 2-1, 3-1, 3-2, and 3-3	May 2020	
1.48	Updated Table 3-2	July 2020	
1.49	Updated Table 3-2, revised annual DMMP	October 2020	
1.50	Updated Table 3-2	January 2021	
1.51	Updated Table 3-2	April 2021	

[3] See MDEQ letter to Airport (April 8, 2019) and Airport response (May 1, 2019) – on file with this document.

Revision No.	Comments/Revision Comments	Date	Cert. Initials
1.52	Updated Table 3-2	August 2021	
1.53	Updated Table 3-2	October 2021	
1.54	Updated SWPPP to reflect modified NPDES permit issued April 30, 2021. Incorporated visual assessment procedure. Updated figures to reflect current facility layout, storage, and monitoring/inspection locations. Updated Figures and Tables 3-1 and 3-2. Updated to reflect staff changes. Revised annual DMMP	January 2022	
1.55	Updated Table 3-2	March 2022	
1.56	Updated Table 3-2	June 2022	
1.57	Updated Table 3-2	December 2022	
1.58	Updated SWPPP to reflect current facility layout and best management practices. Updated Tables 2-1, 3-1, 3-2, and 3-3	December 2022	

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1
Stormwater Pollution Prevention Plan

This Stormwater Pollution Prevention Plan (SWPPP) was prepared for the Gerald R. Ford International Airport (GFIA) in Grand Rapids, Michigan, and has been developed to satisfy the requirements of Part I.B of Michigan's National Pollutant Discharge Elimination System (NPDES) Permit No. MI0055735 (issued April 30, 2021, effective June 1, 2021) for stormwater discharges associated with industrial activity.

A copy of the permit is included as Appendix A to this plan.

Pursuant to that permit, this SWPPP has been developed to:

- Identify existing and potential sources of significant materials[4] in GFIA stormwater discharges.
- Describe best management practices (BMPs) to prevent significant materials from being entrained in GFIA stormwater discharges, including the use of both non-structural (preventative inspections, spill response procedures, and employee training programs) and structural controls.

The permit became effective June 1, 2021. In accordance with that permit, this SWPPP has been updated as required and these updates are reflected as shown on the revisions sheet at the front of this plan.

All figures and tables referenced in this SWPPP are included as tabbed sections at the end of this plan.

[4] A significant material is defined by the State of Michigan as any material which could degrade or impair water quality, including, but not limited to: raw materials; fuels; solvents, detergents, and plastic pellets; finished materials, such as metallic products; hazardous substances designated under Section 101 (14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (See 40 CFR 372.65); any chemical the facility is required to report pursuant to Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA); polluting materials as identified under the Part 5 Rules (Rules 324.2001 through 324.2009 of the Michigan Administrative Code); Hazardous Wastes as defined in Part 111 of the Michigan Act; fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with stormwater discharges.

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2 Facility Information

2.1 General Information

Name:	Gerald R. Ford International Airport
Facility Address:	5500 44th Street, S.E. Grand Rapids, Michigan 49512
Facility Phone No.	616-233-6000
Facility Contact:	Casey Ries, P.E., Engineering & Facilities Director
Mailing Address:	Same as above
Owner:	Gerald R Ford International Airport Authority (GFIAA)
Operator:	Gerald R. Ford International Airport (GFIA)

Certified Stormwater Operators:

Casey W. Ries, P.E.,	Certification No. I-13314
Michelle Baker	Certification No. I-18405
Clinton Nemeth, P.E.	Certification No. I-15481
Jim Weiler	Certification No. I-19356

Standard Industrial Classification Code (SIC) Code: 4581

Permit Information:

Type:	Individual
Designated name:	Gerald R. Ford International Airport
Permit number:	MI0055735
Effective date of coverage:	June 1, 2021
Number of stormwater outfalls:	11- See Figure 3
Receiving water(s):	Thornapple River and unnamed tributaries to the Thornapple River and Plaster Creek.

A Site Location Map of GFIA and surrounding areas is presented in Figure 1. A map of the airport and tenant facilities located at GFIA is shown in Figure 2. Figures 6 through 11 provide additional information required by the Permit.

2.2 Activities Overview

Activities at GFIA have the potential to impact stormwater runoff quality. These activities are summarized as follows:

Summary of Industrial Activities Performed at GFIA

Activities	GFIAA Activity	Tenant(s) Activity
Aircraft Deicing/Anti-Icing		✓
Aircraft Fueling		✓
Aircraft Lavatory Service		✓
Aircraft Maintenance		✓
Aircraft Washing		✓
Chemical Storage (including deicing materials)	✓	✓
Fuel/Petroleum Storage	✓	✓
Pavement Deicing / Anti-Icing	✓	
Vehicle/Equipment Cleaning/Degreasing	✓	✓
Vehicle/Equipment Fueling	✓	✓
Vehicle/Equipment Maintenance	✓	✓
Aircraft Rescue and Firefighting (ARFF)	✓	

2.3 Site Drainage

Figure 3 presents the layout of stormwater drainage areas on GFIA property. Figure 4 provides a detailed layout of the drainage network currently present on-site. The GFIA site is generally flat topographically, with only slight grading present to allow for site drainage. In general, the drainage pattern can be divided roughly in half, with the dividing line running north and south, splitting the Main Terminal building, as shown on Figure 3.

Stormwater runoff from the western portion of the site is collected in a network of catch basins and storm sewers routed to four drainage ditches generally flowing west. These leave the site through four culverted outfalls running beneath Patterson Avenue (i.e., Outfalls 006 through 009). From this point, they enter unnamed tributaries, which ultimately enter Plaster Creek.

Stormwater runoff from the eastern portion of the site is collected in a network of catch basins, storm sewers and open ditch systems which are routed to a series of outfalls (i.e., Outfalls 001 through 005 and 011). These outfalls discharge either directly into the Thornapple River, or to unnamed tributaries, which enter the Thornapple River. With completion of the long-term stormwater/deicing management system in 2015, flow is now only routed to Outfall 011.

Stormwater detention at GFIA consists of three detention basins located upstream of outfalls 011, 004, and 007, respectively and as shown on the figures referenced above. These basins regulate stormwater discharges from the GFIA property during high precipitation events.

Industrial activities with the potential to adversely impact stormwater at GFIA are primarily limited to the drainage areas flowing to outfalls 001/011, 004, and 007. To that end, monitoring is performed at these locations in accordance with GFIA's permit (see Section 7.0).

2.4 GFIA Stormwater Pollution Prevention Team

The personnel and/or departments listed in Table 2-1 are designated as members of the Airport's stormwater pollution prevention team. The team members, their responsibilities, and contact phone numbers are provided in the table. The stormwater pollution prevention team is responsible for implementing, maintaining, and revising the Plan. This list will continue to be revised as necessary.

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3 Source Identification

This section identifies the significant materials and activities present at GFIA that have the potential to enter stormwater. The two primary types of significant materials stored and used at the airport are:

- Deicing and anti-icing activities and material storage; and,
- Fuel dispensing activity and storage areas.

The major significant materials are described briefly in Section 3.1. Section 3.2 describes the activities and areas of the airport where materials are used or stored.

Information in this Section was obtained both from a review of previous source identification studies of GFIA drainage areas and subsequent comprehensive inspections performed since this plan was developed in 2006.

3.1 Significant Materials

Table 3-1 presents a summary of tenants/entities that are currently known to perform industrial activities at the airport. These tenants/entities store and/or perform activities that use significant materials having the potential to pollute stormwater. Table 3-2 presents an inventory of bulk materials based on tenant reports and airport records (refer to Figures 2 and 6 through 11 for locations referenced in Table).

The following subsections describe the primary types of significant materials that are generally used and stored at the airport.

3.1.1 Aircraft Deicing/Anti-icing Materials

In accordance with FAA requirements, the principal material used by carriers and Fixed Based Operators (FBOs) at GFIA to remove ice and snow from aircraft surfaces is Type I aircraft deicing fluid (ADF). Type I fluid is typically diluted with water, applied hot (~180 ^{o}F), has relatively thin viscosity, and melts snow and ice from aircraft control surfaces as it is applied. A majority of Type I ADF applied during aircraft deicing is deposited on areas beneath the aircraft immediately following application. After ice and snow have been removed using Type I ADF, thicker Type IV aircraft anti-icing fluid (AAF) is sometimes applied to protect aircraft control surfaces from refreezing. Because it is thicker, Type IV fluid remains on aircraft surfaces until takeoff speed is attained, at which point it shears off. Both Type I and Type IV fluids are characterized by elevated biochemical oxygen demand (BOD) content and have the potential to impact stormwater quality.

Figure 5 illustrates the locations where ADF/AAF materials are used at the airport. All air carriers and FBOs use propylene glycol-based ADFs and AAFs to facilitate the recycling of collected fluids. Table 3-2 provides a summary of bulk storage locations, including current ADF and AAF storage information. These materials have the potential to come into contact with stormwater primarily during their application to aircraft. These raw materials are stored either in plastic totes or tanks, or steel aboveground storage tanks (ASTs).

3.1.2 Pavement Deicing and Anti-Icing Materials

Since 2001, an Airport-wide ban on the use of urea has been in place to eliminate elevated ammonia concentrations in stormwater resulting from its use for airfield pavement deicing. The Airport

Maintenance Department uses heated sand, liquid potassium acetate, and granular sodium formate to perform any necessary pavement deicing and anti-icing within the AOA. The Maintenance Department also provides sodium formate, at cost, to any tenants in need of an approved material for use within the AOA.

In general, the Maintenance Department and tenants apply road salt or calcium chloride as pavement deicers on paved landside areas such as sidewalks and parking lots. Routine pavement deicing is necessary from a safety standpoint, both for aircraft and vehicles and equipment. However, these materials have the potential to become exposed to stormwater in the event they are applied excessively or stored improperly. Table 3-2 provides a summary of the types and amounts of pavement deicing materials stored at GFIA.

Bulk sand and salt storage are located and managed (prior to application) on the eastern portion of the maintenance yard (Figure 2). Except for high-use instances, storage and management of these materials is under roof. Bulk salt is managed in accordance with EGLE[5] guidance. Furthermore, any runoff from pavement near these roofed storage facilities is directed to an outfall located inside the airfield, effectively preventing the discharge of any materials off-site.

3.1.3 Petroleum Hydrocarbon-Based Materials

Petroleum hydrocarbon-based materials with potential to impact stormwater runoff at GFIA include: Type A jet fuel, diesel fuel, unleaded automobile gasoline, aviation gasoline, motor oils, waste oils, lubricating oils and greases, automatic transmission fluids, and hydraulic fluids.

Table 3-2 summarizes the storage, location, and use details regarding petroleum hydrocarbon-based materials at GFIA.

3.1.4 AFFF-related Materials

In 2018, GFIAA initiated an investigation of the presence of per- and polyfluoroalkylated substances (PFAS) at the airport potentially resulting from historic training, testing, and emergency response activities involving the use of aqueous film-forming foam (AFFF). AFFF containing PFAS were used as required by FAA regulations onsite at the Airport during historic firefighting training exercises, testing, and emergency response activities. The use of these materials at the fire-fighting training area (FFTA) was discontinued in the mid-1990s. GFIA continues to conduct FAA-required certification/calibration testing to maintain its safety certification in accordance with FAA regulations. The only AFFF products approved for use by the FAA have all contained PFAS.

Figure 3 shows the areas potentially impacted by PFAS on Airport property including the FFTA, the Aircraft Rescue and Firefighting (ARFF) Ramp, and Ramp 5. In 2019 GFIA acquired equipment that allows for certification testing to be conducted without discharging any AFFF. GFIA is required to maintain a stock of AFFF to comply with FAA requirements. In the event AFFF is used during an emergency response, the affected area will be demarcated, cleaned up, and investigated pursuant to state regulations.

In 2020, GFIA finalized a Due Care Plan related to areas of known PFAS impact at the facility. This plan describes actions to be undertaken by airport and tenant personnel to reduce the potential for contact with PFAS-impacted soils.

None of the approximately 480 fire extinguishers at the airport are known to contain Class 2 or B AFFF.

[5] *Salt and Brine Storage Guidance for Road Agency Maintenance and Other Facilities.* MDEQ, August 2007.

3.1.5 Other Significant Materials

Significant materials other than deicing or petroleum hydrocarbon-based chemicals stored or used outdoors at GFIA include varying quantities of waste automobile antifreeze, degreaser, road salt, and paints. Ownership, storage, and use details for these materials are presented in Table 3-2.

3.2 Areas of Potential Significant Material Contact

This section of the SWPPP describes the primary activities and areas where significant materials are stored and/or used at GFIA.

3.2.1 Aircraft Deicing/Anti-icing

Each airline, freight carrier or FBO is responsible for its own storage and application of ADFs and AAFs. Applications of these fluids to aircraft are performed only in designated deicing areas. Specifically, aircraft deicing is performed only:

- On the apron outside of the main terminal (building 100);
- On the apron adjacent to the cargo tenant operations (building 207); and,
- Small portions of the aprons near the FBOs (buildings 200, 203, 403, 409, and 414).

Building numbers are denoted on Figure 2. The GFIA Maintenance Department is responsible for managing spent ADFs/AAFs, which are collected from catch basin inserts using mobile collection units (MCUs) and by the East and West Apron Collection Systems following ADF/AAF applications. Stormwater and spent fluids collected by the MCUs and Apron Collection Systems are stored north of building 401 and in underground storage tanks, respectively, prior to their removal from the site for recycling.

Designated aircraft deicing areas are shown on Figure 5. Typical storage quantities of these materials are presented in Table 3-2 but can vary significantly throughout the year. Storage and usage of ADFs and AAFs at the airport are guided by GFIA's Deicing Management Program Plan which is updated annually. It is described further in Section 7.0 and is included as Appendix G of this plan.

Stormwater from these areas discharges to Outfalls 001/011 and 007.

3.2.2 Pavement Deicing / Anti-Icing

The GFIA Maintenance Department is responsible for airside pavement deicing and anti-icing. The primary material used is heated sand and is supplemented by two primary deicer materials (liquid potassium acetate or granular sodium formate). These materials are stored in the GFIA Maintenance Department area, as shown on Figure 2, and described in Table 3-2. GFIA also makes its sodium formate available to tenants for airside pavement deicing within their leasehold areas. These activities are performed and managed under the airport's Annual Deicing Management Program Plan, which is summarized in Section 7.0 and included as Appendix G. Airfield pavement deicing and anti-icing activities are performed on the terminal ramp, taxiways, and runways consistent with GFIA's snow removal plan.

Landside pavement deicing materials consist of rock salt premixed with sand (obtained from the Kent County Road Commission). GFIA maintains a salt dome (building 423) and sand storage building (building 455). Some tenants store bagged calcium chloride for their landside pavement deicing as well.

Stormwater from these activities (both material storage and application) have the potential to be discharged through all outfalls on the airport property. However, Outfalls 001/011, 004, and 007 receive the majority of runoff from these areas.

Storage and usage of pavement deicers at the airport are guided by GFIA's Deicing Management Program Plan, which is updated annually. It is described in Section 7.0 of this plan and provided in Appendix G.

3.2.3 Aircraft and Ground Vehicle Fueling

Aircraft fueling is performed primarily on the main terminal ramp and less frequently on the ramp areas of some tenant hangars, FBOs, and cargo handling areas (Figure 2). All aircraft fueling is performed via mobile refuelers, which are owned, operated, and maintained by several different FBOs and tenants.

Ground vehicle fueling occurs primarily at the locations of dispensers associated with the underground storage tanks (USTs) identified in Table 3-2 or from mobile refuelers.

The primary method of bulk fuel storage at GFIA consists of USTs, some ASTs, and mobile refuelers. Specifically, bulk fuel storage consists of:

- A fuel farm, containing 13 USTs (Jet fuel or Aviation Gas), ranging between 10,000 and 20,000 gallons in capacity. Eight ASTs containing jet fuel and aviation gas are also located in the fuel farm area. Various tenants own and operate the fuel storage in this area.
- Each rental car tenant (buildings 425/426, 427/428, 429/430, 431/432, and 433/434) owns and operates USTs containing unleaded gasoline. These USTs are 15,000 gallons each.
- The GFIA Maintenance Department operates one 300-gallon AST containing unleaded gasoline and two 10,000-gallon USTs containing diesel and unleaded gasoline, respectively (east of building 420).
- The GFIA ARFF facility operates two 12,000-gallon USTs containing diesel and unleaded gasoline, respectively (building 205).
- Signature Flight Support owns and operates a 1,000-gallon unleaded gasoline AST just north of building 103.
- GFIA owns and operates three diesel ASTs associated with emergency generators for the main terminal, tower, and airfield lighting (located outside buildings 100 and 101). These ASTs range in size from 100 to 1,000 gallons.
- FAA owns and operates three diesel ASTs associated with emergency generators for the air traffic control tower, the airport surveillance radar, and the remote transmitter (located outside buildings 101, 300, and 419, respectively). These ASTs range in size from 500 to 2,000 gallons.
- Seventeen mobile refuelers are owned and operated by several tenants and located in various portions of the airfield ramps.

Additional detail pertaining to the fuel storage briefly described above is contained in Table 3-2.

Drainage from these areas is directed primarily to Outfalls 01/011, 004, and 007.

3.2.4 Aircraft, Ground Vehicle, and Equipment Maintenance

A majority of routine aircraft and vehicle maintenance at GFIA is conducted indoors, where floor drains are connected to the sanitary sewer system. Due to space constraints, some aircraft maintenance must be performed outside. In those instances, airline personnel work in paved areas and implement engineering controls, such as drain covers and sorbent booms, to prevent fluids from entering into the environment. With these controls in place, maintenance activities do not present potential for stormwater runoff contamination. Car oil changing and lubes are performed on-site, but all other auto maintenance is performed off-site.

3.2.5 Aircraft and Ground Vehicle Washing

Aircraft washing operations are minimal at GFIA and, when they do occur, take place indoors per Airport Rules and Regulations (Appendix E). Washing operations at automobile rental agencies take place inside

car wash facilities with floor drain connections to the sanitary sewers or a reclaim pit. In addition, washing chemicals are stored indoors. As a result, these activities do not present the potential for stormwater contamination.

3.2.6 Aircraft Painting and Stripping Areas

Aircraft stripping or painting operations are not performed at GFIA. There is therefore no potential for material contamination of stormwater due to these operations at the Airport.

3.2.7 Aircraft Lavatory Service Operation

Lavatory servicing of aircraft is performed by commercial airlines and their contractors at the terminal ramp areas, where aircraft lavatory tanks are discharged to a service tanker truck or trailer. These are emptied directly into the sanitary sewer system. Similar operations are conducted at tenant hangar aprons located within the other drainage areas. In all cases, small spills or leaks are immediately cleaned from the pavement using materials stored on the servicing trucks. Aircraft lavatory service operations therefore present little potential for stormwater runoff contamination.

3.2.8 Building and Grounds Maintenance

Minimal herbicide products are applied by the Maintenance Department to select areas airside at GFIA to inhibit weed growth. These materials are stored inside and applied in accordance with the manufacturer's instructions. A lawn maintenance contractor performs landside fertilizer and herbicide applications in accordance with a turf management plan (e.g., contract), but these chemicals are not stored on site.

3.2.9 General Refuse Containers

Municipal refuse is generated at virtually all GFIA and tenant locations. Dumpsters are used for the disposal of common refuse, floor sweepings, and used oil filters (following draining). These dumpsters have minimal potential to impact stormwater. A solid waste compactor is located adjacent to the dumpsters along the western exterior of the terminal. Both waste storage containers are observed during daily operations inspections as well as during semi-annual inspections. Any deficiencies (e.g., open lids, overfilling, observed debris outside of the dumpster) are noted for addressing promptly.

Trash cans and a covered waste dumpster are also located at the airport's public viewing area, located south of the airfield. Trash can openings are covered by flaps to reduce the likelihood of debris becoming wind-blown from the receptacles. This area is monitored daily by Maintenance personnel.

3.2.10 Past and Present Firefighting Activities

As noted above, the GFIA ARFF Department is required to maintain a stock of AFFF to comply with FAA requirements. The only AFFF products currently approved for use by the FAA contain PFAS. GFIA's investigations to date have been coordinated with the EGLE Remediation and Redevelopment Division (RRD) and have identified three areas where potential PFAS impacts exist including the FFTA, the ARFF ramp, and Ramp 5. These studies have also shown: the presence of a thick and extensive clay layer under areas where PFAS has been identified; that PFAS levels in soil decrease rapidly with depth; and there are no identified migration pathways offsite.

In 2019, GFIA conducted a Short-Term Stormwater Characterization Study of discharges from Drainage Area 011 as directed by EGLE. Sampling results indicate soils from the vicinity of the ARFF are contributing some level of PFOS to the Outfall 011 drainage system. GFIA is continuing its investigation to isolate any PFOS source near the ARFF Ramp and evaluate potential alternatives for reducing PFOS in the Outfall 011 discharge. It has taken initial steps it believes will reduce the PFOS sources into the

drainage system and is continuing this effort. GFIA has developed a Due Care Plan in accordance with the obligations identified in Section 324.20107a of Part 201 of Michigan Act 451, as amended. GFIA's investigation is ongoing.

3.3 Permit-Required Evaluation of Activities and Areas

As required in Section I.A.13.a.2 of GFIA's permit, several activities have been evaluated to determine their potential to contribute significant materials to runoff. These activities and their evaluation results are summarized in Table 3-3.

Several of these activities do have potential to pollute stormwater runoff (in the absence of controls to prevent such an occurrence). However, several of these activities did not have any potential to adversely impact stormwater.

Those activities shown to have potential to pollute stormwater are primarily associated with the materials described in Section 3.1 and their use and storage, as described in Section 3.2. Controls to prevent these materials and activities from adversely impacting stormwater are described in Sections 5 and 6 and shown in Figure 6 of this plan.

3.4 Evaluation of Significant Historical Spills and Leaks

Documentation of spills and leaks of polluting materials at GFIA is tracked by the GFIAA. (No reportable spills[6] have occurred at GFIA in the past 3 years.) Documentation records for spills, should they occur, will be documented in Appendix B of this SWPPP. A petroleum spill will be reported to the EGLE (and other agencies as needed) if:

1. Release to ground is greater than 55 gallons, not detected and recovered within 24 hours, and/or reaches the storm sewer or surface water;
2. Release to surface water is greater than 55 gallons and effective recovery measures are not implemented immediately upon detection; or
3. Release to secondary containment is greater than 1,000 gallons, cleanup is not started within 24 hours, cleanup is not finished within 72 hours, and/or pollutants reach sewer or state waters.

A copy of a standard spill reporting form and additional information regarding a "release" is also contained in Appendix B.

3.5 TMDL Requirements

Section I.B.2.d of the permit requires GFIA to determine whether it "discharges storm water to a water body for which the Department has established a Total Maximum Daily Load (TMDL)," and if it does, to "assess whether the TMDL requirements for the facility's discharge are being met through the existing SWPPP controls or whether additional control measures are necessary."

GFIA discharges stormwater to Plaster Creek, for which EGLE has established TMDLs for *E. coli* and for biota (for which the pollutant of concern is sedimentation and siltation). GFIA was not identified as a contributing point source discharge contributing to the impairment in either TMDL.

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[6] A reportable spill is defined as that which exceeds a "threshold reporting quantity". This is defined in Rule 324.2002 (g) as any of the following:
(i) For releases of oil to the surface of the ground, 50 pounds.

(ii) For releases of oil to the waters of the state, any quantity that causes unnatural turbidity, color, visible sheens, oil films, foams, solids, or deposits in the receiving waterbody.

GFIA has assessed its BMPs and other stormwater controls and concurs with the State's TMDLs that GFIA's discharges do not contribute to the impairments associated with the TMDLs. GFIA will continue to visually investigate airport and tenant activities to help ensure that it does not contribute to the Plaster Creek impairment or act inconsistently with the intent of the TMDLs. Additionally, GFIA's existing control measures set forth in this SWPPP have been found to be effective at minimizing potential impacts from *E. coli* and/or sedimentation.

First, GFIA controls soils associated with active construction and does not maintain soil storage piles or construction staging areas where stormwater runoff would come in contact with sediment. Second, GFIA controls any discharges of sand, which it uses to provide traction on airfield pavement surfaces during the deicing season, through the following:

- Catch basins are located away from where sand is used;
- Vegetated areas are maintained around paved surfaces where sand may be used to filter sand from stormwater running across the vegetated areas;
- Street sweeping is conducted in areas where sand is used;
- Unused sand is stored in a covered building; and,
- Runoff from pavement near the sand storage facility is directed to an outfall located inside the airfield to minimize the likelihood of offsite discharge of sand.

E. coli may be exposed to stormwater either as a result of sewer line breaks or from spills or leaks of the lavatory carts used to service airplanes. GFIA has not experienced any problems with minor lavatory cart spills or leaks impacting its stormwater discharges. Further, tenants operating lavatory carts are required to maintain spill kits to ensure that any spills or leaks can be cleaned up immediately. In addition, GFIA conducts illicit discharge monitoring pursuant to the Stormwater Management Plan. *E. coli* is one of the parameters included in the monitoring effort. To date, grab sample results have not been higher than 200 MPN/100 ml, indicating full compliance with the Water Quality Standard (WQS) instantaneous maximum concentration. GFIA will continue to use its illicit discharge program to track *E. coli* levels at the facility, and unless issues arise, GFIA asserts that it is not impacting Plaster Creek's TMDL.

3.6 Summary of Available Sampling Data

Stormwater discharges are sampled and analyzed in accordance with the Airport's NPDES permit. Historic monitoring records are available upon request.

The Airport's current NPDES permit became effective on June 1, 2020 and includes monitoring requirements for Outfall 011. Requirements include $CBOD_5$ and COD monitoring twice monthly during deicing events from October 1 through May 31. Analysis of NH_3-N, TP, and acetate is also required.

GFIA's current NPDES permit is included as Appendix A of this plan. Additional description of GFIA's permit-required monitoring is included in Section 7.0 and Appendix G of this plan.

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4
Non-Stormwater Discharges

All known existing non-stormwater discharges that may occur at GFIA are authorized by NPDES Permit No. MI0055735. Known and likely non-stormwater discharges occurring at GFIA, which are authorized by Part I.B.9, include the following: infrequent fire-fighting activities, fire hydrant flushing, lawn watering, air conditioning condensate discharges, and foundation or footing drains and pavement underdrains.

There are currently no known illicit connections to the stormwater system. Surveys performed as part of the preparation of the initial SWPPP and subsequently as part of the Airport's illicit discharge elimination program have shown no illicit connections to the stormwater system.

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5
Preventive Measures and Source Controls, Non-Structural

Non-structural stormwater control measures minimize the contact between significant materials and stormwater by modifying existing practices and/or procedures. Non-structural controls at GFIA include:

- Routine Maintenance and Inspections;
- Good Housekeeping Practices;
- Significant Material Handling and Storage Requirements;
- Non-structural Soil Erosion and Sedimentation Control Measures; and,
- Employee Training Programs.

The components of these programs are further described below and are focused on ensuring that equipment and materials are stored, maintained, operated, and managed in a way that prevents or minimizes their potential to degrade stormwater quality.

5.1 Routine Maintenance and Inspections

Equipment and operational systems (e.g., mobile refuelers, operational and other heavy equipment, storage vessels, etc.) whose failure or deterioration would have the potential to expose significant materials to stormwater are routinely inspected, tested, and repaired as necessary. This type of maintenance is critical to ensure the proper function of each item at the airport. Likewise, on a monthly basis, GFIAA staff inspects and maintains stormwater management and control devices to ensure their proper function. The airport operations department also performs daily airfield visual inspections.

On a quarterly basis, these inspections (and their follow-up actions) are documented in formal comprehensive visual site inspections. These inspections include a visual inspection of areas where significant materials are stored, handled, or used, as well as visual inspections of the GFIA drainage system (catch basins, oil/water separators, etc.). The inspections consist of verifying material storage areas and equipment, with a focus on confirming that structural and non-structural controls are being used and maintained. The inspections also include the review of routine preventive maintenance reports, good housekeeping inspection reports, and any other applicable paperwork associated with the SWPPP. The inspections also allow for the documentation of recommended follow-up actions to be taken to improve material storage/use areas to prevent or minimize stormwater impacts. GFIA has developed a visual assessment procedure for stormwater discharges as required by the permit. Assessments are conducted on a quarterly basis in conjunction with the comprehensive inspections.

Copies of the monthly outfall and quarterly inspection forms are included in Appendix C. The visual assessment procedure is included as Appendix D. Copies of completed inspection and assessment reports are maintained with this Plan for a minimum of three years.

In brief, the comprehensive inspections document visual observations regarding:

- Stormwater drainage conveyances such as catch basins, drainage ditches, detention basins, culverts, and outfalls, which are inspected for evidence of obstructions and/or the presence of significant materials. Unusual observations are noted and, when necessary, repairs or cleaning are conducted.
- The condition of structural stormwater controls is noted and, when necessary, repairs or cleaning are conducted.

- Storage areas for significant materials are inspected.
- Fuel loading, dispensing, and storage operations at the airport, which are visually inspected for structural integrity; spill potential; proximity to stormwater catch basins; presence of containment, oil/water separators, or sumps; and the presence of spill cleanup kits or materials.
- The use of paints, solvents, lubricants, hydraulic fluids, herbicides, pesticides, or any other material not related to fueling or deicing, which is evaluated during facility inspections for their potential to impact stormwater runoff at Airport facilities.
- Procedures for proper disposal of waste materials are an element of the quarterly Facility Inspections.
- Parking or storage areas for aircraft, ground support vehicles, or related equipment, which are inspected for leaking or pooled materials.
- Visual assessment of stormwater discharges within 30 days (before or after) of the comprehensive inspection.

5.1.1 Annual Comprehensive Inspections Report

As required in Part I.B of the Permit, a report of the comprehensive inspections will be prepared and retained at the airport on an annual basis. The reports will include copies of the completed comprehensive inspections and will identify any incidents of non-compliance with this plan. In the event there are no documented incidents of non-compliance, the report will contain a certification that the facility is in compliance with this plan.

5.2 Good Housekeeping Practices

Good housekeeping practices are employed at airport and tenant facilities to provide a clean and orderly work environment. This contributes to a reduction in stormwater pollution from activities at the site and the possibility of accidental spills. Good housekeeping practices employed at the airport and tenant facilities include:

- Appropriate measures to prevent discharge of wash waters to storm drains:
  - Washing activities only take place indoors, in an area where the permitted wash water discharges to the POTW.
  - Maintenance activities (with the exception of emergencies) only take place inside enclosed hangars.
- Bulk storage of sand and salt is to be under roof.
- Petroleum products, chemicals, and wastes are to be stored in a neat and orderly fashion. Drip pans and containment pads are utilized for containers in use, when necessary.
- Incidental spills are to be promptly contained and cleaned up (for large uncontrolled spills, notify the Airport Communications, a spill contractor, and EGLE, if reportable).
- Clean and dry floors are maintained inside airport and tenant buildings.
- Pathways, walkways, and drum/container storage areas are properly maintained such that there is no protrusion into pathways.
- The quantity of materials stored with exposure to stormwater is minimized to the extent possible.
- To the maximum extent possible, materials stored or stockpiled outdoors are covered when not in use.
- Tenants inspect any new or used equipment brought to the airport as soon as possible to minimize the possibility of accidental leaks or spills.
- AFFF is stored indoors in secure and protected locations, away from any open drains.
- New calibration equipment is used to conduct FAA-required certification testing of ARFF vehicles without any release or discharge of AFFF.

Furthermore, the Airport has developed Rules and Regulations, which require leaseholders to comply with several good housekeeping measures. A copy of GFIA's Rules and Regulations is included in Appendix E.

Routine inspections of these good housekeeping measures are combined with the comprehensive inspections for the preventive maintenance program. Compliance with the practices and any corrective actions are incorporated into the comprehensive inspection report.

5.3 Significant Material Handling and Storage Requirements

Several programs and procedures are in place at GFIA that provide guidance on the proper handling and storage of significant materials at the airport. The following general measures aid in the prevention of significant materials coming in contact with stormwater during material handling or storage.

- Drums are stored indoors when possible and within fixed or portable containment.
- Significant materials stored outside of a facility are grouped in a single location away from areas of heavy vehicular traffic, not in close proximity to storm drain inlets when possible.
- Dumpster lids are kept closed other than when refuse is being placed into the container.
- Soiled rags and used floor-dry type materials are not disposed of in dumpsters.
- Used oil filters are thoroughly drained and placed in a sealed waterproof container (e.g., a bag) prior to being disposed of within a dumpster.
- Spill cleanup kits are placed in accessible locations. Facility personnel are trained in spill cleanup procedures.
- Details of significant spills or leaks are recorded. Tenants are required to submit spill reports to GFIA immediately following development of the report. Each spill record carries information on the type, quantity, and location of the spill and the cleanup procedure instituted. The point of contact for the Team will be coordinated through Airport Communications.
- GFIA's calibration equipment allows for the FAA-required certification testing to be conducted without any release or discharge of AFFF. In the event that AFFF is used during an emergency response, the affected area will be demarcated, cleaned up, and investigated pursuant to state regulations.

Additionally, the following subsections briefly describe additional plans, policies, and procedures currently in place at GFIA with respect to the storage and handling of materials at the airport. Spill response and reporting procedures are described in the Airport's PIPP/SPCC plan, as well as in the Airport's policies and procedures.

5.3.1 GFIAA SPCC/PIPP

GFIA maintains a Spill Prevention Control and Countermeasures/Pollution Incident Prevention Plan (SPCC/PIPP), which identifies protocols and procedures used for the storage and handling of GFIAA's bulk petroleum and polluting materials[7] . The plan contains specific spill procedures, including:

- A listing of required storage and handling procedures for these materials;
- Spill prevention, response, and reporting procedures; and,
- Spill reporting guidelines.

[7] Polluting materials are defined as salt, oil, and any chemical defined in Rule 9 of the Part 5 Rules (Michigan Administrative Code R 324.2001 to R 324.2009). For GFIAA, these materials are limited to bulk petroleum and road salt.

The SPCC/PIPP covers the activities and storage of these materials owned and operated by GFIAA. Likewise, GFIAA requires its tenants to comply with any necessary SPCC and/or PIPP requirements for their individual material storage and operations, when applicable. Specific information can be found in the separate SPCC/PIPP by contacting airport staff.

5.3.2 GFIA Policies and Procedures

Pertaining to spills, GFIA Rules and Regulations specifically state "Handling and storage of fuel shall be conducted in accordance with the Authority's Handling and Storage of Hazardous Substances and Materials policies and procedures" (Section 9.3 pp. 35). Spill response procedures are reinforced in annual stormwater training of staff and tenants with the intention of providing the quickest response possible to spills. GFIAA staff is solely responsible for determining when the airport must notify EGLE for the airport's reportable spill obligations.

As discussed above, AFFF materials are stored indoors and there are no releases of these materials during FAA-required certification testing. In the event AFFF is used during an emergency response, the affected area will be demarcated, cleaned up, and investigated pursuant to state regulations.

GFIAA is required by the FAA to develop and implement a program for the handling and storage of hazardous substances and materials. This program, originally developed in 1989, was revised and approved by FAA in 1997, 2010, and 2016. The program is contained in the document entitled "Handling and Storing of Hazardous Substances and Materials, Gerald R. Ford International Airport, Policy and Procedures, July 1, 2016".

A copy of this document is included in Appendix F. The policy and procedures apply to GFIAA and all tenants at GFIA that operate a fuel storage facility and/or fuel vehicle(s) as further described in GFIA's SPCC/PIPP Plan.

5.4 Non-structural Soil Erosion and Sedimentation Control Measures

Severe weather, airfield operations, and construction operations create the largest potential for soil erosion and pollution of stormwater runoff via sedimentation. BMPs for sedimentation control at GFIA include the following:

- Planting and maintenance of unpaved Airport areas with grass or other vegetative ground cover to prevent the exposure of soil to the elements.
- Preparation of, and adherence to, a soil erosion and sedimentation control (SESC) permit for each construction project that involves disturbance of greater than one acre at any given time. GFIAA makes its contractors and tenants aware that the permitting agency for the State's SESC program is the Kent County Road Commission. GFIAA requires its tenants and contractors to adhere to all applicable state, federal and local regulatory requirements, including SESC.
- Another BMP used to prevent erosion and damage to the airport drainage system is the NTS detention basin emergency bypass. Under extreme weather conditions, the detention basin can overflow to the emergency bypass to an additional detention basin and Outfall 002. Effluent constituents at the emergency overflow bypass are expected to be identical to those at Outfall 011, only more diluted since any discharge would be directly related to near flood type weather circumstances.

Areas with the highest erosion potential at the airport are construction sites, which are required to adhere to SESC requirements, as described above.

5.5 Employee Training Programs

GFIA provides and maintains an annual training program designed to inform all appropriate airport and tenant personnel of the components and goals of the SWPPP. Training focuses on stormwater pollution prevention and covers the elements of this plan. Documentation of training is maintained at GFIA, and a sample copy of the staff training documentation form is included in Appendix C.

In addition to stormwater pollution prevention training, several airport and tenant personnel are involved in other emergency response employee training programs. Additionally, several other airport tenants with fueling or significant oil storage facilities either currently have, or are in the process of developing, their own spill response programs. Stormwater pollution prevention training may be conducted concurrent with other training programs.

Employees will be trained at the time of hire and annually thereafter. Outlines and content of training sessions will be kept on file with this plan.

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6
Best Management Practices: Structural Source Controls

The NPDES permit stipulates that where non-structural stormwater control measures are not adequate to control contact between significant materials and stormwater, structural best management practices (BMPs) shall be provided.

6.1 Existing Structural Controls

Several existing structural controls are present at the Airport that significantly reduce exposure of significant materials to stormwater. These measures include:

- ***Roofed/Indoor Storage:*** Where possible, significant materials are stored under roof, thereby eliminating contact with stormwater. In general, all landside pavement deicing materials, virgin and waste oil drums, sand, sodium formate used for airfield pavement deicing, and AFFF materials are all stored under roof.
- ***Underground Storage:*** USTs are the primary mode for bulk storage of aircraft and vehicle/equipment fuels at GFIA. While loading and unloading of materials at these locations is handled through non-structural practices and procedures, the nature of underground storage significantly reduces the potential for tank contents to impact stormwater.
- ***Secondary Containment:*** Fixed ASTs containing fuel and/or glycol are equipped with secondary containment, consisting either of double-walled AST construction or constructed diking. Additionally, drum storage of significant materials is required to be on permanent or portable containment.
- ***Catch Basin Inserts:*** GFIAA's Maintenance Department collects spent ADF from aircraft deicing areas. The material is collected with vacuum trucks and is stored in a frac tank at Field Maintenance (building 420), as shown on Figure 2. The catch basin inserts and their operation prevent a significant portion of spent ADF from being discharged from the Airport. These activities are detailed in Section 7.0 of this plan.
- ***Oil Water Separators:*** Signature Flight Support, an FBO at GFIA, operates and maintains a 10,000-gallon oil water separator. The separator is located in the southeastern portion of the Fuel Farm (Figure 2) and receives stormwater runoff from the tanker off-loading pad. Signature is responsible for the operation and maintenance of this structure, which is connected to the Airport's stormwater network.
  The rental car fueling facilities (Figure 2, buildings 425, 427, 429, 432, and 434) each have a 2,000-gallon oil water separator located adjacent to their fuel islands. The separators receive stormwater runoff from the fueling area and are connected to the Airport's stormwater network.
- ***Stormwater Detention Areas:*** GFIA has vegetated stormwater detention areas that serve drainage areas 1, 4, 6, and 7. The outlets from the detention areas are configured to restrict flow rates to a nominal storm size, in accordance with design requirements.
- ***Airfield Catch Basin Locations:*** Aside from aircraft parking areas, catch basins are located off pavement surfaces in turf areas. This provides benefit for stormwater quality by utilizing the turf as a filtering agent prior to the stormwater entering the catch basins.
- ***Vegetated Swales:*** Vegetated swales convey overland runoff to outfalls without detention areas. These features provide benefit to stormwater quality by filtering solids from the stormwater.

In 2015, GFIA completed construction of its long-term stormwater/deicing management system. The system includes a detention basin with trash racks, a multiple stage subsurface natural treatment system (NTS), a submerged multi-port diffuser discharge to the Thornapple River (Outfall 011), and an additional off-line detention basin for high flow storm events. The system treats stormwater formerly discharged at Outfall 001 and also includes drainage from deicing areas that previously went to Outfalls 004 and 007. The system was designed to capture runoff from all major deicing areas including air carrier, freight operator, and FBO activities. The system provides significant removal of solids and organic materials including deicers.

6.2 Assessment of BMPs and Significant Materials

With the existing structural and non-structural source controls at GFIA, no significant materials are anticipated to be present in GFIA stormwater beyond those allowed by the GFIA NPDES permit.

GFIA retains the right to evaluate, recommend and implement additional structural source controls in the event existing BMPs are deemed ineffective.

7 Deicing Management and Monitoring

7.1 Deicing Management and Monitoring Plans

Since 2000, GFIA has implemented a formal program to monitor and improve the quality of stormwater discharges from pavement and aircraft deicing and anti-icing activities/areas. In accordance with permit requirements, the program is summarized in the annual Deicing Management & Monitoring Program Plan. These annual plans describe:

1. The monitoring activities GFIA conducts each deicing season to comply with the requirements of the permit (i.e., seasonal- and event-specific weather information, deicer usage information, and discharge monitoring activities); and,
2. The BMPs utilized by GFIA to minimize the effects of deicing and anti-icing activities on the quality of stormwater runoff discharged from the airport.

Management of aircraft and pavement deicing and anti-icing fluids is a formal program at GFIA that combines both non-structural (e.g., program development, training, monitoring, recordkeeping, etc.) and structural (e.g., NTS, catch basin inserts, runoff collection and recycling, source reduction, etc.) controls. As such, this program warrants its own section within this SWPPP.

GFIA's current De-Icing Management and Monitoring Plan (December 2022) is included as Appendix G of this plan. Furthermore, the SWPPP will be modified by January 10 of each subsequent year.

7.2 Deicing Discharge Minimization Progress Tracking and Reporting

Results from the activities performed under the Deicing Management Program are summarized annually in an ADF Discharge Minimization Report (formerly, Deicer Progress Report), as required by Section I.A.6 of the permit. These annual reports include:

1. Summaries of the deicing management and monitoring program including:
    - Seasonal aircraft and pavement deicer usage information (total gallons of Type I and Type IV ADF used, total gallons ADF recycled, and percent of total gallons ADF used that was collected and prevented from being discharged); and,
2. Summaries of ADF BMPs including information, measures, and data to demonstrate the extent to which those BMPs are reducing ADF discharges to receiving waters.

The report covers the period of October 1 through May 31 and is due annually to EGLE on or before September 1. Copies of completed annual reports are also kept on file at GFIA.

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8
Plan Implementation

This SWPPP requires the continued implementation of non-structural and structural controls of significant materials that have the potential for stormwater contamination at GFIA. While implementation of both structural and non-structural controls has occurred, the process remains on-going to ensure that appropriate control measures are consistently being performed.

8.1 Plan Review and Update

The following actions will be taken to keep this SWPPP current:

- GFIA will review the plan annually. Prior to June 1 of each year, GFIA will prepare and maintain written summaries of the review. Based on the review, GFIA will amend the plan as necessary to ensure permit compliance. The review will consider amendments and/or revisions to the SWPPP in light of:
  - Significant changes in the use and/or storage of significant materials;
  - The potential for new construction/developments to impact stormwater; and,
  - Changes deemed necessary due to recorded spills within the past year.

All amendments or revisions will include a description of how the Airport will control any new stormwater pollution sources resulting from the above changes. All plan amendments or revisions will be certified by a Certified Stormwater Operator.

8.2 Record Keeping

The permit requires that records of all inspection and maintenance activities, comprehensive site inspections, and incidents such as spills or other discharges be retained for three years. Copies of all logbooks or other supporting data will be made available to EGLE or its authorized representative upon request. The following records will be developed and kept on file with the SWPPP as they become available:

- Completed spill reports, listing the date of the spill, the name of the person who discovered the spill, the spill location, the type and volume of material spilled, the cause of the spill, the corrective action taken, and the agencies or persons contacted. A copy of the spill reporting form is contained in Appendix B.
- Completed annual employee training records, listing the time and date of the training session(s), the name and signature of the trainer, the names and signatures of the employees attending the session(s), and a list of topics covered during the session. A copy of the training record form is contained in Appendix C.
- Completed comprehensive site inspections. A sample inspection report form is included in Appendix C.
- Completed visual assessments. The assessment form is included in Appendix D.
- Annual Deicing Management Reports.

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9
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 gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

(Signature of Certified Stormwater Operator)	**I-18405** (Certification Number)
Michelle Baker (Printed Name)	(Date)
(Signature of Corporate Officer)	(Date)
Torrance Richardson, A.A.E (Printed Name)	President-CEO (Title)
(Signature of Document Preparer)	January 1, 2020 (Date)
Chris Cieciek. – LimnoTech (Printed Name)	I-06273 (Certification Number)

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Figures

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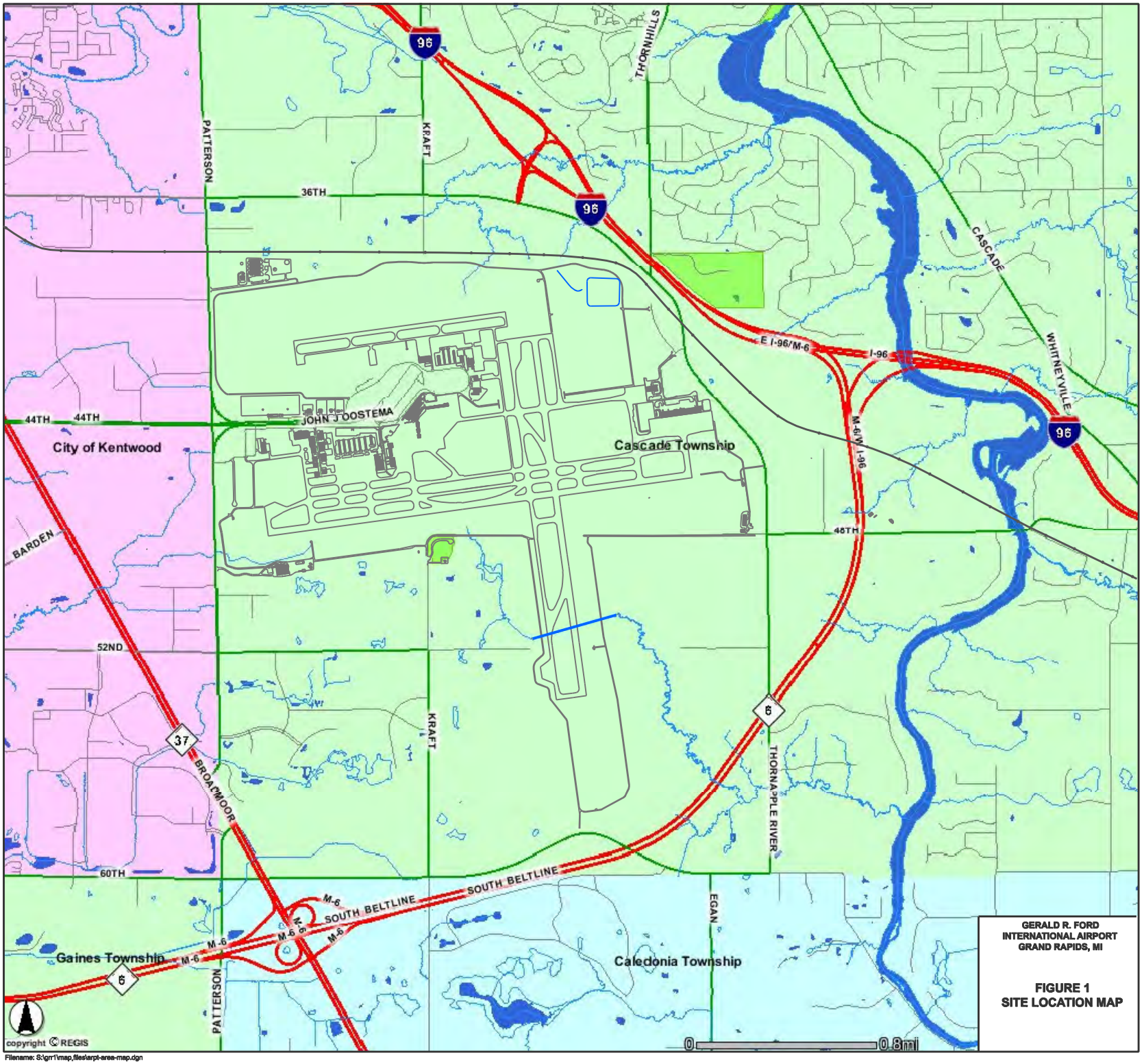


Filename: S:\grr1\map_files\arpt-area-map.dgn

AIRPORT ELEVATION	794 MSL
LATITUDE	42°52'55.48"
LONGITUDE	85°31'23.72"
TOWER	135.65
GROUND	121.8
EMERGENCY	121.5
ATIS	127.1
CLEARANCE DELIVERY	119.3
APPROACH & DEPARTURE (NORTH)	124.6
APPROACH & DEPARTURE (SOUTH)	128.4

BUILDING INDEX

(100)	TERMINAL	847.2	(300)	RADAR (ASR-9)	817.5
(101)	FAA-ATCT	926.7	(301)	GFIAA - MAINTENANCE	824.6
(102)	W. MICH. AVIATION ACADEMY	828.9	(303)	GFIAA - MAINTENANCE	820.1
(103)	PARKING/CAR RENTAL OFFICE	861.0	(304)	26L GLIDE SLOPE (FAA)	795.0
(104)	MAIN CANOPY STRUCTURE	873.0	(305)	8R LOCALIZER (FAA)	808.0
(105)	GATEWAY CANOPY & BLDS	834.3	(306)	26L MALSR (FAA)	806.4
(107)	KCRDC (S. COMPLEX)	889.8	(308)	THORNAPPLE POINTE	755.6
(108)	GFIAA ELEC. VAULT	799.9	(309)	THORNAPPLE POINTE	744.3
(109)	NAT. WEATHER/RADAR	895.7	(310)	THORNAPPLE POINTE	762.7
(110)	GFIAA PARKING BLDG	828.9	(311)	RWY 35 MALSR (FAA)	785.9
(111)	CONTRACT PARKING BLDG	808.9	(312)	RWY 35 GLIDE SLOPE (FAA)	795.4
(112)	FAA ELEC. VAULT	799.9	(313)	AIRPORT VIEWING PARK	802.0
(113)	PUMP HOUSE FOR IRRIGA.	815.6	(401)	SWISSPORT & GLOBAL(FRT)	819.7
(119)	W. MICH. AVIATION ACADEMY	790.1	(402)	GFIAA (AVAILABLE)	818.2
(200)	SIGNATURE FLIGHT NORTH	818.0	(403)	SIGNATURE AVIATION (FBO)	820.7
(201)	SIGNATURE FLIGHT NORTH	806.4	(404)	GFIAA - UTILITY PLANT	793.0
(202)	SIGNATURE FLIGHT NORTH	808.7	(405)	ISLAND INVESTMENTS	812.8
(203)	SIGNATURE N. (FBO) / N. JET	815.2	(406)	STEELCASE	825.8
(205)	ARFF STATION	813.2	(407)	AERO-MED	818.0
(206)	RWY 35 LOCALIZER (FAA)	792.7	(408)	TRESSTAR	826.6
(207)	FEDEX BLDG./ US CUSTOMS	814.3	(409)	ALTICOR	843.2
(208)	MENLO/UPS	811.0	(410)	ALTICOR	838.3
(208)	SIGNATURE NORTH / N. JET	816.6	(412)	ALTICOR	815.1
(211)	AVFLIGHT FBO	780.2	(413)	L3 COMMUNICATIONS	814.0
(212)	AVFLIGHT	819.0	(414)	BISSELL	823.3
(219)	GFIAA - OPERATIONS	782.0	(415)	AMERITECH	779.8
			(416)	26L LOCALIZER (FAA)	794.4
			(418)	8R GLIDE SLOPE (FAA)	798.7
			(419)	REMOTE TRANSMITTER (FAA)	807.4
			(420)	GFIAA - FIELD MAINT. BLDG.	821.0
			(421)	GFIAA - FIELD MAINT. BLDG.	804.4
			(422)	GFIAA - SAND DOME	826.9
			(423)	GFIAA - SALT DOME	813.6
			(424)	KISD	820.3
			(425)	ENTERPRISE	797.5
			(426)	ENTERPRISE	797.1
			(427)	VANGUARD	798.8
			(428)	VANGUARD	798.6
			(429)	HERTZ	798.2
			(430)	HERTZ	799.6
			(431)	BUDGET	796.5
			(432)	BUDGET	793.4
			(433)	AVIS	797.9
			(434)	AVIS	798.2
			(435)	8R MALSR (FAA)	794.4
			(436)	SIGNATURE FLIGHT HANGAR	826.6
			(437)	SIGNATURE FLIGHT (FBO)	813.10
			(439)	E5 VENTURES HANGER	794.0
			(444)	MEIJER	784.0
			(455)	SAND STORAGE BUILDING	800.0

RAMP #1-TRANSIENT PARKING
RAMP #2-BASED AIRCRAFT MO./PKG.
RAMP #3-BASED AIRCRAFT MO./PKG.
RAMP #5-BASED AIRCRAFT
RAMP #9-BASED AIRCRAFT MO./PKG.
RAMP #10-BASED AIRCRAFT MO./PKG.

LEGEND
AIRPORT BOUNDARY FENCE LINE

PAVEMENT GROSS LOADINGS (THOUSANDS OF LBS.)

LOCATION	DUAL/TAN	DUAL	SINGLE
Rwys 8R/26L & 17/35, TXYS A, A1, A2, B, B1, thru B5, D, D1, D2, K, K1, L, M, N, P, R (S. of D), V, Y (S. of D), R, Z (S. of D), Hold Aprons 8L, 26R, 17, 35, Terminal & Air Carrier Aprons, FEDEX & UPS Aprons	350	190	--
Txys R (N. of D), Y (N. of D & S. of Perimeter Rd), Ramps 2 & 3	--	175	--
Txys J (From J1 to J4), J1 thru J4, Z (N. of D), Z1, Ramps 9 & 10, Hold Apron 26R	--	100	75
Ramp 1	--	75	52
Ramp 5	--	72	60
Rwy 8L/26R, Txy J (W. of J4), Hold Apron 8L	--	60	52
Txys G & F	--	47	40
KISD Ramp	--	--	45
Txy Y (N. of Perimeter Rd) & Old FSDO Ramp	--	40	30

GERALD R. FORD INTERNATIONAL AIRPORT

5500 44TH STREET, S.E.-GRAND RAPIDS, MICHIGAN 49512

AS CONSTRUCTED PLAN (2022-ACP.dwg)

July 2022

GRAPHIC SCALE
0 250 500 1000 2000
SCALE 1"=1000'

TRUE NORTH
MAGNETIC NORTH
5° 6' WEST
MARCH 1, 2005
3' W. ANNUAL RATE OF CHANGE

(ROT. 7D10'9")
I:\AUTOCAD\Airport As-Constructed Plans\2022-ACP.dwg

OUTFALL	AIR SIDE DRAINAGE (ACRES)	LAND SIDE DRAINAGE (ACRES)	DRAINAGE AREA (ACRES)
001	115	35	250
002	–	35	35
003	35	285	320
004	320	435	755
005	80	70	150
006	85	60	145
007	100	80	180
008	155	60	215
009	55	85	140
010	–	30	30
011	760	100	860

North

GRAPHIC SCALE

0 1000 2000 3000 4000

L E G E N D

- SUBBASIN 1
- SUBBASIN 2
- SUBBASIN 3
- SUBBASIN 4
- SUBBASIN 5
- SUBBASIN 6
- SUBBASIN 7
- SUBBASIN 8
- SUBBASIN 9
- SUBBASIN 10
- SUBBASIN 11
- 00X POINT OF DISCHARGE
- MONITORING LOCATION
- 00 INSPECTION LOCATION
- POTENTIAL PFAS IMPACT LOCATION
- DTB DETENTION BASIN
- NTS NATURAL TREATMENT SYSTEM
- FF FUEL FARM
- EMERGENCY OVERFLOW BYPASS

Receiving water for outfalls 001 through 005, and 010 through 011 is Thornapple River.

Receiving water for outfalls 006 through 009 is Plaster Creek.

GERALD R. FORD INTERNATIONAL AIRPORT

KENT COUNTY, MICHIGAN

AIRPORT DRAINAGE PLAN

FIGURE 3

Prein&Newhof

2211196

JANUARY 2022

T:\CIVIL3D PROJECTS\2021\2211196_LIMO TECH_GFIA 2022 STORMWATER\4_PROD\2211196_F3_AIRPORT DRAINAGE PLANLIMO - JBEUTER - Dec, 19 2022 - 02:45pm - PreinNewhof

North

GRAPHIC SCALE

0 1000 2000 3000 4000

LEGEND

EXISTING STORM SEWER

PROPERTY LINE

SUMP PUMP

GERALD R. FORD INTERNATIONAL AIRPORT

KENT COUNTY, MICHIGAN

STORMWATER DRAINAGE LAYOUT

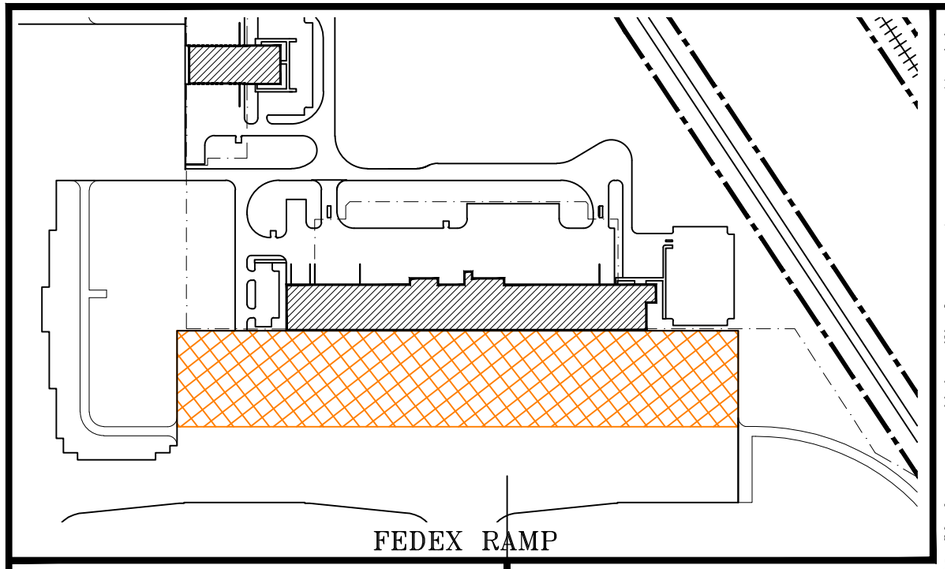
FIGURE 4

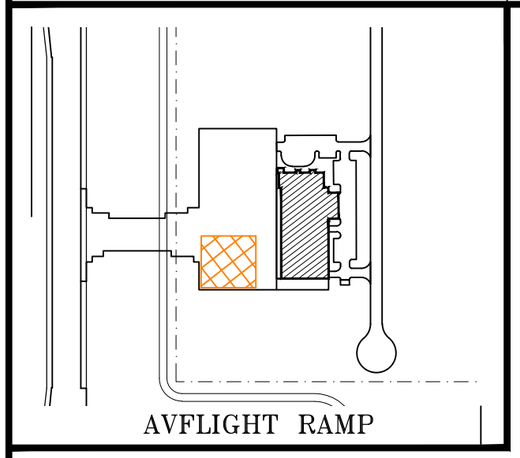
Prein&Newhof

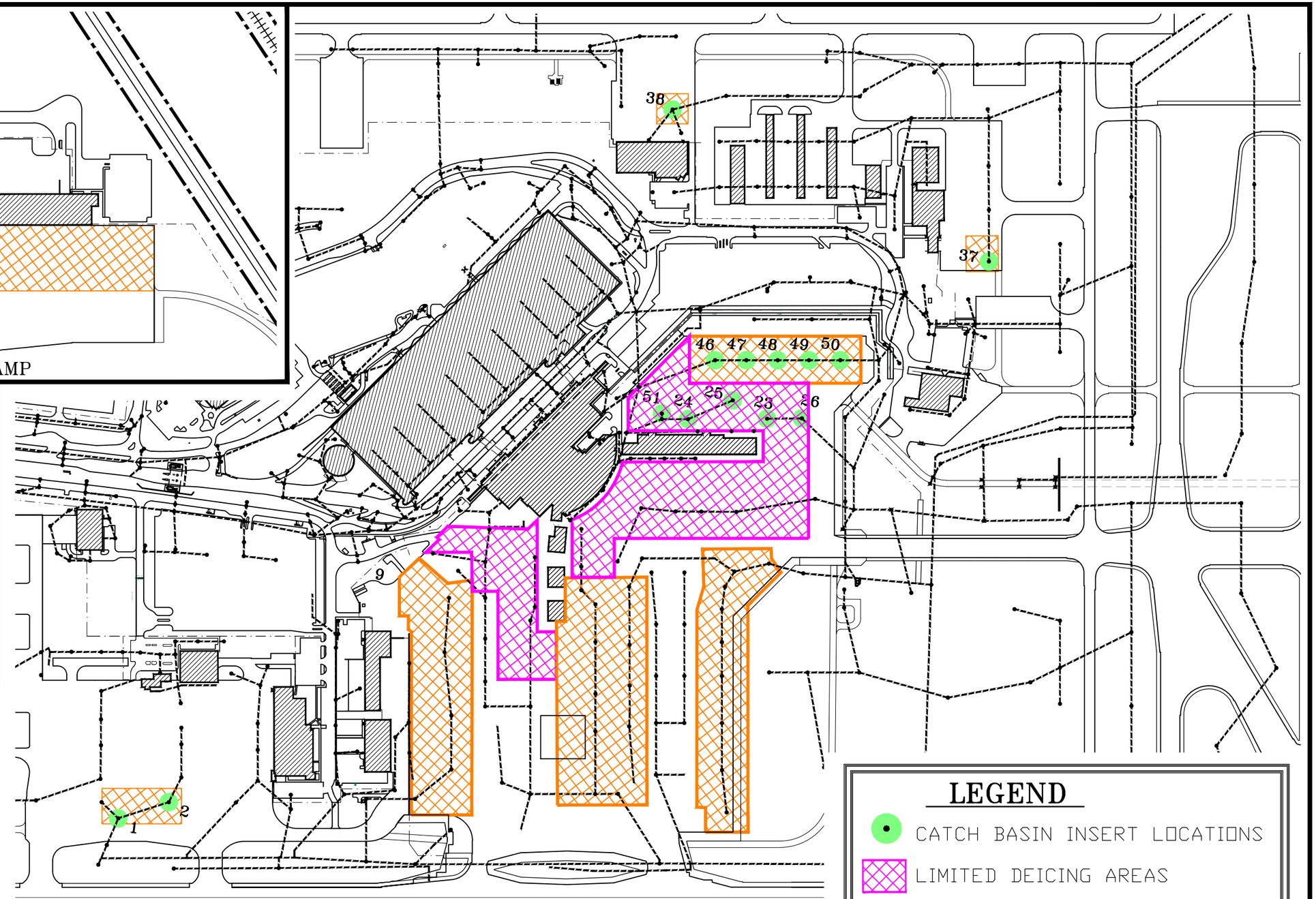
2180646

JUNE 2019

T:\CIVIL/D PROJECTS\2021\211196_LIMNO TECH_GFIAA 2022 STORMWATER\4_PROD\211196_F4_STORMWATER DRAINAGE LAYOUT.DWG - JBELFER - Dec, 19 2022 - 02:45pm - PrintNewhof







LEGEND

- CATCH BASIN INSERT LOCATIONS
- LIMITED DEICING AREAS
- PREFERRED DEICING AREAS

GRAPHIC SCALE

0 200' 400' 800' 1600'

SCALE 1"= 400'

NORTH

2021-2022 DEICING AREA MAP

GERALD R. FORD International Airport

GERALD R. FORD INTERNATIONAL AIRPORT

5500 44TH ST SE GRAND RAPIDS, MICHIGAN 49512

GERALD R. FORD INTERNATIONAL AIRPORT AUTHORITY

DEICING22.dwg

DATE REVISED	SHT NO
4. 00-00-00	
3. 06-29-21	
2. 10-05-20	
1. 10-11-19	1
DATE REVISED	RTS

I:\AUTOCAD\DRAINAGE\DEICING22.dwg

STRUCTURAL BMPS

LOCATION	MATERIAL	OWNER	STORAGE LOCATION	STORAGE CAPACITY	CONTAINMENT METHOD
1	TYPE IV PROPYLENE GLYCOL	MULTIPLE TENANTS	APRON, NORTH OF BLDG 401	8,000 GAL	DOUBLE-WALL TANK
2	DIESEL FUEL	FAA (BACKUP GENERATOR)	BLDG 300	2,000 GAL	DOUBLE-WALL TANK
3	DIESEL FUEL	FAA (BACKUP GENERATOR)	SW, JUST OUTSIDE BLDG 101	1,000 GAL	DOUBLE-WALL TANK
4	DIESEL FUEL	FEDERAL EXPRESS	N. OF BLDG 207	500 GAL	DOUBLE-WALL TANK
4	UNLEADED GASOLINE	FEDERAL EXPRESS	N. OF BLDG 207	500 GAL	DOUBLE-WALL TANK
5	DIESEL FUEL	GFIAA	S. OF BLDG 100	1,329 GAL	DOUBLE-WALL TANK
6	UNLEADED GASOLINE	SIGNATURE AVIATION	N. OF BLDG 403	1,000 GAL	DOUBLE-WALL TANK
7	AV GAS	SIGNATURE AVIATION	FUEL FARM	10,500 GAL	CONCRETE DIKING
7	JET FUEL	SIGNATURE AVIATION	FUEL FARM	15,500 GAL	CONCRETE DIKING
8	UNLEADED GASOLINE	GFIAA	E. OF BLDG 420	300 GAL	DOUBLE-WALL TANK
9	JET FUEL	STEELCASE (TWO TANKS)	FUEL FARM	30,000 GAL	DOUBLE-WALL TANKS
10	DIESEL FUEL	FAA (BACKUP GENERATOR)	BLDG 419	500 GAL	DOUBLE-WALL TANK

NOTES :

A. SECONDARY CONTAINMENT LOCATIONS FOR ABOVE GROUND TANKS SHOWN. DRUMS ARE ENCOURAGED TO BE STORED UNDER ROOF AND ON SPILL PALLETS. WHEN STORED OUTDOORS, DRUMS ARE REQUIRED TO BE ON PORTABLE SECONDARY CONTAINMENT. LOCATIONS AND QUANTITIES MAY VARY. (REFER TO TABLE 3-2 FOR ADDITIONAL INFORMATION).

B. EXPOSED AND/OR ERODIBLE SOILS: THE AIRPORT MAINTAINS VEGETATION ON ALL NON-PAVED AREAS. CURRENT CONSTRUCTION AREAS ARE NOT SHOWN AS THEY ARE SUBJECT TO CHANGE. WHEN PRESENT, ERODIBLE SOILS ARE MAINTAINED UNDER SEPARATE CONSTRUCTION STORMWATER OR SESC PERMITS.

North

GRAPHIC SCALE

0 1000 2000 3000 4000

LEGEND

- (1) SECONDARY CONTAINMENT STRUCTURES
- AREA OF VEGETATION
- PAVEMENT AREA
- AREA OF EXPOSED AND/OR ERODIBLE SOILS
- OIL/WATER SEPARATOR LOCATION

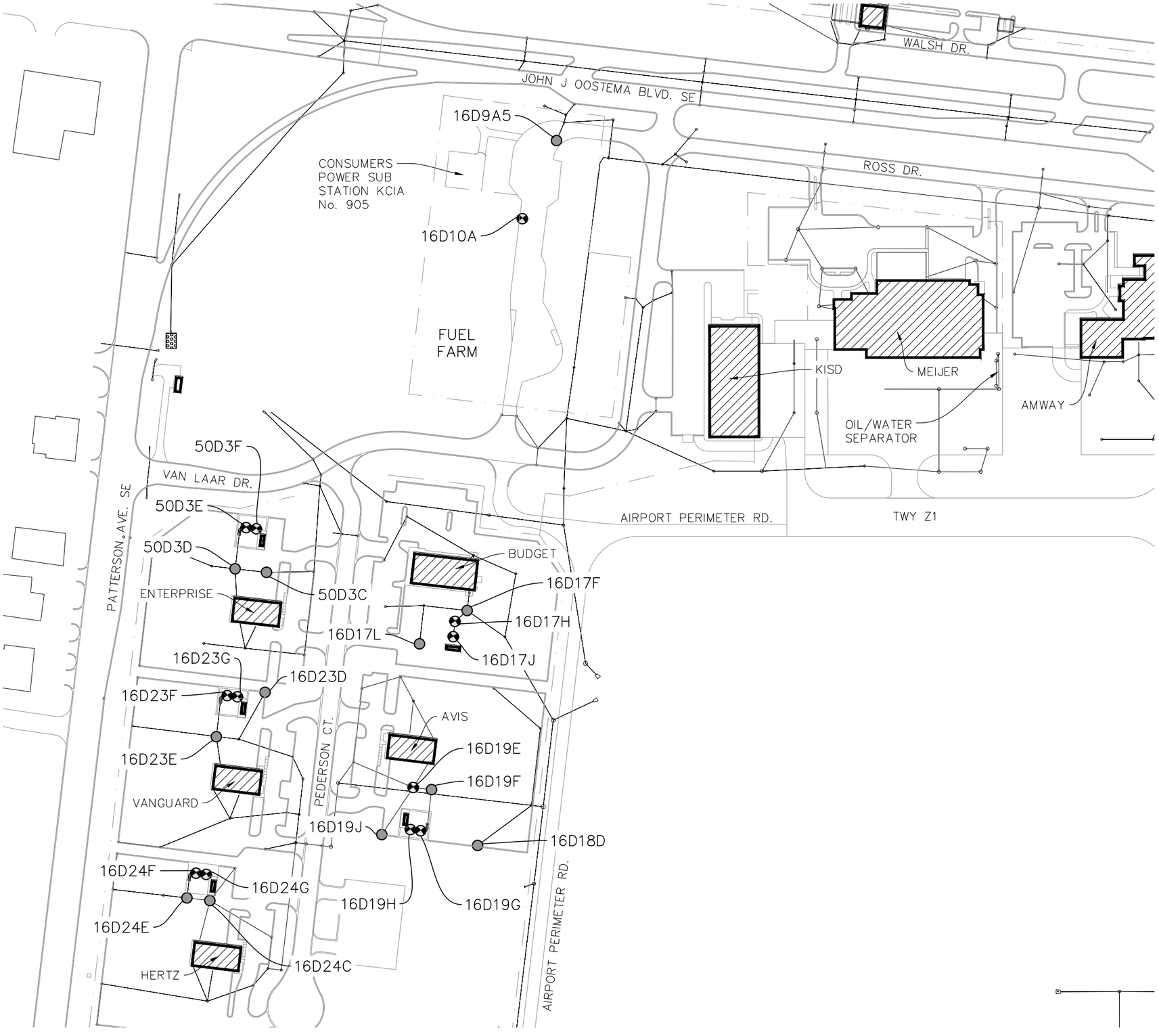
GERALD R. FORD INTERNATIONAL AIRPORT
KENT COUNTY, MICHIGAN

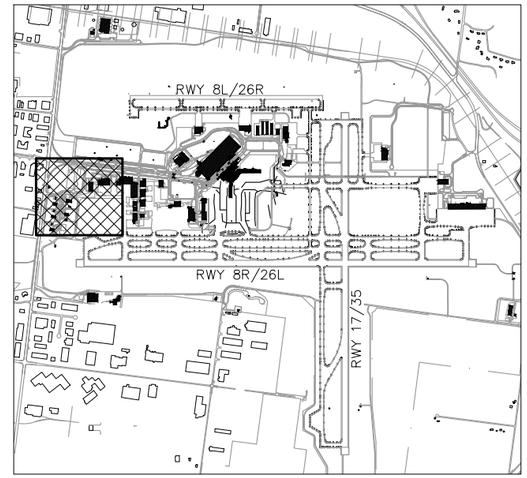
ADDITIONAL SWPPP INFORMATION

FIGURE 6

Prein&Newhof
2211196
JANUARY 2022

T:\CIVIL\D PROJECTS\2021\2211196_LIMNO TECH_GFIAA 2022 STORMWATER\4_PROD\2211196_F6_ADDITIONAL SWPPP INFORMATION.DWG - JEELER - Dec, 19 2022 - 02:44pm - PreinNewhof





KEY

LEGEND

- BULK MATERIAL CATCH STRUCTURE
- CLOSEST INLET STRUCTURE

North

GRAPHIC SCALE

0 100 200 300 400

GERALD R. FORD INTERNATIONAL AIRPORT

KENT COUNTY, MICHIGAN

ADDITIONAL SWPPP INFORMATION INLET STRUCTURES

FIGURE 7

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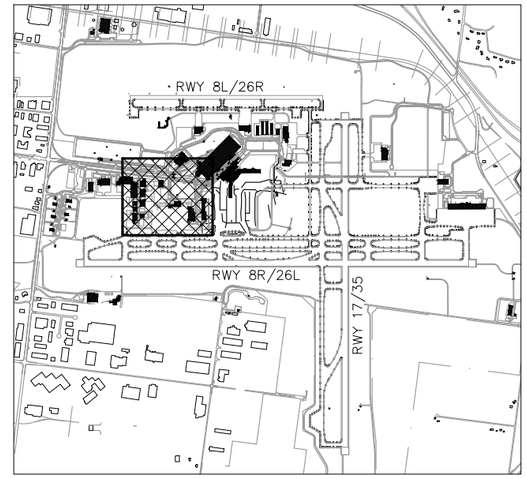
JUNE 2019

WALSH DR.
JOHN J OOSTEMA BLVD. SE
ROSS DR.
GATEWAY DR.
WEST MICHIGAN AVIATION ACADEMY
PARKING
TERMINAL DR.
AMWAY
16D6A4
AMWAY
16D6A5
16D6A3B
CORPORATE DR.
TRESSTAR
ENGEN
AEROMED
2D9B3D
2D9B3C
TXW Y
AMWAY
STEELCASE
L3 COMMUNICATIONS
2D10A2
2D10A1A
BISSELL
TWY Z
ISLAND INVESTMENTS
AIRPORT PERIMETER RD.
TWY Y
TWY R
12D9B
12D9A
12D9
12D3A5
12D3A6
12D3A4
LANDMARK AVIATION FBO
GLYCOL COLLECTION TANKS



KEY

LEGEND

- BULK MATERIAL CATCH STRUCTURE
- CLOSEST INLET STRUCTURE

North

GRAPHIC SCALE

0 100 200 300 400

GERALD R. FORD INTERNATIONAL AIRPORT
KENT COUNTY, MICHIGAN

ADDITIONAL SWPPP INFORMATION INLET STRUCTURES

FIGURE 8

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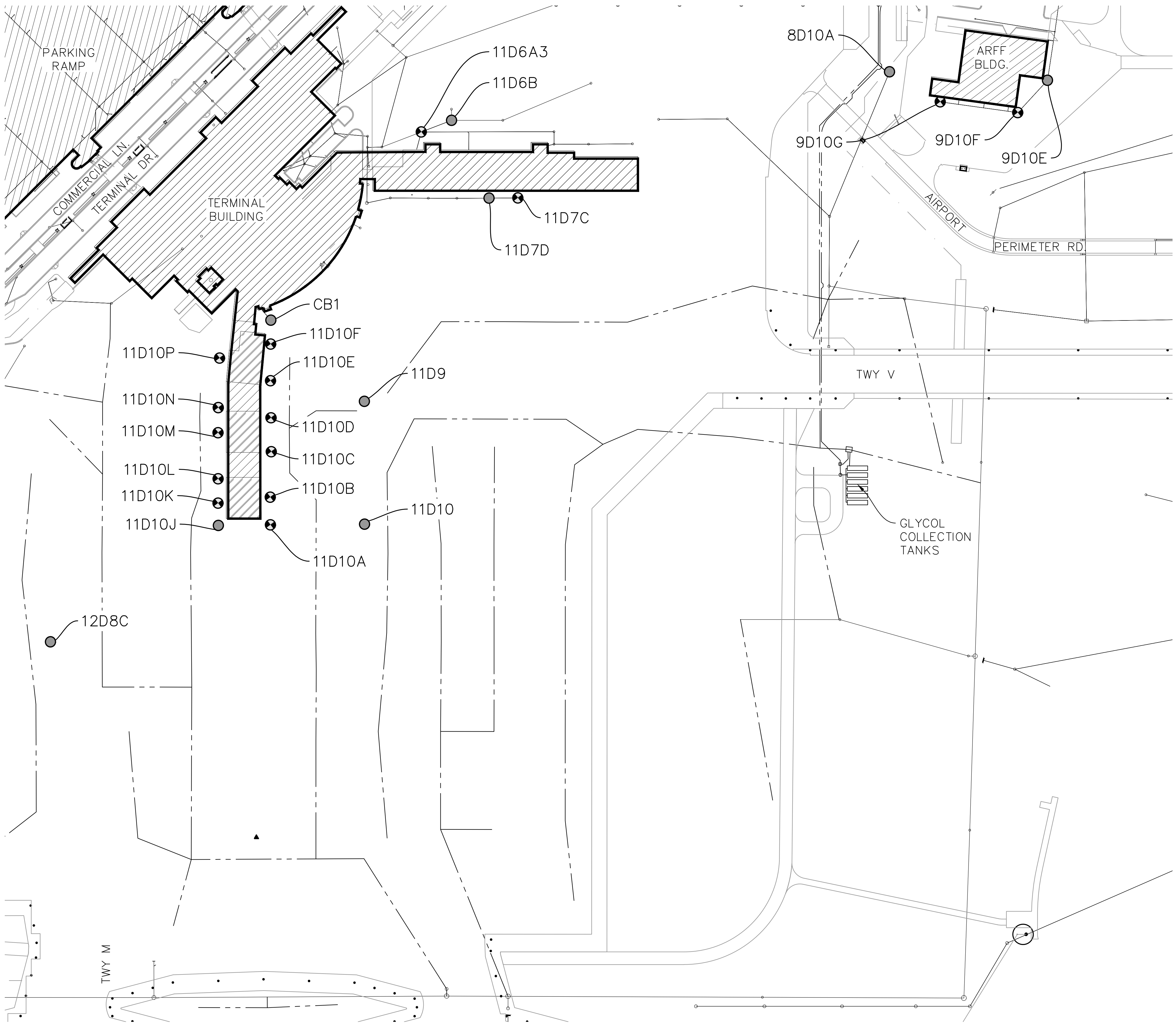

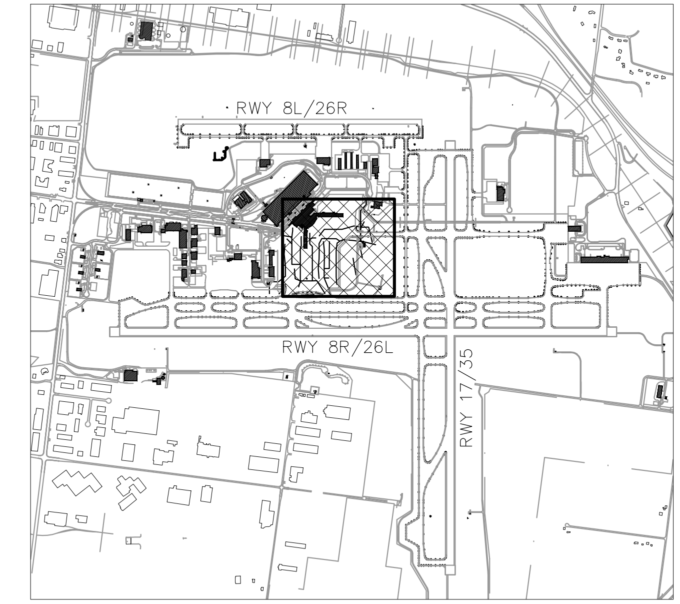

KEY

LEGEND

⊗	BULK MATERIAL CATCH STRUCTURE
●	CLOSEST INLET STRUCTURE

North

GRAPHIC SCALE

0 100 200 300 400

GERALD R. FORD INTERNATIONAL AIRPORT
KENT COUNTY, MICHIGAN

ADDITIONAL SWPPP INFORMATION INLET STRUCTURES

FIGURE 9

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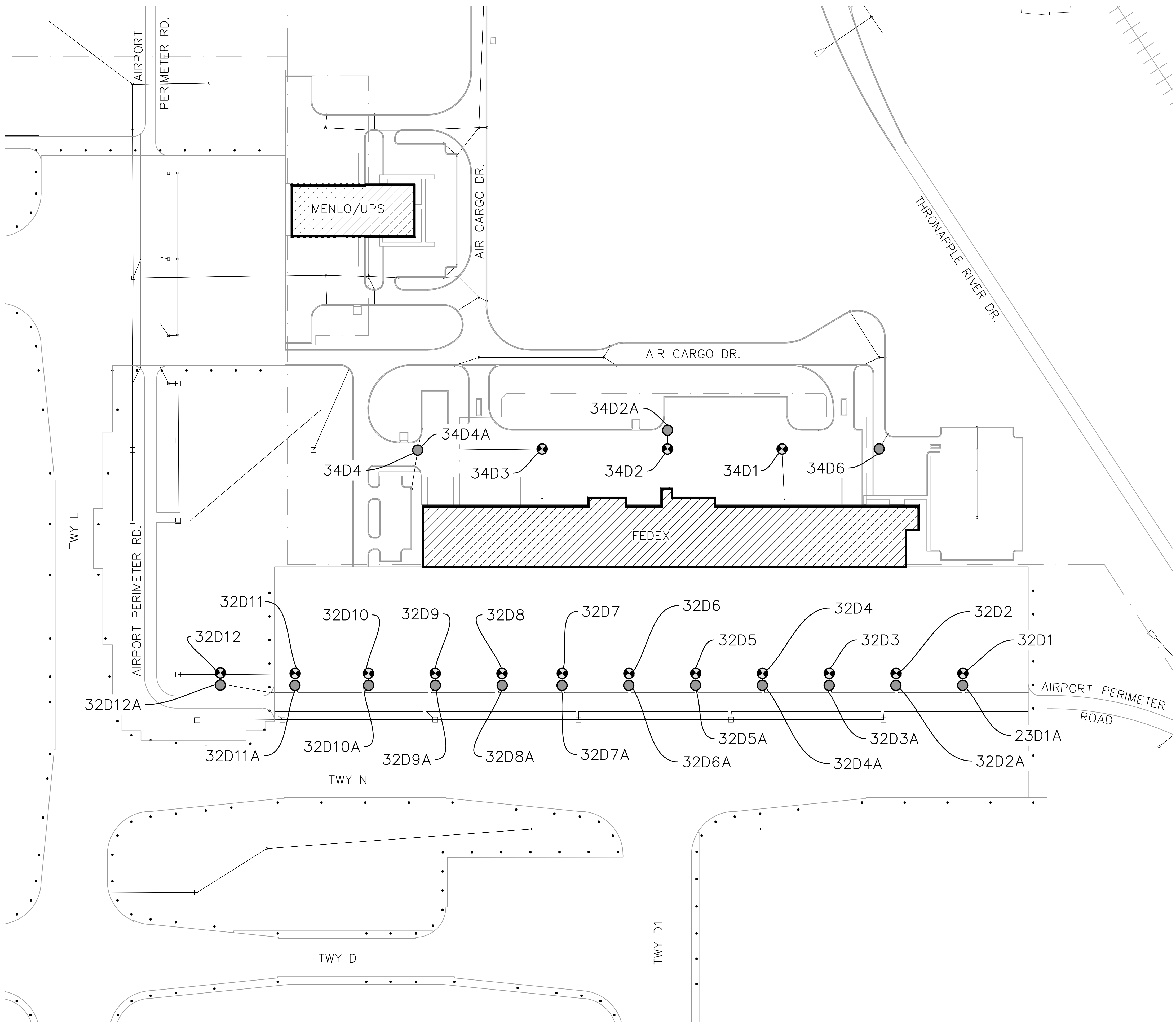
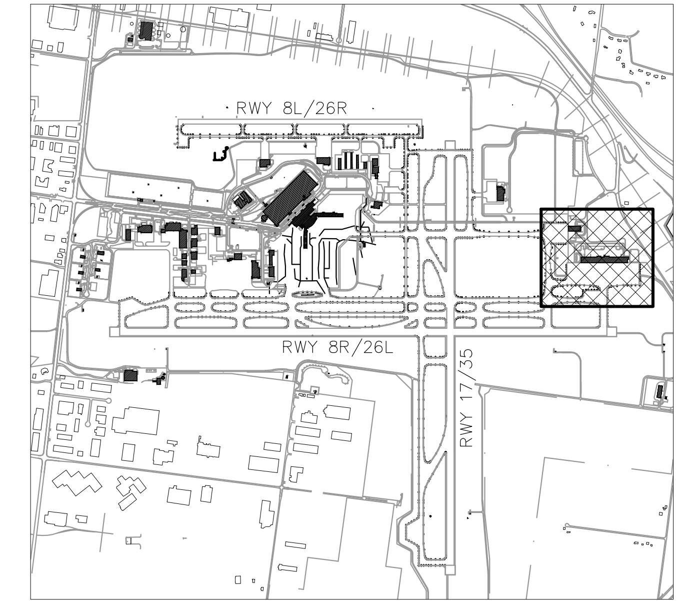
JUNE 2019

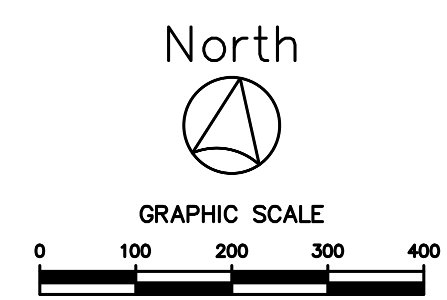




KEY

LEGEND

Symbol	Description
⊗	BULK MATERIAL CATCH STRUCTURE
●	CLOSEST INLET STRUCTURE



GERALD R. FORD INTERNATIONAL AIRPORT
KENT COUNTY, MICHIGAN

ADDITIONAL SWPPP INFORMATION INLET STRUCTURES

FIGURE 10

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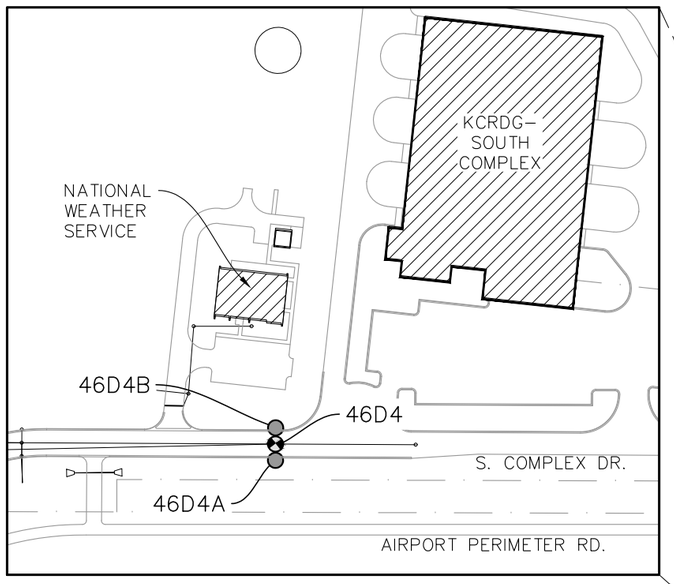

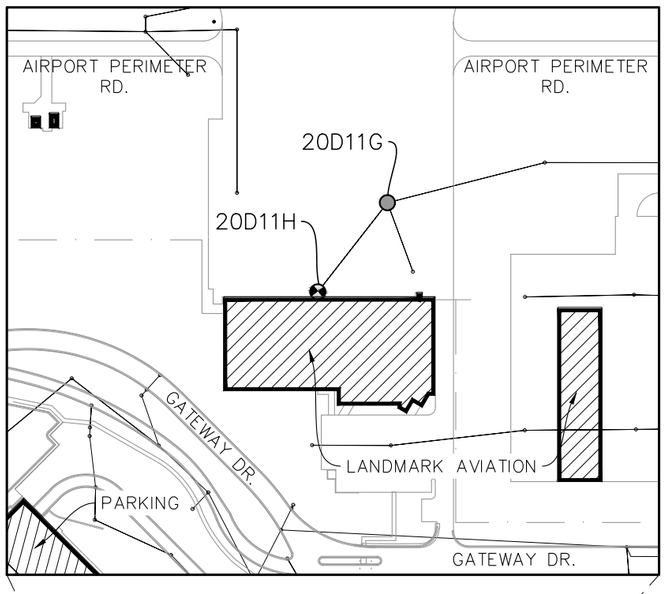

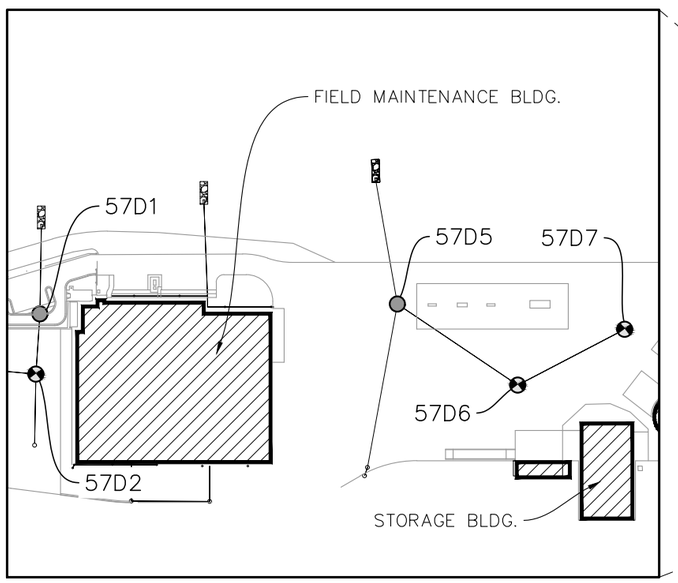

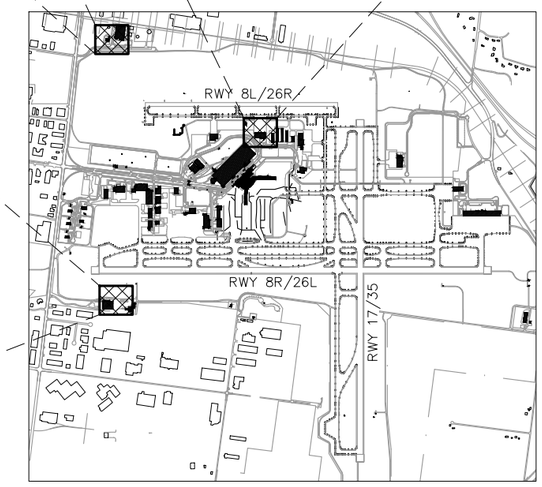

KEY

LEGEND

- BULK MATERIAL CATCH STRUCTURE
- CLOSEST INLET STRUCTURE

North

GRAPHIC SCALE

0 100 200 300 400

GERALD R. FORD INTERNATIONAL AIRPORT

KENT COUNTY, MICHIGAN

ADDITIONAL SWPPP INFORMATION
INLET STRUCTURES

FIGURE 11

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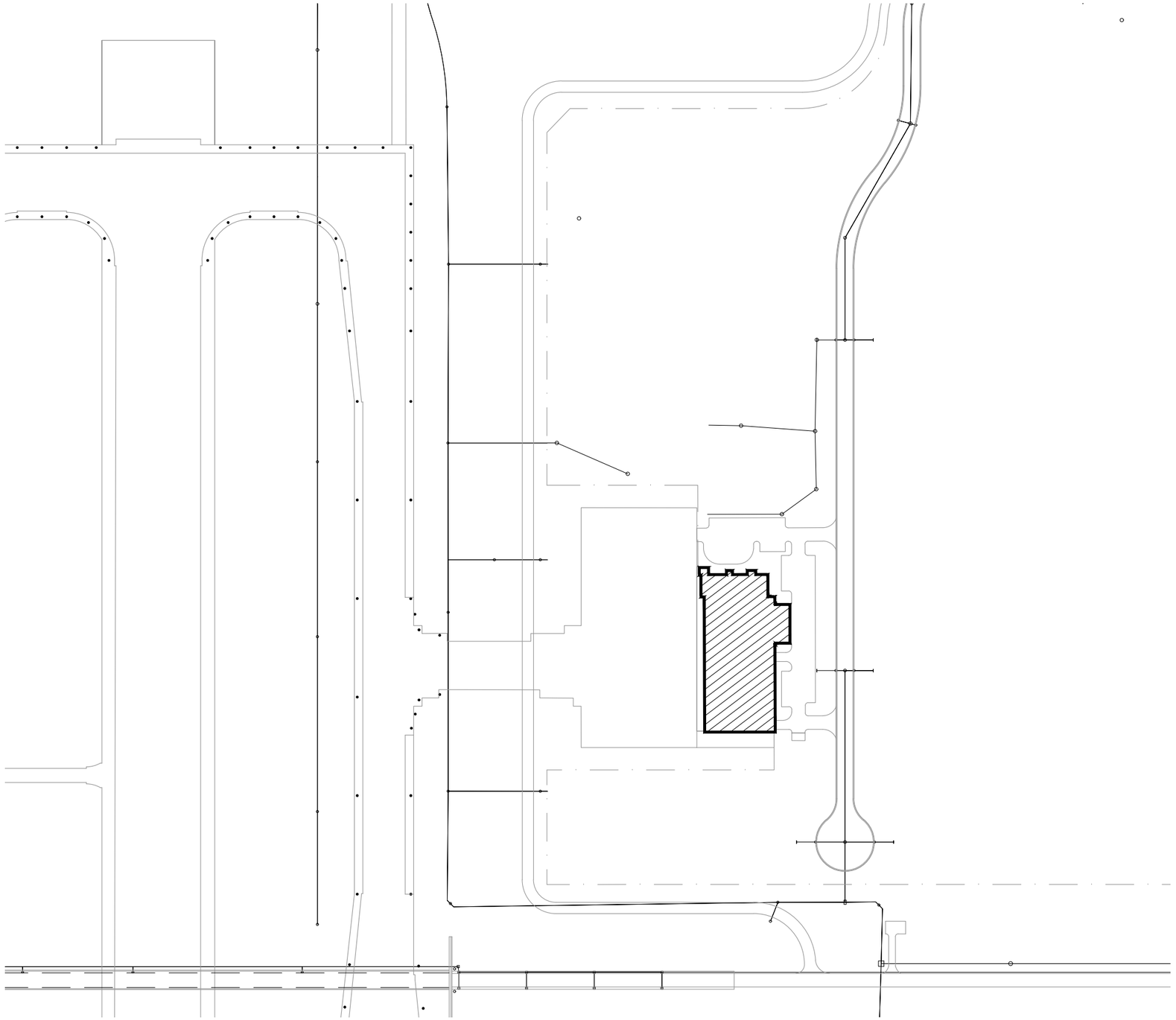

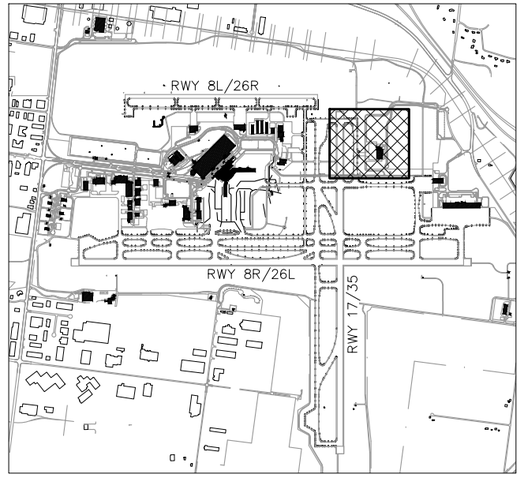

KEY

LEGEND

- BULK MATERIAL CATCH STRUCTURE
- CLOSEST INLET STRUCTURE

North

GRAPHIC SCALE

0 100 200 300 400

GERALD R. FORD INTERNATIONAL AIRPORT

KENT COUNTY, MICHIGAN

ADDITIONAL SWPPP INFORMATION INLET STRUCTURES

FIGURE 12

Prein&Newhof

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JUNE 2019

Tables

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Table 2-1
Stormwater Pollution Prevention Team
Gerald R. Ford International Airport
Grand Rapids, Michigan

Signature Authority:	Casey Ries, P.E.
Title:	Engineering and Facilities Director
Phone Number:	616-233-6000
Plan Supervisor:	Michelle Baker
Title:	Environmental Manager
Phone Number:	616-233-6000
Responsibilities:	Coordination of SWPPP Implementation, Including: Coordinating Inspections and visual assessments Recordkeeping Identifying facility changes Contacting Outside agencies if needed Following up with tenants as necessary
Team Member:	Clinton Nemeth, P.E.
Title:	Engineering Manager
Phone Number:	616-233-6000
Responsibilities:	Coordinating and Implementing routine inspections Assisting with visual assessments
Team Member:	
Title:	Engineering Technician
Phone Number:	616-233-6000
Responsibilities:	Coordinating and Implementing routine inspections Assisting with visual assessments
Team Member:	Airport Communications Center
Title:	N/A
Phone Number:	616-233-6055
Responsibilities:	Contacting emergency coordinator/ARFF or outside agencies if necessary
Team Member:	Aircraft Rescue and Fire Fighting (ARFF)
Title:	N/A
Phone Number:	616-233-6077
Responsibilities:	Providing emergency response to issues as necessary.
Team Member:	Jim Weiler
Title:	Airfield Design and Construction Manager
Phone Number:	
Responsibilities:	

Table 3-1
Summary of Facilities with Industrial Activities
Gerald R. Ford International Airport, Grand Rapids, Michigan

Tenant	Industrial Activity?	Locations	Industrial Activity (See key below)														
			AD	AF	AM	ACW	PD	GS	OS	PHS	CS	TTP	EF	ED	EM	ES	CH
Aviation																	
Allegiant Airlines	Y	AC Apron, 100, 401			☑				☑								
American Eagle	Y	AC Apron, 100	☑					☑	☑			☑	☑			☑	
Delta Air Lines/Delta Connection/Delta Air Cargo	Y	AC Apron, 100, 401	☑					☑	☑		☑	☑	☑			☑	☑
Frontier Airlines	Y	AC Apron, 100							☑								
Southwest Airlines	Y	AC Apron, 100							☑								
United Airlines	Y	AC Apron, 100							☑								
Car Rental																	
Budget Car Rental	Y	431, 432							☑				☑	☑	☑	☑	
Avis Rent-A-Car	Y	433, 434							☑				☑	☑	☑	☑	
Enterprise Rent-A-Car	Y	425, 426							☑				☑	☑	☑	☑	
Hertz Rent-A-Car	Y	429, 430							☑				☑	☑	☑	☑	
Vanguard Rental Car	Y	427, 428							☑				☑	☑	☑	☑	
Cargo																	
FedEx	Y	207	☑	☑	☑			☑	☑			☑	☑	☑	☑	☑	☑
UPS	Y	208											☑		☑	☑	☑
Corporate Flight Departments																	
Alticor	Y	Fuel Farm, 409, 410, 412	☑	☑	☑				☑			☑		☑		☑	
Bissel	Y	414	☑	☑	☑				☑			☑		☑			
Island Hangar Investments	N	405							☑								
L3 Communications	Y	413		☑	☑				☑							☑	
Meijer	Y	444		☑	☑				☑			☑					
Spectrum Aero Med	Y	407		☑	☑				☑			☑				☑	
Steelcase Aviation	Y	Fuel Farm, 406	☑	☑	☑				☑			☑				☑	
E5 Ventures	Y	439			☑				☑								
Universal Forest Products	Y	408	☑	☑	☑				☑			☑		☑		☑	
General/Charter Aviation																	
Signature Flight Support	Y	200, 201, 202, 203, 403	☑	☑	☑			☑	☑			☑	☑	☑	☑	☑	
The Company Jet/Northern Jet Management	Y	203	☑		☑							☑		☑		☑	
Government Offices																	
Federal Aviation Administration	Y	100, 101, 300, 419, 435							☑								
National Weather Service	Y	109							☑		☑						
Transportation Safey Administration	Y	100									☑						
Other Tenants & Services																	
Kent County Road Commission	Y	107					☑		☑	☑			☑	☑	☑	☑	
Global Aviation Services	Y	401							☑						☑	☑	
Swissport	Y	AC Ramp, 401	☑					☑	☑		☑	☑	☑		☑	☑	☑
AV Flight	Y	AC Apron, 100, 213, 401	☑	☑	☑			☑	☑			☑	☑			☑	
GFIA Maintenance Department	Y	420, 421, 422, 423, 455					☑		☑	☑	☑	☑	☑	☑	☑	☑	
Metro Cab	Y	401														☑	
STS	Y	AC Apron, 401														☑	
Envoy	Y	AC Apron, 401	☑						☑		☑	☑	☑				

INDUSTRIAL ACTIVITIES KEY:

AD = Aircraft Deicing/Anti-icing
AF = Aircraft Fueling
AM = Aircraft Maintenance
ACW = Aircraft Washing
PD = Pavement Deicing (Chemical Storage and/or Use)
GS = Glycol Storage
OS = Oil Product Storage
PHS = Pesticide/Herbicide Storage and/or Use
CS = Other (Non-Glycol, Petroleum, Pesticide/Herbicide) Chemical Storage
TTP = Glycol/Fuel Tank Truck Parking
EF = Vehicle/Equipment Fueling
ED = Vehicle/Equipment Degreasing/Washing
EM = Vehicle/Equipment Maintenace
ES = Vehicle/Equipment Storage
CH = Cargo Handling

Table 3-2
Inventory of Bulk Significant Materials
Gerald R. Ford International Airport, Grand Rapids, Michigan

(Refer to Figure 2 for reference locations.)

Material	Owner	Storage Location	Storage Quantity (or capacity)	Storage Method	Surface Inlet Structure #	Outfall
Aircraft Deicing/Anti-icing Materials						
Type I and IV Propylene Glycol	American Eagle	FSDO Ramp	750/100-g each	ADF Truck	9D13	001/011
Type I and IV Propylene Glycol	American Eagle	FSDO Ramp	1800/300-g each	ADF Truck	9D13	001/011
Type I and IV Propylene Glycol	American Eagle	FSDO Ramp	1400/600-g each	ADF Truck	9D13	001/011
Type I and IV Propylene Glycol	AvFlight	Apron, E. of 401	1500/300 gals	ADF Truck	12D9	001/011
Type I and IV Propylene Glycol	AvFlight	Apron, E. of 401	700/300 gals	ADF Truck	12D9	001/011
Type I and IV Propylene Glycol	Delta Airlines	Outside 402	1800/300-g each	ADF Truck (580151)	12D9	001/011
Type I and IV Propylene Glycol	Delta Airlines	Near A1	1600/300-g each	ADF Truck (580075)	11D10A through 11D10P	001/011
Type I and IV Propylene Glycol	Delta Airlines	Near A1	1600/300-g each	ADF Truck	11D10A through 11D10P	001/011
Type I and IV Propylene Glycol	Delta Airlines	Near A1	1000/200-g each	ADF Truck	11D10A through 11D10P	001/011
Type I and IV Propylene Glycol	Federal Express	N. of 207	600/600-g each	ADF Truck	34D1 through 34D3	001/011
Type I and IV Propylene Glycol	Federal Express	N. of 207	600/600-g each	ADF Truck	34D1 through 34D3	001/011
Type I and IV Propylene Glycol	Federal Express	N. of 207	600/600-g each	ADF Truck	34D1 through 34D3	001/011
Type I and IV Propylene Glycol	Multiple Airlines	Apron, N. of 401	90 - 275-gallon totes	Polytotes in steel cages	12D9A	001/011
Type I and IV Propylene Glycol	Signature Flight Support	N. Of 403	1000/200-g each	ADF Truck	12D3A4	001/011
Type I and IV Propylene Glycol	Signature Flight Support	N. Of 403	1200/110-g each	ADF Truck	12D3A4	001/011
Type I and IV Propylene Glycol	Signature Flight Support	N. Of 403	1400/300-g each	ADF Truck	12D3A4	001/011
Type I and IV Propylene Glycol	Swissport	Apron, E. of 401	1900/200 gals	ADF Truck	12D9	001/011
Type I and IV Propylene Glycol	Swissport	Apron, E. of 401	1000/400 gals	ADF Truck	12D9	001/011
Type I and IV Propylene Glycol	Swissport	Apron, E. of 401	1000/400 gals	ADF Truck	12D9	001/011
Type I and IV Propylene Glycol	Swissport	Apron, E. of 401	1400/300-g each	ADF Truck	12D9	001/011
Type I and IV Propylene Glycol	Swissport	Outside 401	34 - 275 gallon totes	Polytotes in steel cages	12D9	001/011
Type I Propylene Glycol	AvFlight	Apron, N. of 401	12,000 gallons	Aboveground Storage Tank (Steel)	12D9A	001/011
Type I Propylene Glycol	Delta Airlines	Inside A	4,000 gallons	Aboveground storage tank (Steel) - stored indoors	1D10E	001/011
Type I Propylene Glycol	Delta Airlines	Apron, N. of 401	2,000 gallons	Aboveground Polytank	12D9A	001/011
Type I Propylene Glycol	Federal Express	S. Exterior of 207	5,000 gallons	Steel tank on trailer	Trench Drain 32D1 through 32D12	001/011
Type I Propylene Glycol	Federal Express	S. Exterior of 207	5,000 gallons	Steel tank on trailer	Trench Drain 32D1 through 32D12	001/011
Type I Propylene Glycol	Signature Flight Support	North of 403	16,000 gallons	Underground Storage Tank	12D3A5	001/011
Type I Propylene Glycol	Swissport	Apron, N. of 401	10,000 gallons	Aboveground Storage Tank (Steel)	12D9A	001/011
Type IV Propylene Glycol	AvFlight	Apron, N. of 401	7 - 275-gallon totes	Polytotes in steel cages	12D9A	001/011
Type IV Propylene Glycol	Federal Express	S. Exterior of 207	5,000 gallons	Steel tank on trailer	Trench Drain 32D1 through 32D12	001/011
Type IV Propylene Glycol	Signature Flight Support	N. Of 403	1,600 gals	Aboveground Polytank	12D3A5	001/011
Waste Type I/IV Propylene Glycol/Runoff	GFIA	Apron, N. of 401	3-1,500 gallon polytanks	Polytanks	12D9A	001/011
Pavement Deicers						
Potassium Acetate	GFIA - Maintenance	East of 420	10,000 gallons	Aboveground Storage Tank (Steel)	57D7	006
Potassium Acetate	GFIA - Maintenance	East of 420	2 - 1500 gallon polytanks	Polytanks	57D7	006
Potassium Acetate	GFIA - Maintenance	East of 420	2 - 275 gallon totes	Polytotes	57D7	006
Sodium Formate	GFIA - Maintenance	Inside 423	~13,200 pounds (6 super sacks)	2200# supersacks inside salt dome	57D7	006
Petroleum Materials						

Table 3-2
Inventory of Bulk Significant Materials
Gerald R. Ford International Airport, Grand Rapids, Michigan

(Refer to Figure 2 for reference locations.)

Material	Owner	Storage Location	Storage Quantity (or capacity)	Storage Method	Surface Inlet Structure #	Outfall
AV Gas	Signature Flight Support	Fuel Farm	10,500 gallons	Aboveground Storage Tank (Steel)	16D10A	007
AV Gas	Signature Flight Support	200	1,100 gallons	Mobile Refueler	20D11H	001/011
AV Gas	Signature Flight Support	200	1,100 gallons	Mobile Refueler	20D11H	001/011
AV Gas	Signature Flight Support	Fuel farm/403/203/Apron Area	1,500 gallons	Mobile Refueler	16D10A/12D3A4	007/001/011
AV Gas	Signature Flight Support	Fuel farm/403/203/Apron Area	1,100 gallons	Mobile Refueler	16D10A/12D3A4	007/001/011
AV Gas	Signature Flight Support	Fuel Farm	10,000 gallons	Underground Storage Tank	16D10A	007
AV Gas	Signature Flight Support	Fuel Farm	10,000 gallons	Underground Storage Tank	16D10A	007
Diesel Fuel	DJs	Fuel Farm	500 gals	Aboveground Storage Tank (Steel)	16D10A	007
Diesel Fuel	FAA (backup generator)	300	2,000 gallons	Aboveground Storage Tank (Steel)	N/A *	004
Diesel Fuel	FAA (backup generator)	SW, just outside 101	1,000 gallons	Aboveground Storage Tank (Steel)	11D10G	001/011
Diesel Fuel	FAA (backup generator)	Northwest of 419	500 gal	steel AST	N/A *	004
Diesel Fuel	Federal Express	N. of 207	500 gallons	Aboveground Storage Tank (Steel)	34D1 through 34D3	001/011
Diesel Fuel	Federal Express	S. of 207	300 gallons	Tow Cart w/secondary containment	Trench Drain 32D1 through 32D12	001/011
Diesel Fuel	Federal Express (backup generator)	N. of 207	1000 gallons	Aboveground Storage Tank (Steel)	34D1 through 34D3	001/011
Diesel Fuel	Signature Flight Support	Fuel Farm	700 gallons	Aboveground Storage Tank (Steel)	16D10A	007
Diesel Fuel	GFIA - ARFF	East of 205	125 gallons	Aboveground Storage Tank (Steel)	9D10G	001/011
Diesel Fuel	GFIA - ARFF	South of 205	12,000 gallons	Underground Storage Tank	9D10F	001/011
Diesel Fuel	GFIA - Maintenance	NE of 420	10,000 gallons	Underground Storage Tank	57D6	006
Diesel Fuel	GFIA (backup generator)	N. of E. Wing outside of 100	750 gallons	Aboveground Storage Tank (Steel)	11D6a2 & 3A	001/011
Diesel Fuel	GFIA (backup generator)	N. of E. Wing outside of 100	100 gallons	Aboveground Storage Tank (Steel)	11D6a2 & 3A	001/011
Diesel Fuel	GFIA (backup generator)	SW corner outside of 100	774 gallons	Aboveground Storage Tank (Steel)	11D10P	001/011
Diesel Fuel	GFIA (backup generator)	SW corner outside of 100	555 gallons	Aboveground Storage Tank (Steel)	11D10P	001/011
Diesel Fuel	GFIA	SW corner outside of 100	1,000 gallons	Underground Storage Tank	11D10P	001/011

Table 3-2
Inventory of Bulk Significant Materials
Gerald R. Ford International Airport, Grand Rapids, Michigan

(Refer to Figure 2 for reference locations.)

Material	Owner	Storage Location	Storage Quantity (or capacity)	Storage Method	Surface Inlet Structure #	Outfall
Diesel Fuel	National Weather Service	N. of 109	1000 gallons	Aboveground Storage Tank (Steel)	46D4	009
Gasoline	Amway	Fuel Farm	300 gallons	Tow Cart w/secondary containment	16D10A	007
Gasoline	AvFlight	Fuel Farm	12,000 gallons	Aboveground Storage Tank (Steel)	16D10A	007
Jet Fuel	Aeromed	407	2,200 gallons	Mobile Refueler	2D9B3d	007
Jet Fuel	Amway	409/410	7,000 gallons	Mobile Refueler	16D6A4 & 5	007
Jet Fuel	Amway	409/410	7,000 gallons	Mobile Refueler	16D6A4 & 5	007
Jet Fuel	Amway	Fuel Farm	15,000 gallons	Underground Storage Tank	16D10A	007
Jet Fuel	Amway	Fuel Farm	15,000 gallons	Underground Storage Tank	16D10A	007
Jet Fuel	Amway	Fuel Farm	15,000 gallons	Underground Storage Tank	16D10A	007
Jet Fuel	AvFlight	Fuel Farm	1-12k, 2-15k gallon	Aboveground Storage Tank (Steel)	16D10A	007
Jet Fuel	Bissel	414	~2,200 gallons	Mobile Refueler	2D10A2	007
Jet Fuel	Signature Flight Support	Fuel Farm	15,500 gallons	Aboveground Storage Tank (Steel)	16D10A	007
Jet Fuel	Signature Flight Support	200	2,200 gallons	Mobile Refueler	20D11H	001/011
Jet Fuel	Signature Flight Support	200	2,000 gallons	Mobile Refueler	20D11H	001/011
Jet Fuel	Signature Flight Support	Fuel farm/403/203/Apron Area	5,000 gallons	Mobile Refueler	16D10A/12D3A4	007/001/011
Jet Fuel	Signature Flight Support	Fuel farm/403/203/Apron Area	3,000 gallons	Mobile Refueler	16D10A/12D3A4	007/001/011
Jet Fuel	Signature Flight Support	Fuel farm/403/203/Apron Area	2,200 gallons	Mobile Refueler	16D10A/12D3A4	007/001/011
Jet Fuel	Signature Flight Support	Fuel farm/403/203/Apron Area	3,000 gallons	Mobile Refueler	16D10A/12D3A4	007/001/011
Jet Fuel	Signature Flight Support	Fuel farm/403/203/Apron Area	2,200 gallons	Mobile Refueler	16D10A/12D3A4	007/001/011
Jet Fuel	Signature Flight Support	Fuel Farm	10,000 gallons	Underground Storage Tank	16D10A	007
Jet Fuel	Signature Flight Support	Fuel Farm	10,000 gallons	Underground Storage Tank	16D10A	007
Jet Fuel	Signature Flight Support	Fuel Farm	15,000 gallons	Underground Storage Tank	16D10A	007
Jet Fuel	Signature Flight Support	Fuel Farm	15,000 gallons	Underground Storage Tank	16D10A	007
Jet Fuel	Signature Flight Support	Fuel Farm	15,000 gallons	Underground Storage Tank	16D10A	007
Jet Fuel	Signature Flight Support	Fuel Farm	15,000 gallons	Underground Storage Tank	16D10A	007
Jet Fuel	Signature Flight Support	Fuel Farm	15,000 gallons	Underground Storage Tank	16D10A	007
Jet Fuel	Signature Flight Support	Fuel Farm	20,000 gallons	Underground Storage Tank	16D10A	007

Table 3-2
Inventory of Bulk Significant Materials
Gerald R. Ford International Airport, Grand Rapids, Michigan

(Refer to Figure 2 for reference locations.)

Material	Owner	Storage Location	Storage Quantity (or capacity)	Storage Method	Surface Inlet Structure #	Outfall
Jet Fuel	Steelcase	406	3,500 gallons	Mobile Refueler	2D9B3	007
Jet Fuel	Steelcase	Fuel Farm	15,000 gallons	Aboveground Storage Tank (Steel)	16D10A	007
Jet Fuel	Steelcase	Fuel Farm	15,000 gallons	Aboveground Storage Tank (Steel)	16D10A	007
Jet Fuel	Universal Forest Products	408	~2,200 gal	Mobile Refueler	11D5E2	007
Unleaded Gasoline	Avis Rent-a-Car	433/434	100 gals	Mobile gas tank trailer	16D19E	007
Unleaded Gasoline	Avis Rent-a-Car	433/434	15,000 gals	Underground Storage Tank	16D19H & G	007
Unleaded Gasoline	Budget Rental	431/432	15,000 gals	Underground Storage Tank	16D17H & J	007
Unleaded Gasoline	Enterprise Rent-a-Car	425/426	15,000 gals	Underground Storage Tank	50DE3 & F	007
Unleaded Gasoline	Enterprise Rent-a-Car	425 fuel pad	350 gals	Fuel reclaim system, steel tank on trailer w/sized containment	50DE3 & F	007
Unleaded Gasoline	Federal Express	N. of 207	500 gallons	Aboveground Storage Tank (Steel)	34D1 through 34D3	001/011
Unleaded Gasoline	Hertz Rent-a-Car	429/430	15,000 gals	Underground Storage Tank	16D24F & G	007
Unleaded Gasoline	GFIA - ARFF	South of 205	12,000 gallons	Underground Storage Tank	9D10F	001/011
Unleaded Gasoline	GFIA - Maintenance	East of 420	300 gallons	Aboveground Storage Tank (Steel)	57D7	006
Unleaded Gasoline	GFIA - Maintenance	NE of 420	10,000 gallons	Underground Storage Tank	57D6	006
Unleaded Gasoline	National/Alamo Rental	427/428	15,000 gals	Underground Storage Tank	16D23F & G	007
Unleaded Gasoline	Signature Flight Support	N. Of 403	1,000 gallons	Aboveground Storage Tank (Steel)	12D3A5	001/011
Virgin Oil (various types - hyd/lube, etc)	GFIA - Maintenance	Inside 420	550 gallons	Two 275-gallon ASTs (Steel)	57D2	006
Waste Oil	GFIA - Maintenance	Inside 420	550 gallons	Two 275-gallon ASTs (Steel)	57D2	006
Other Chemicals/Materials						
AFFF	GFIA - ARFF	Inside 205	1,815 gallons	On ARFF Trucks or in manufacturer containers	na	001/011
Purple K	GFIA - ARFF	Inside 205	1,200 pounds	On ARFF Trucks or in manufacturer containers	na	001/011
Glass Bead	GFIA - Maintenance	Inside 420	20 - super sacks	2200# supersacks	57D7	006
Paint	GFIA - Maintenance	Inside 420	29 - 275 gallon totes	Polytotes	57D7	006
Sand	GFIA - Maintenance	Inside 455	Varies - several hundred tons	Sand Dome	57D7	006
Waste Paint	GFIA - Maintenance	East of 420	2 - 55-gallon drums	Drums under roof	57D6	006

Note: Only materials used and stored in quantities greater than a 55-gallon drum are presented in this table. Several Tenants use/store smaller quantities of various chemicals, but they are stored and used only inside buildings.

Table 3-3
Evaluation of Areas/Activities to Determine Reasonable Potential to Pollute Runoff
Gerald R. Ford International Airport
Grand Rapids, Michigan

Area/Activity	Reasonable Potential to Contribute Significant Materials to Runoff?
Loading, unloading and other material handling operations.	Yes, from spillage of significant materials during handling, leaks from pipes, pumps or containers.
Outdoor storage including secondary containment structures	Yes, from spillage of significant materials during loading/unloading, overfilling, or leaks from containers. Also from improper management of accumulated stormwater (i.e., uncontrolled discharge).
Outdoor manufacturing or processing activities	No, there are no manufacturing or processing activities occuring outdoors at GFIA.
Runway deicing	Yes, from direct contact with runoff following application.
Significant dust or particulate generating processes	No, there are no significant dust or particulate generating processes at GFIA.
Discharge from vents, stacks and air emission controls	No, there are no discharges from vents, stacks or other emissions at GFIA that require controls.
On-site waste disposal practices	No, there are no on-site waste disposal practices at GFIA.
Maintenance and cleaning of vehicles, machines and equipment	No - these activities only occur under roof per Airport Rules and Regulations.
De-icing/anti-icing of vehicles, machines and equipment	Yes, from direct contact with runoff following application.
Sites of exposed and/or erodible soil	Yes, but only during construction activities. In lieu of construction activities, the property grounds are either fully vegetated or paved. Construction activities are performed in accordance with GFIA policies presented in its Stormwater Management Plan (SWMP).
Sites of environmental contamination listed under Part 201 (Environmental Response) of the Michigan Act	Yes, there are three sites of environmental contamination at GFIA resulting from historic use of AFFF (ARFF, FFTA, Ramp 5), one of which (ARFF) could reasonably pollute runoff.
Areas of significant material residue	Yes, there are three areas of material residue at GFIA resulting from historic use of AFFF (ARFF, FFTA, Ramp 5).

Areas/activities highlighted in green have best management practices (i.e., either structural or non-structural controls described in the SWPPP that prevent pollution of runoff from these areas/activities.

Appendix A
NPDES Permit No. MI0055735

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PERMIT NO. MI0055735

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the federal Clean Water Act (federal Water Pollution Control Act, 33 U.S.C., Section 1251 *et seq*., as amended); Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA); Part 41, Sewerage Systems, of the NREPA; and Michigan Executive Order 2019-06,

Gerald R. Ford International Airport Authority
5500 44th Street SE
Grand Rapids, Michigan 49512

is authorized to discharge from the **Gerald R. Ford International Airport** located at

5500 44th Street SE
Grand Rapids, Michigan 49512

designated as **Gerald R Ford Intl Airport-GR**

to the receiving water named the Thornapple River, in accordance with effluent limitations, monitoring requirements, and other conditions set forth in this permit.

This permit is based on a complete application submitted on April 4, 2019, as amended through February 24, 2021.

This permit takes effect on June 1, 2021. The provisions of this permit are severable. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term in accordance with applicable laws and rules. On its effective date, this permit shall supersede National Pollutant Discharge Elimination System (NPDES) Permit No. MI0055735 (expiring October 1, 2019).

This permit and the authorization to discharge shall expire at midnight on **October 1, 2025**. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit an application that contains such information, forms, and fees as are required by the Michigan Department of Environment, Great Lakes, and Energy (Department) by **April 4, 2025**.

Issued: April 30, 2021.

Original signed by Christine Alexander
Christine Alexander, Manager
Permits Section
Water Resources Division

PERMIT FEE REQUIREMENTS

In accordance with Section 324.3120 of the NREPA, the permittee shall make payment of an annual permit fee to the Department for each October 1 the permit is in effect regardless of occurrence of discharge. The permittee shall submit the fee in response to the Department's annual notice. Payment may be made electronically via the Department's MiWaters system. The MiWaters website is located at https://miwaters.deq.state.mi.us. Payment shall be submitted or postmarked by January 15 for notices mailed by December 1. Payment shall be submitted or postmarked no later than 45 days after receiving the notice for notices mailed after December 1.

Annual Permit Fee Classification: Industrial-Commercial Minor, high-flow (Individual Permit)

In accordance with Section 324.3118 of the NREPA, the permittee shall make payment of an annual storm water fee to the Department for each January 1 the permit is in effect regardless of occurrence of discharge. The permittee shall submit the fee in response to the Department's annual notice. Payment may be made electronically via the Department's MiWaters system. The MiWaters website is located at https://miwaters.deq.state.mi.us. Payment shall be submitted or postmarked by March 15 for notices mailed by February 1. Payment shall be submitted or postmarked no later than 45 days after receiving the notice for notices mailed after February 1.

CONTACT INFORMATION

Unless specified otherwise, all contact with the Department required by this permit shall be made to the Grand Rapids District Office of the Water Resources Division. The Grand Rapids District Office is located at State Office Building, Fifth Floor, 350 Ottawa Ave NW, Unit 10, Grand Rapids, MI 49503-2341, Telephone: 616-356-0500, Fax: 616-356-0202.

CONTESTED CASE INFORMATION

Any person who is aggrieved by this permit may file a sworn petition with the Michigan Administrative Hearing System within the Michigan Department of Licensing and Regulatory Affairs, c/o the Michigan Department of Environment, Great Lakes, and Energy, setting forth the conditions of the permit which are being challenged and specifying the grounds for the challenge. The Department of Licensing and Regulatory Affairs may reject any petition filed more than 60 days after issuance as being untimely.

PART I

Section A. Limitations and Monitoring Requirements

1. Final Effluent Limitations, Monitoring Point 011A

During the period beginning on the effective date of this permit and lasting until the expiration date of this permit, the permittee is authorized to discharge an unspecified amount of treated storm water impacted by aircraft deicing fluid (ADF) as defined under 40 CFR Part 449, from Monitoring Point 011A through Outfall 011, provided the permittee is in full compliance with Part I.A.6. – ADF Best Management Practices and Reporting Requirements, of this permit. Outfall 011 discharges to the Thornapple River at Latitude 42.88720, Longitude -85.48720. Such discharge shall be limited and monitored by the permittee as specified below.

	Maximum Limits for Quantity or Loading			Maximum Limits for Quality or Concentration			Monitoring	Sample
Parameter	**Monthly**	**Daily**	**Units**	**Monthly**	**Daily**	**Units**	**Frequency**	**Type**
Flow	(report)	(report)	MGD	---	---	---	Daily	Report Total Daily Flow
Acetate	---	---	---	---	(report)	ug/l	Weekly	24-Hr Composite
2,4-Dinitrophenol (January 2022) ---		---	---	---	(report)	ug/l	2x Monthly	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)								
October	---	3600	lbs/day	---	(report)	mg/l	See c. below	24-Hr Composite
November	---	20000	lbs/day	---	(report)	mg/l	See c. below	24-Hr Composite
December – March 15	---	11000	lbs/day	---	(report)	mg/l	See c. below	24-Hr Composite
March 16 – April	---	20000	lbs/day	---	(report)	mg/l	See c. below	24-Hr Composite
May	---	---	---	---	(report)	mg/l	See c. below	24-Hr Composite
Chemical Oxygen Demand (COD) (October – May)			---	---	3500	mg/l	See c. below	24-Hr Composite
Ammonia Nitrogen (as N) (October – May)		---	---	---	(report)	mg/l	Weekly	24-Hr Composite
Total Phosphorus (October – May)		---	---	---	(report)	mg/l	Weekly	24-Hr Composite
Outfall Observation	(report)	---	---	---	---	---	Daily	Visual
				Minimum Daily				
pH (October – May)	---	---	---	6.5	9.0	S.U.	Weekly	Grab
Dissolved Oxygen (October – May)		---	---	6.0	---	mg/l	Weekly	Grab

a. Narrative Standard
The receiving water shall contain no turbidity, color, oil films, floating solids, foams, settleable solids, suspended solids, or deposits as a result of this discharge in unnatural quantities which are or may become injurious to any designated use.

b. Monitoring Location
Samples, measurements, and observations taken in compliance with the monitoring requirements above shall be taken prior to discharge to the Thornapple River.

c. Monitoring Frequency for CBOD5 and COD
At a minimum, the permittee shall monitor CBOD5 and COD twice weekly, on Tuesdays and Thursdays, during October through May. In addition, the permittee shall sample to capture peak loadings during deicing discharge events. At a minimum, deicing discharge event samples shall be collected daily during two (2), five (5)-day periods each month for a total of 10 days each month during October through May. A **deicing discharge event** is defined as any qualifying storm event occurring during October (once deicing commences) through May. For purposes of this requirement, a **qualifying storm event** is defined as a storm event predicted to cause greater than 0.1 inch of rainfall or at least 1.0 inch of snowfall. Deicing discharge event monitoring shall commence immediately upon the start of an event, and shall continue for five (5) days. Sampling completed as part of a deicing discharge event shall serve to meet the minimum twice weekly monitoring requirements. The permittee shall report the date, description, duration, and estimated precipitation of each deicing discharge event during which sampling occurs. The Department may impose alternate requirements upon written notification to the permittee.

d. Outfall Observation
Outfall observation shall be reported as "yes" or "no." The permittee shall report yes if this requirement was completed and no if this requirement was not completed. Any unusual characteristics of the discharge (i.e., unnatural turbidity, color, oil film, floating solids, foams, settleable solids, suspended solids, or deposits) shall be verbally reported within 24 hours to the Department followed with a written report within five (5) days detailing the findings of the investigation and the steps taken to correct the condition. During the months of October through May, the permittee shall include in its outfall observations a visual assessment for the presence of bacterial slimes in the vicinity of the discharge.

e. Remote Monitoring
Outfall observation shall be conducted through on-site visual inspection by qualified personnel at the frequency specified in Part I.A.1. of this permit or the Department's approval for reduced monitoring. If qualified personnel will not be on site at this frequency and the treatment system has continuous remote monitoring equipment, the permittee may request, in writing, Department approval to conduct less frequent on-site visual inspections. Upon receipt of written approval and consistent with such approval, the permittee may monitor the treatment system remotely and shall conduct on-site visual inspections at the frequency specified in the Department's approval letter. At a minimum, on-site visual inspections shall be conducted two (2) days per month, approximately once every 14 days. If the remote monitoring equipment becomes temporarily inoperable, outfall observation shall be conducted through on-site visual inspection by qualified personnel at the frequency specified in either Part I.A. 1. of this permit or the Department's approval for reduced monitoring, until the remote monitoring equipment is once again operable. The qualified personnel conducting the monitoring shall identify and record the dates and times of remote monitoring vs. on-site monitoring, and these records shall be retained in accordance with Part II.B.5. of this permit.

f. Monitoring Frequency Reduction for Acetate
After the submittal of 12 months of data, the permittee may request, in writing, Department approval for a reduction in monitoring frequency for acetate. This request shall contain an explanation as to why the reduced monitoring is appropriate. Upon receipt of written approval and consistent with such approval, the permittee may reduce the monitoring frequency indicated in Part I.A.1. of this permit. The monitoring frequency shall not be reduced to less than quarterly. The Department may revoke the approval for reduced monitoring at any time upon notification to the permittee.

g. COD Sampling Protocol
The sampling protocol for COD shall be in accordance with 40 CFR Part 449, Appendix A.

h. Quarterly Monitoring
Quarterly samples shall be taken during the months of January, April, July, and October. If the facility does not discharge during these months, the permittee shall sample the next discharge occurring during the period in question. If the facility does not discharge during the period in question, a sample is not required for that period. For any month in which a sample is not taken, the permittee shall enter "*G" on the Discharge Monitoring Report (DMR). (For purposes of reporting on the Daily tab of the DMR, the permittee shall enter "*G" on the first day of the month only).

i. CBOD5, Ammonia Nitrogen, Total Phosphorus, COD, pH, and Dissolved Oxygen Monitoring Requirements
October sampling required for CBOD5, ammonia nitrogen (as N), total phosphorus, COD, pH, and dissolved oxygen shall commence when the first deicing event occurs within the deicing season.

j. 2,4-Dinitrophenol Monitoring
Sampling for 2,4-Dinitrophenol is only required to be conducted twice during the month of January 2022. If the permittee is unable to collect two samples during this month, samples shall be collected during the next appropriate discharges. Samples are not required to be collected in any other month or year during the effective period of this permit.

2. ADF Use and Approval

The use of ADF as defined under 40 CFR Part 449 shall be limited to Federal Aviation Administration (FAA)-approved products, or other products approved by the Department. Prior to the use of any ADF product not approved by the FAA or previously approved by the Department, the permittee shall obtain written approval from the Department. Requests for such approval shall be submitted to the Department via the Department's MiWaters system using the schedule named "Request for ADF Product Approval." The MiWaters website is located at https://miwaters.deq.state.mi.us. Following Department approval and as a condition of that approval, this permit may be modified in accordance with applicable laws and rules as necessary to protect surface waters of the state.

3. Urea Prohibition

The use of urea-containing airfield deicing products is strictly prohibited. On or before October 1 of each year, the permittee shall submit to the Department written certification that urea-containing airfield deicing products are not used at the facility.

4. Outfall 002 Discharge Prohibition

Discharges from the Industrial Storm Water Detention Basin emergency spillway overflow, identified as Outfall 002, are prohibited except in accordance with Part II.C.9. of this permit.

5. Outfalls 004 and 007

Industrial storm water within the Outfall 004 and 007 drainage areas shall be controlled by the requirements set forth in Part I.A.6. (ADF Best Management Practices and Reporting Requirements) and Part I.B. (Storm Water Pollution Prevention) of this permit.

6. ADF Best Management Practices and Reporting Requirements

a. The permittee shall utilize best management practices (BMPs) to minimize the discharge to surface waters of the state of ADF as defined under 40 CFR Part 449. BMPs shall achieve the following goals to the fullest extent practicable:

1) control discharges of ADF to surface waters of the state;

2) ensure the facility's discharge does not cause nuisance biofilm growth or other forms of surface water quality degradation or designated use impairment, and

3) ensure that ADF used onsite is captured for treatment or recycling.

b. On or before September 1 of each year, the permittee shall submit to the Department an ADF Discharge Minimization Progress Tracking Report for the previous deicing season. This report shall include the following:

1) a summary of BMPs used at the facility to meet the goals set forth in a. above;

2) information, measures, and data sufficient to demonstrate the extent to which BMPs used at the facility are reducing discharges of ADF to surface waters of the state;

3) an evaluation of the performance of the treatment system;

4) total gallons of Type I and Type IV ADF used,

5) total gallons of ADF recycled, and

6) percent of total gallons of ADF used that was collected and prevented from being discharged to the surface waters of the state.

7. Nuisance Odor Conditions

The permittee shall at all times operate the treatment system with the goal of minimizing any and all nuisance odor conditions associated with the discharge that may cause a negative impact on neighboring communities. This permit does not authorize any violations of air quality standards, nor does it constitute a release of liability for any violations of air quality standards.

8. Continuous Monitoring

If continuous monitoring equipment is used and becomes temporarily inoperable, the permittee shall manually obtain a minimum of three (3) equally spaced grab samples/readings within each 24-hour period for the affected parameter(s). On such days, in the comment field on the Daily tab of the DMR, the permittee shall indicate "continuous monitoring system inoperable," the date on which the system is expected to become operable again, and the number of samples/readings obtained during each 24-hour period.

9. Request for Approval to Use Water Treatment Additives

This permit does not authorize the use of any water treatment additive without prior written approval from the Department. Such approval is authorized under separate correspondence. Water treatment additives include any materials that are added to water used at the facility, or to wastewater generated by the facility, to condition or treat the water. Permittees proposing to use water treatment additives, including a proposed increased concentration of a previously approved water treatment additive, shall submit a request for approval via the Department's MiWaters system. The MiWaters website is located at https://miwaters.deq.state.mi.us. Instructions for submitting such a request may be obtained at http://www.michigan.gov/eglenpdes (near the bottom of that page, click on one or both of the links located under the Water Treatment Additives banner). Additional monitoring and reporting may be required as a condition of approval to use the water treatment additive.

A request for approval to use water treatment additives shall include all of the following usage and discharge information for each water treatment additive proposed to be used:

a. The Safety Data Sheet (SDS);

b. Ingredient information, including the name of each ingredient, CAS number for each ingredient, and fractional content by weight for each ingredient;

c. The proposed water treatment additive discharge concentration with supporting calculations;

d. The discharge frequency (i.e., number of hours per day and number of days per year);

e. The outfall(s) and monitoring point(s) from which the water treatment additive is to be discharged;

f. The type of removal treatment, if any, that the water treatment additive receives prior to discharge;

g. The water treatment additive's function (i.e., microbiocide, flocculant, etc.);

h. The SDS shall include a 48-hour LC50 or EC50 for a North American freshwater planktonic crustacean (either *Ceriodaphnia sp*., *Daphnia sp*., or *Simocephalus sp*.). The results shall be based on the whole water treatment additive, shall not be results based on a similar product, and shall not be estimated; and

i. The SDS shall include the results of a toxicity test for one (1) other North American freshwater aquatic species (other than a planktonic crustacean) that meets a minimum requirement of R 323.1057(2) of the Water Quality Standards. The results shall be based on the whole water treatment additive, shall not be results based on a similar product, and shall not be estimated. Examples of tests that would meet this requirement include a 96-hour LC50 for rainbow trout, bluegill, or fathead minnow.

10. Quantification Levels and Analytical Methods for Selected Parameters

Maximum acceptable quantification levels (QLs) are specified for selected parameters in the table below. These QLs shall be considered the maximum acceptable unless a higher QL is appropriate because of sample matrix interference. Justification for higher QLs shall be submitted to the Department within 30 days of such determination. Where necessary to help ensure that the QLs specified can be achieved, analytical methods may also be specified in the table below. The sampling procedures, preservation and handling, and analytical protocol for all monitoring conducted in compliance with this permit, including monitoring conducted to meet the requirements of the application for permit reissuance, shall be in accordance with the methods specified in the table below, or in accordance with Part II.B.2. of this permit if no method is specified in the table below, unless an alternate method is approved by the Department. The Department will consider only alternate methods that meet the requirements of Part II.B.2. and whose QLs are at least as sensitive (i.e., low) as those specified herein. **Not all QLs are expressed in the same units in the table below**. The table is continued on the following page:

Parameter	QL	Units	Analytical Method
1,2-Diphenylhydrazine (as Azobenzene)	3.0	ug/l	
2,4,6-Trichlorophenol	5.0	ug/l	
2,4-Dinitrophenol	19	ug/l	
3,3'-Dichlorobenzidine	1.5	ug/l	
4-Chloro-3-Methylphenol	7.0	ug/l	
4,4'-DDD	0.01	ug/l	
4,4'-DDE	0.01	ug/l	
4,4'-DDT	0.01	ug/l	
Acetate	2000	ug/l	
Acrylonitrile	1.0	ug/l	
Aldrin	0.01	ug/l	
Alpha-Endosulfan	0.01	ug/l	
Alpha-Hexachlorocyclohexane	0.01	ug/l	
Antimony, Total	1	ug/l	
Arsenic, Total	1	ug/l	
Barium, Total	5	ug/l	
Benzidine	0.1	ug/l	
Beryllium, Total	1	ug/l	
Beta-Endosulfan	0.01	ug/l	
Beta-Hexachlorocyclohexane	0.01	ug/l	
Bis (2-Chloroethyl) Ether	1.0	ug/l	
Bis (2-Ethylhexyl) Phthalate	5.0	ug/l	
Boron, Total	20	ug/l	
Cadmium, Total	0.2	ug/l	
Chlordane	0.01	ug/l	
Chloride	1.0	mg/l	
Chromium, Hexavalent	5	ug/l	
Chromium, Total	10	ug/l	
Copper, Total	1	ug/l	
Cyanide, Available	2	ug/l	EPA Method OIA 1677
Cyanide, Total	5	ug/l	
Delta-Hexachlorocyclohexane	0.01	ug/l	
Dieldrin	0.01	ug/l	
Di-N-Butyl Phthalate	9.0	ug/l	

Parameter	QL	Units	Analytical Method
Endosulfan Sulfate	0.01	ug/l	
Endrin	0.01	ug/l	
Endrin Aldehyde	0.01	ug/l	
Fluoranthene	1.0	ug/l	
Heptachlor	0.01	ug/l	
Heptachlor Epoxide	0.01	ug/l	
Hexachlorobenzene	0.01	ug/l	
Hexachlorobutadiene	0.01	ug/l	
Hexachlorocyclopentadiene	0.01	ug/l	
Hexachloroethane	5.0	ug/l	
Lead, Total	1	ug/l	
Lindane	0.01	ug/l	
Lithium, Total	10	ug/l	
Mercury, Total	0.5	ng/l	EPA Method 1631E
Nickel, Total	5	ug/l	
PCB-1016	0.1	ug/l	
PCB-1221	0.1	ug/l	
PCB-1232	0.1	ug/l	
PCB-1242	0.1	ug/l	
PCB-1248	0.1	ug/l	
PCB-1254	0.1	ug/l	
PCB-1260	0.1	ug/l	
Pentachlorophenol	1.8	ug/l	
Perfluorooctane sulfonate (PFOS)	2.0	ng/l	ASTM D7979 or an isotope dilution method (sometimes referred to as Method 537 modified)
Perfluorooctanoic acid (PFOA)	0.002	ug/l	ASTM D7979 or an isotope dilution method (sometimes referred to as Method 537 modified)
Phenanthrene	1.0	ug/l	
Phosphorus (as P), Total	10	ug/l	
Selenium, Total	1.0	ug/l	
Silver, Total	0.5	ug/l	
Strontium, Total	1000	ug/l	
Sulfate	2.0	mg/l	
Sulfides, Dissolved	20	ug/l	
Thallium, Total	1	ug/l	
Toxaphene	0.1	ug/l	
Vinyl Chloride	1.0	ug/l	
Zinc, Total	10	ug/l	

11. Facility Contact

The "Facility Contact" was specified in the application. The permittee may replace the facility contact at any time, and shall notify the Department in writing within 10 days after replacement (including the name, address and telephone number of the new facility contact).

a. The facility contact shall be (or a duly authorized representative of this person):
- for a corporation, a principal executive officer of at least the level of vice president; or a designated representative if the representative is responsible for the overall operation of the facility from which the discharge originates, as described in the permit application or other NPDES form,
- for a partnership, a general partner,
- for a sole proprietorship, the proprietor, or
- for a municipal, state, or other public facility, either a principal executive officer, the mayor, village president, city or village manager or other duly authorized employee.

b. A person is a duly authorized representative only if:
- the authorization is made in writing to the Department by a person described in paragraph a. of this section; and
- the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the facility (a duly authorized representative may thus be either a named individual or any individual occupying a named position).

Nothing in this section releases the permittee from properly submitting reports and forms as required by law.

PART I

Section B. Storm Water Pollution Prevention

1. Final Effluent Limitations and Monitoring Requirements

The permittee is authorized to discharge storm water associated with industrial activity, as defined under 40 CFR 122.26(b)(14)(i-ix), to the surface waters of the state. Such discharge shall be limited and monitored by the permittee as specified below.

a. Narrative Standard
In accordance with R 323.1050 of the Part 4 Rules promulgated pursuant to Part 31 of the NREPA, the surface waters of the state shall not, as a result of this discharge, have any of the following physical properties in unnatural quantities which are or may become injurious to any designated use: turbidity, color, oil films, floating solids, foams, settleable solids, suspended solids, or deposits.

Any unusual characteristics of the discharge (i.e., unnatural turbidity, color, oil film, floating solids, foams, settleable solids, suspended solids, or deposits) shall be reported within 24 hours to the Department, followed by a written report within five (5) days detailing the findings of the investigation and the steps taken to correct the condition.

b. Visual Assessment of Storm Water Discharges
To ensure that storm water discharges from the facility do not violate the narrative standard in the receiving waters, storm water discharges shall be visually assessed in accordance with this permit.

c. Implementation of Storm Water Pollution Prevention Plan
The permittee shall implement an acceptable Storm Water Pollution Prevention Plan (SWPPP) as required by this permit.

d. Certified Operator
The permittee shall have an Industrial Storm Water Certified Operator who has supervision over the facility's storm water treatment and control measures included in the SWPPP.

The SWPPP is a written procedure to reduce the exposure of storm water to significant materials and the amount of significant materials in the storm water discharge. An acceptable SWPPP shall identify potential sources of contamination and describe the controls necessary to reduce their impacts in accordance with Part I.B.2. through Part I.B.7. of this permit.

2. Source Identification

To identify potential sources of significant materials that have reasonable potential to pollute storm water and subsequently be discharged from the facility, the SWPPP shall, at a minimum, include the following:

a. A site map identifying:

1) buildings and other permanent structures

2) storage or disposal areas for significant materials

3) secondary containment structures and descriptions of the significant materials contained within the primary containment structures

4) storm water discharge points (which include outfalls and points of discharge), numbered or otherwise labeled for reference

5) location of storm water and non-storm water inlets (numbered or otherwise labeled for reference) contributing to each storm water discharge point

6) location of NPDES-permitted discharges other than storm water

7) outlines of the drainage areas contributing to each storm water discharge point

8) structural controls or storm water treatment facilities

9) areas of vegetation (with brief descriptions such as lawn, old field, marsh, wooded, etc.)

10) areas of exposed and/or erodible soils and gravel lots

11) impervious surfaces (e.g., roofs, asphalt, concrete, etc.)

12) name and location of receiving water(s), and

13) areas of known or suspected impacts on surface waters as designated under Part 201 (Environmental Response) of the NREPA.

b. A list of all significant materials that have reasonable potential to pollute storm water. For each material listed, the SWPPP shall include each of the following descriptions:

1) identification of the storm water discharge point(s) and inlet(s) through which significant materials could discharge if released; and

2) an evaluation of each material's reasonable potential to be exposed to storm water from, at a minimum, the following areas or activities listed below:

a) loading, unloading, and other significant material-handling operations

b) outdoor storage, including secondary containment structures

c) outdoor manufacturing or processing activities

d) significant dust- or particulate-generating processes

e) discharge from vents, stacks, and air emission controls

f) on-site waste disposal practices

g) maintenance and cleaning of vehicles, machines, and equipment

h) areas of exposed and/or erodible soils

i) Sites of Environmental Contamination listed under Part 201 (Environmental Response) of the NREPA

j) areas of significant material residues

k) areas where animals (wild or domestic) congregate and deposit wastes, and

l) other areas where storm water may come into contact with significant materials.

c. A listing of significant spills and significant leaks of polluting materials that occurred in areas exposed to precipitation or that discharge to a point source at the facility. The listing shall include spills that occurred over the three (3) years prior to the effective date of a permit authorizing discharge under this permit. The listing shall include the date, volume, and exact location of the release, and the action taken to clean up the material and/or prevent exposure to storm water or contamination of surface waters of the state. Any release of polluting materials that occurs after the SWPPP has been developed shall be controlled in accordance with the SWPPP and is cause for the SWPPP to be updated as appropriate within 14 calendar days of obtaining knowledge of the spill or loss.

d. A determination as to whether the facility discharges storm water to a water body for which an EPA-approved Total Maximum Daily Load (TMDL) has been established. If so, the permittee shall assess whether the TMDL requirements for the facility's discharge are being met through the existing SWPPP controls or whether additional control measures are necessary. The permittee's assessment of whether the TMDL requirements are being met shall focus on the effectiveness, adequacy, and implementation of the permittee's SWPPP controls. The applicable TMDLs will be identified in this permit.

e. A summary of existing storm water discharge sampling data (if available), describing pollutants in storm water discharges at the facility. This summary shall be accompanied by a description of the suspected source(s) of the pollutants detected.

f. A description of actions taken to investigate potential illicit connections. All illicit connections to Municipal Separate Storm Sewer Systems (MS4s) or waters of the state should be permanently plugged or rerouted to the sanitary sewer system, in accordance with the authorization from the local Wastewater Treatment Plant. Any discharge from an illicit connection is a violation of the conditions of this permit.

3. Nonstructural Controls

To prevent significant materials from contacting storm water at the source, the SWPPP shall, at a minimum, include each of the following nonstructural controls:

a. Written procedures and a schedule for routine preventive maintenance. Preventive maintenance procedures shall describe routine inspections and maintenance of storm water management and control devices (e.g., cleaning of oil/water separators and catch basins, routine housekeeping activities, etc.), as well as inspecting and testing plant equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to the storm sewer system or the surface waters of the state. The routine inspection shall include areas of the facility in which significant materials have the reasonable potential to contaminate storm water. A written report of the inspection and corrective actions shall be retained in accordance with Record Keeping, below.

b. Written procedures and a schedule for good housekeeping to maintain a clean, orderly facility. Good housekeeping procedures shall include routine inspections that focus on the areas of the facility that have a reasonable potential to contaminate storm water entering the property. The routine housekeeping inspections may be combined with the routine inspections for the preventive maintenance program. A written report of the inspection and corrective actions shall be retained in accordance with Record Keeping, below.

c. Written procedures and a schedule for **quarterly** comprehensive site inspections, to be conducted by an Industrial Storm Water Certified Operator. At a minimum, one inspection shall be performed within each of the following quarters: January-March, April-June, July-September, and October-December. The comprehensive site inspections shall include, but not be limited to, inspection of structural controls in use at the facility, and the areas and equipment identified in the routine preventive maintenance and good housekeeping procedures. These inspections shall also include a review of the routine preventive maintenance reports, good housekeeping inspection reports, and any other paperwork associated with the SWPPP.

   The permittee may request Department approval of an alternate schedule for comprehensive site inspections. Such a request may be made if the permittee meets the following criteria: the permittee is in full compliance with this permit, the permittee has an acceptable SWPPP, the permittee has installed and/or implemented adequate structural controls at the facility, the permittee has all required inspection reports available at the facility, and the permittee has an Industrial Storm Water Certified Operator at the facility. The Department may revoke the approval of an alternate schedule at any time upon notification to the permittee if these criteria are not being met.

   A written report of the inspection and corrective actions shall be retained in accordance with Record Keeping, below, and the following shall be included on the comprehensive inspection form/report:

1) Date of the inspection.

2) Name(s), title(s), and certification number(s) of the personnel conducting the inspection.

3) Precipitation information (i.e., a description of recent rainfall/snowmelt events).

4) All observations relating to the implementation of control measures. Items to include if applicable:

a) updates on corrective actions implemented due to previously identified pollutant and/or discharge issues

b) any evidence of, or the potential for, pollutants to discharge to the drainage system or receiving waters and the condition of and around the storm water discharge point including flow dissipation measures needing maintenance or repairs

c) any control measures needing maintenance or repairs, and

d) any additional control measures needed to comply with permit requirements.

5) Any required revisions to the SWPPP resulting from the inspection.

6) A written certification stating the facility is in compliance with this permit and the SWPPP, or, if there are instances of noncompliance, they are identified.

7) Written procedures and a schedule for **quarterly** visual assessments of storm water discharges. At a minimum, one visual assessment shall be conducted within each of the following quarters: January-March, April-June, July-September, and October-December. These assessments shall be conducted as part of the comprehensive site inspection within one month (either prior to or after) of control measure observations made in accordance with 4), above. If the Department has approved an alternate schedule for the comprehensive site inspection, the visual assessment may likewise be conducted in accordance with the same approved alternate schedule. Additional guidance for developing written procedures for quarterly visual assessments is available on the Internet at www.michigan.gov/eglestormwater, then in the center of the page, click on the 'Industrial Program' link, and find guidance documents under the 'Conducting Visual Assessments of Industrial Storm Water Discharges' heading.

The following are the requirements of the visual assessment. The permittee shall develop and clearly document, in writing, procedures for meeting these requirements:

a) Within six (6) months of the effective date of this permit, the permittee shall develop written procedures for conducting the visual assessment and incorporate these procedures into the SWPPP. If Qualified Personnel rather than an Industrial Storm Water Certified Operator will collect storm water samples, these procedures shall include a written description of the training given to these personnel to qualify them to collect the samples, as well as documentation verifying that these personnel have received this training. The first visual assessment shall be conducted in conjunction with the next occurring comprehensive inspection. If changes resulting in altered drainage patterns occur at the facility, the permittee shall modify the procedures for conducting the visual assessment in accordance with the requirements of Keeping SWPPPs Current, below, and these modifications shall be incorporated into the SWPPP prior to conducting the next visual assessment.

b) A visual assessment shall be conducted of a representative storm water **sample** collected **from each storm water discharge point**. Storm water samples shall be visually assessed for conditions that could cause a violation of Part I.B.1.a. of this permit. The visual assessment shall be made of the storm water sample in a clean,

clear glass or plastic container. Only an Industrial Storm Water Certified Operator shall conduct this visual assessment. Visual assessment of the storm water sample shall be conducted within 48 hours of sample collection.

Representative storm water samples shall be collected:

(1) from each storm water discharge point identified as set forth under Source Identification, above. These samples may be collected by one or more of the following: an Industrial Storm Water Certified Operator; and/or an individual who meets qualifications acceptable to the Department and who is authorized by an Industrial Storm Water Certified Operator to collect the sample ("Qualified Personnel"); and/or an automated sampling device; and

(2) within the first 30 minutes of the start of a discharge from a qualifying storm event and on discharges that occur at least 72 hours (3 days) from the previous discharge. If it is not possible to collect the sample within the first 30 minutes of discharge, the sample shall be collected as soon thereafter as practicable, but not exceeding 60 minutes. In the case of snowmelt, samples shall be collected during a period with measurable discharge from the site. Sample collection may occur during the facility's normal hours of operation as described in the facility's written procedures.

c) A visual assessment shall be conducted of the storm water **discharge at each storm water discharge point**. (If an automated sampling device is used to collect the storm water sample, this requirement is waived). Either an Industrial Storm Water Certified Operator and/or Qualified Personnel may conduct this visual assessment. This visual assessment may be conducted directly – by someone physically present at the storm water discharge at each storm water discharge point; or it may be conducted indirectly – through the use of a visual recording taken of the storm water discharge at each storm water discharge point. Direct visual assessment shall be conducted at the same time that the storm water sample is collected. Indirect visual assessment shall be conducted using a visual recording taken of the storm water discharge at the same time that the storm water sample was collected.

d) Visual assessments shall be documented. This documentation shall be retained in accordance with Record Keeping, below, and shall include the following:

(1) sampling location(s) at the storm water discharge point(s) identified on the site map (see Source Identification, above);

(2) storm event information (i.e., length of event expressed in hours, approximate size of event expressed in inches of precipitation, duration of time since previous event that caused a discharge, and date and time the discharge began);

(3) date and time of the visual assessment of each storm water **discharge** at each storm water discharge point;

(4) name(s) and title(s) of the Industrial Storm Water Certified Operator or Qualified Personnel who conducted the visual assessment of the storm water **discharge** at each storm water discharge point. If an automated sampling device was used to collect the storm water sample associated with this storm water discharge point, this documentation requirement is waived;

(5) observations made during visual assessment of the storm water **discharge** at each storm water discharge point. If an automated sampling device was used to collect the storm water sample associated with this storm water discharge point, this documentation requirement is waived;

(6) if applicable, any visual recordings used to conduct the visual assessment of the storm water **discharge** at each storm water discharge point;

(7) date and time of sample collection for each storm water **sample**;

(8) name(s) and title(s) of the Industrial Storm Water Certified Operator or Qualified Personnel who collected the storm water **sample**. If an automated sampling device was used to collect the storm water sample, the permittee shall document that, instead;

(9) date and time of the visual assessment of each storm water **sample**;

(10) name(s), title(s), and operator number(s) of the Industrial Storm Water Certified Operator(s) who conducted the visual assessment of each storm water **sample**;

(11) observations made during visual assessment of each storm water **sample**;

(12) full-color photographic evidence of the storm water **sample** against a white background;

(13) nature of the discharge (i.e., rainfall or snowmelt);

(14) probable sources of any observed storm water contamination; and

(15) if applicable, an explanation for why it was not possible to collect samples within the first 30 minutes of discharge.

e) When adverse weather conditions prevent a visual assessment during the quarter, a substitute visual assessment shall be conducted during the next qualifying storm event. Documentation of the rationale for no visual assessment during a quarter shall be included with the SWPPP records as described in Record Keeping, below. Adverse conditions are those that are dangerous or create inaccessibility for personnel, such as local flooding, high winds, electrical storms, or situations that otherwise make sampling impractical such as drought or extended frozen conditions.

f) If the facility has two (2) or more storm water discharge points that are believed to discharge substantially identical storm water effluents, the facility may conduct visual assessments of the discharge at just one (1) of the storm water discharge points and report that the results also apply to the other substantially identical storm water discharge point(s). The determination of substantially identical storm water discharge points is to be based on the significant material evaluation conducted as set forth under Source Identification, above, and shall be clearly documented in the SWPPP. Visual assessments shall be conducted on a rotating basis of each substantially identical storm water discharge point throughout the period of coverage under this permit.

d. A description of material handling procedures and storage requirements for significant materials. Equipment and procedures for cleaning up spills shall be identified in the SWPPP and made available to the appropriate personnel. The procedures shall identify measures to prevent spilled materials or material residues from contaminating storm water entering the property. The SWPPP shall include language describing what a reportable spill or release is and the appropriate reporting requirements in accordance with Part II.C.6. and Part II.C.7. of this permit. The SWPPP may include, by reference, requirements of either a Pollution Incident Prevention Plan (PIPP) prepared in accordance with the Part 5 Rules (R 324.2001 through R 324.2009 of the Michigan Administrative Code); a Hazardous Waste Contingency Plan prepared in accordance with 40 CFR 264 and 265 Subpart D, as required by Part 111 of the NREPA; or a Spill Prevention Control and Countermeasure (SPCC) plan prepared in accordance with 40 CFR 112.

e. Identification of areas that, due to topography, activities, or other factors, have a high potential for significant soil erosion. Gravel lots shall be included. The SWPPP shall also identify measures used to control soil erosion and sedimentation. If dust suppression is used, the SWPPP shall include a description of the dust suppression material used and the actions implemented to prevent an unauthorized discharge.

f. A description of the employee training program that will be implemented on an annual basis to inform appropriate personnel at all levels of their responsibility as it relates to the components and goals of the SWPPP. The SWPPP shall identify periodic dates for the employee training program. Records of the employee training program shall be retained in accordance with Record Keeping, below.

g. Identification of actions to limit the discharge of significant materials in order to comply with TMDL requirements, if applicable.

h. Identification of significant materials expected to be present in storm water discharges following implementation of nonstructural preventive measures and source controls.

4. Structural Controls

Where implementation of the measures required by Nonstructural Controls, above, does not control storm water discharges in accordance with Part I.B.1.a. of this permit, the SWPPP shall provide a description of the location, function, design criteria, and installation/construction schedule of structural controls for prevention and treatment. Structural controls may be necessary:

a. to prevent uncontaminated storm water from contacting, or being contacted by, significant materials; or

b. if preventive measures are not feasible or are inadequate to keep significant materials at the site from contaminating storm water. Structural controls shall be used to treat, divert, isolate, recycle, reuse, or otherwise manage storm water in a manner that reduces the level of significant materials in the storm water and provides compliance with Part I.B.1.a. of this permit.

5. Keeping SWPPPs Current

a. The permittee and/or an Industrial Storm Water Certified Operator shall review the SWPPP annually after it is developed and maintain a written report of the review in accordance with Record Keeping, below. Based on the review, the permittee or an Industrial Storm Water Certified Operator shall amend the SWPPP as needed to ensure continued compliance with the terms and conditions of this permit. The written report shall be submitted to the Department on or before January 10 of each year.

b. The SWPPP developed under the conditions of a previous permit shall be amended as necessary to ensure compliance with this permit.

c. The SWPPP shall be updated or amended whenever changes at the facility have the potential to increase the exposure of significant materials to storm water, significant spills occur at the facility, or when the SWPPP is determined by the permittee or the Department to be ineffective in achieving the general objectives of controlling pollutants in storm water discharges associated with industrial activity. SWPPP updates necessitated by increased activity or significant spills at the facility shall include a description of how the permittee intends to control any new sources of significant materials, or respond to and prevent spills in accordance with the requirements of this permit (see Source Identification; Nonstructural Controls; and Structural Controls, above).

d. The Department may notify the permittee at any time that the SWPPP does not meet minimum requirements of this permit. Such notification shall identify why the SWPPP does not meet minimum requirements of this permit. The permittee shall make the required changes to the SWPPP within 30 days after such notification from the Department and shall submit to the Department a written certification that the requested changes have been made.

e. Amendments to the SWPPP shall be signed and retained on-site with the SWPPP pursuant to Signature and SWPPP Review, below.

6. Contact Information and Industrial Storm Water Certified Operator Update

a. The SWPPP shall include contact information (i.e. mailing address, phone number, and email address) for the Facility Contact, Industrial Storm Water Certified Operator, environmental consultant, and/or any other appropriate individuals who manage the storm water program at the facility.

b. If an Industrial Storm Water Certified Operator is changed or an Industrial Storm Water Certified Operator is added, the permittee shall provide the name and certification number of the new Industrial Storm Water Certified Operator to the Department. If a facility has multiple Industrial Storm Water Certified Operators, the names and certification numbers of all shall be included in the SWPPP.

7. Signature and SWPPP Review

a. The SWPPP shall be reviewed and signed by an Industrial Storm Water Certified Operator(s) and by either the permittee or an authorized representative in accordance with 40 CFR 122.22. The SWPPP and associated records shall be retained on-site at the facility that generates the storm water discharge.

b. The permittee shall make the SWPPP, reports, log books, storm water discharge sampling data (if collected), visual assessment documentation, and items required by Record Keeping, below, available upon request to the Department. The Department makes the non-confidential business portions of the SWPPP available to the public.

8. Record Keeping

The permittee shall maintain records of all SWPPP-related inspection and maintenance activities. All such records shall be retained for three (3) years. The following records are required by this permit (see Nonstructural Controls; and Keeping SWPPPs Current, above):

a. routine preventive maintenance inspection reports

b. routine good housekeeping inspection reports

c. comprehensive site inspection reports

d. documentation of visual assessments

e. employee training records, and

f. annual SWPPP review reports.

9. Non-Storm Water Discharges

Storm water is defined in Part II.A. of this permit to encompass non-storm water discharges included under the conditions of this permit. Any discharge of wastewater other than storm water as defined under the conditions of this permit shall be in compliance with an NPDES permit issued for the discharge. The non-storm water discharges included under the conditions of this permit are authorized under this permit, provided pollution prevention controls for the non-storm water component are identified in the permittee's SWPPP. The non-storm water discharges included under the conditions of this permit are as follows:

a. discharges from fire hydrant flushing

b. potable water sources, including water line flushing

c. water from fire system testing and fire-fighting training without burned materials or chemical fire suppressants

d. irrigation drainage

e. lawn watering

f. routine building wash-down that does not use detergents or other compounds

g. pavement wash waters where contamination by toxic or hazardous materials has not occurred (unless all contamination by toxic or hazardous materials has been removed) and where detergents are not used

h. uncontaminated condensate from air conditioners, coolers, and other compressors and from the outside storage of refrigerated gases or liquids

i. springs

j. uncontaminated groundwater

k. foundation or footing drains where flows are not contaminated with process materials such as solvents, and

l. discharges from fire-fighting activities. Discharges from fire-fighting activities are exempted from the requirement to be identified in the SWPPP.

10. Tracer Dye Discharges

This permit does not authorize the discharge of tracer dyes without approval from the Department. Requests to discharge tracer dyes shall be submitted to the Department in accordance with Rule 1097 (R 323.1097 of the Michigan Administrative Code).

PART II

Part II may include terms and /or conditions not applicable to discharges covered under this permit.

Section A. Definitions

Acute toxic unit (TU_A) means $100/LC_{50}$ where the LC_{50} is determined from a whole effluent toxicity (WET) test which produces a result that is statistically or graphically estimated to be lethal to 50% of the test organisms.

Annual monitoring frequency refers to a calendar year beginning on January 1 and ending on December 31. When required by this permit, an analytical result, reading, value or observation shall be reported for that period if a discharge occurs during that period.

Authorized public agency means a state, local, or county agency that is designated pursuant to the provisions of Section 9110 of Part 91, Soil and Sedimentation Control, of the NREPA, to implement soil erosion and sedimentation control requirements with regard to construction activities undertaken by that agency.

Best management practices (BMPs) means structural devices or nonstructural practices that are designed to prevent pollutants from entering into storm water, to direct the flow of storm water, or to treat polluted storm water.

Bioaccumulative chemical of concern (BCC) means a chemical which, upon entering the surface waters, by itself or as its toxic transformation product, accumulates in aquatic organisms by a human health bioaccumulation factor of more than 1000 after considering metabolism and other physiochemical properties that might enhance or inhibit bioaccumulation. The human health bioaccumulation factor shall be derived according to R 323.1057(5). Chemicals with half-lives of less than 8 weeks in the water column, sediment, and biota are not BCCs. The minimum bioaccumulation concentration factor (BAF) information needed to define an organic chemical as a BCC is either a field-measured BAF or a BAF derived using the biota-sediment accumulation factor (BSAF) methodology. The minimum BAF information needed to define an inorganic chemical as a BCC, including an organometal, is either a field-measured BAF or a laboratory-measured bioconcentration factor (BCF). The BCCs to which these rules apply are identified in Table 5 of R 323.1057 of the Water Quality Standards.

Biosolids are the solid, semisolid, or liquid residues generated during the treatment of sanitary sewage or domestic sewage in a treatment works. This includes, but is not limited to, scum or solids removed in primary, secondary, or advanced wastewater treatment processes and a derivative of the removed scum or solids.

Bulk biosolids means biosolids that are not sold or given away in a bag or other container for application to a lawn or home garden.

Certificate of Coverage (COC) is a document, issued by the Department, which authorizes a discharge under a general permit.

Chronic toxic unit (TU_C) means 100/MATC or $100/IC_{25}$, where the maximum acceptable toxicant concentration (MATC) and IC_{25} are expressed as a percent effluent in the test medium.

Class B biosolids refers to material that has met the Class B pathogen reduction requirements or equivalent treatment by a Process to Significantly Reduce Pathogens (PSRP) in accordance with the Part 24 Rules, Land Application of Biosolids, promulgated under Part 31 of the NREPA. Processes include aerobic digestion, composting, anaerobic digestion, lime stabilization and air drying.

Combined sewer system is a sewer system in which storm water runoff is combined with sanitary wastes.

Continuous monitoring refers to sampling/readings that occur at regular and consistent intervals throughout a 24-hour period and at a frequency sufficient to capture data that are representative of the discharge. The maximum acceptable interval between samples/readings shall be one (1) hour.

Daily concentration

FOR PARAMETERS OTHER THAN pH, DISSOLVED OXYGEN, TEMPERATURE, AND CONDUCTIVITY – Daily concentration is the sum of the concentrations of the individual samples of a parameter taken within a calendar day divided by the number of samples taken within that calendar day. The daily concentration will be used to determine compliance with any maximum and minimum daily concentration limitations. For guidance and examples showing how to perform calculations using results below quantification levels, see the document entitled "Reporting Results Below Quantification," available at https://www.michigan.gov/documents/deq/wrd-npdes-results-quantification_620791_7.pdf.

FOR pH, DISSOLVED OXYGEN, TEMPERATURE, AND CONDUCTIVITY – The daily concentration used to determine compliance with maximum daily pH, temperature, and conductivity limitations is the highest pH, temperature, and conductivity readings obtained within a calendar day. The daily concentration used to determine compliance with minimum daily pH and dissolved oxygen limitations is the lowest pH and dissolved oxygen readings obtained within a calendar day.

Daily loading is the total discharge by weight of a parameter discharged during any calendar day. This value is calculated by multiplying the daily concentration by the total daily flow and by the appropriate conversion factor. The daily loading will be used to determine compliance with any maximum daily loading limitations. When required by the permit, report the maximum calculated daily loading for the month in the "MAXIMUM" column under "QUANTITY OR LOADING" on the DMRs.

Daily monitoring frequency refers to a 24-hour day. When required by this permit, an analytical result, reading, value or observation shall be reported for that period if a discharge occurs during that period.

Department means the Michigan Department of Environment, Great Lakes, and Energy.

Detection level means the lowest concentration or amount of the target analyte that can be determined to be different from zero by a single measurement at a stated level of probability.

Discharge means the addition of any waste, waste effluent, wastewater, pollutant, or any combination thereof to any surface water of the state.

EC_{50} means a statistically or graphically estimated concentration that is expected to cause 1 or more specified effects in 50% of a group of organisms under specified conditions.

Fecal coliform bacteria monthly

FOR WWSLs THAT COLLECT AND STORE WASTEWATER AND ARE AUTHORIZED TO DISCHARGE ONLY IN THE SPRING AND/OR FALL ON AN INTERMITTENT BASIS – Fecal coliform bacteria monthly is the geometric mean of all daily concentrations determined during a discharge event. Days on which no daily concentration is determined shall not be used to determine the calculated monthly value. The calculated monthly value will be used to determine compliance with the maximum monthly fecal coliform bacteria limitations. When required by the permit, report the calculated monthly value in the "AVERAGE" column under "QUALITY OR CONCENTRATION" on the DMR. If the period in which the discharge event occurred was partially in each of two months, the calculated monthly value shall be reported on the DMR of the month in which the last day of discharge occurred.

FOR ALL OTHER DISCHARGES – Fecal coliform bacteria monthly is the geometric mean of all daily concentrations determined during a reporting month. Days on which no daily concentration is determined shall not be used to determine the calculated monthly value. The calculated monthly value will be used to determine compliance with the maximum monthly fecal coliform bacteria limitations. When required by the permit, report the calculated monthly value in the "AVERAGE" column under "QUALITY OR CONCENTRATION" on the DMR.

Fecal coliform bacteria 7-day
FOR WWSLs THAT COLLECT AND STORE WASTEWATER AND ARE AUTHORIZED TO DISCHARGE ONLY IN THE SPRING AND/OR FALL ON AN INTERMITTENT BASIS – Fecal coliform bacteria 7-day is the geometric mean of the daily concentrations determined during any 7 consecutive days of discharge during a discharge event. If the number of daily concentrations determined during the discharge event is less than 7 days, the number of actual daily concentrations determined shall be used for the calculation. Days on which no daily concentration is determined shall not be used to determine the value. The calculated 7-day value will be used to determine compliance with the maximum 7-day fecal coliform bacteria limitations. When required by the permit, report the maximum calculated 7-day geometric mean value for the month in the "MAXIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs. If the 7-day period was partially in each of two months, the value shall be reported on the DMR of the month in which the last day of discharge occurred.

FOR ALL OTHER DISCHARGES – Fecal coliform bacteria 7-day is the geometric mean of the daily concentrations determined during any 7 consecutive days in a reporting month. If the number of daily concentrations determined is less than 7, the actual number of daily concentrations determined shall be used for the calculation. Days on which no daily concentration is determined shall not be used to determine the value. The calculated 7-day value will be used to determine compliance with the maximum 7-day fecal coliform bacteria limitations. When required by the permit, report the maximum calculated 7-day geometric mean for the month in the "MAXIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs. The first calculation shall be made on day 7 of the reporting month, and the last calculation shall be made on the last day of the reporting month.

Flow-proportioned sample is a composite sample with the sample volume proportional to the effluent flow.

General permit means an NPDES permit authorizing a category of similar discharges.

Geometric mean is the average of the logarithmic values of a base 10 data set, converted back to a base 10 number.

Grab sample is a single sample taken at neither a set time nor flow.

IC_{25} means the toxicant concentration that would cause a 25% reduction in a nonquantal biological measurement for the test population.

Illicit connection means a physical connection to a municipal separate storm sewer system that primarily conveys non-storm water discharges other than uncontaminated groundwater into the storm sewer; or a physical connection not authorized or permitted by the local authority, where a local authority requires authorization or a permit for physical connections.

Illicit discharge means any discharge to, or seepage into, a municipal separate storm sewer system that is not composed entirely of storm water or uncontaminated groundwater. Illicit discharges include non-storm water discharges through pipes or other physical connections; dumping of motor vehicle fluids, household hazardous wastes, domestic animal wastes, or litter; collection and intentional dumping of grass clippings or leaf litter; or unauthorized discharges of sewage, industrial waste, restaurant wastes, or any other non-storm water waste directly into a separate storm sewer.

Individual permit means a site-specific NPDES permit.

Inlet means a catch basin, roof drain, conduit, drain tile, retention pond riser pipe, sump pump, or other point where storm water or wastewater enters into a closed conveyance system prior to discharge off site or into waters of the state.

Interference is a discharge which, alone or in conjunction with a discharge or discharges from other sources, both: 1) inhibits or disrupts a POTW, its treatment processes or operations, or its sludge processes, use or disposal; and 2) therefore, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or, of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent state or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including Title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including state regulations contained in any state sludge management plan prepared pursuant to Subtitle D of the SWDA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act. [This definition does not apply to sample matrix interference].

Land application means spraying or spreading biosolids or a biosolids derivative onto the land surface, injecting below the land surface, or incorporating into the soil so that the biosolids or biosolids derivative can either condition the soil or fertilize crops or vegetation grown in the soil.

LC_{50} means a statistically or graphically estimated concentration that is expected to be lethal to 50% of a group of organisms under specified conditions.

Maximum acceptable toxicant concentration (MATC) means the concentration obtained by calculating the geometric mean of the lower and upper chronic limits from a chronic test. A lower chronic limit is the highest tested concentration that did not cause the occurrence of a specific adverse effect. An upper chronic limit is the lowest tested concentration which did cause the occurrence of a specific adverse effect and above which all tested concentrations caused such an occurrence.

Maximum extent practicable means implementation of best management practices by a public body to comply with an approved storm water management program as required by a national permit for a municipal separate storm sewer system, in a manner that is environmentally beneficial, technically feasible, and within the public body's legal authority.

MBTU/hr means million British Thermal Units per hour.

MGD means million gallons per day.

Monthly concentration is the sum of the daily concentrations determined during a reporting period divided by the number of daily concentrations determined. The calculated monthly concentration will be used to determine compliance with any maximum monthly concentration limitations. Days with no discharge shall not be used to determine the value. When required by the permit, report the calculated monthly concentration in the "AVERAGE" column under "QUALITY OR CONCENTRATION" on the DMR.

For minimum percent removal requirements, the monthly influent concentration and the monthly effluent concentration shall be determined. The calculated monthly percent removal, which is equal to 100 times the quantity [1 minus the quantity (monthly effluent concentration divided by the monthly influent concentration)], shall be reported in the "MINIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs.

Monthly loading is the sum of the daily loadings of a parameter divided by the number of daily loadings determined during a reporting period. The calculated monthly loading will be used to determine compliance with any maximum monthly loading limitations. Days with no discharge shall not be used to determine the value. When required by the permit, report the calculated monthly loading in the "AVERAGE" column under "QUANTITY OR LOADING" on the DMR.

Monthly monitoring frequency refers to a calendar month. When required by this permit, an analytical result, reading, value or observation shall be reported for that period if a discharge occurs during that period.

Municipal separate storm sewer means a conveyance or system of conveyances designed or used for collecting or conveying storm water which is not a combined sewer and which is not part of a POTW as defined in the Code of Federal Regulations at 40 CFR 122.2.

Municipal separate storm sewer system (MS4) means all separate storm sewers that are owned or operated by the United States, a state, city, village, township, county, district, association, or other public body created by or pursuant to state law, having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under state law, such as a sewer district, flood control district, or drainage district, or similar entity, or a designated or approved management agency under Section 208 of the Clean Water Act that discharges to the waters of the state. This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.

National Pretreatment Standards are the regulations promulgated by or to be promulgated by the Federal Environmental Protection Agency pursuant to Section 307(b) and (c) of the Clean Water Act. The standards establish nationwide limits for specific industrial categories for discharge to a POTW.

No observed adverse effect level (NOAEL) means the highest tested dose or concentration of a substance which results in no observed adverse effect in exposed test organisms where higher doses or concentrations result in an adverse effect.

Noncontact cooling water is water used for cooling which does not come into direct contact with any raw material, intermediate product, by-product, waste product or finished product.

Nondomestic user is any discharger to a POTW that discharges wastes other than or in addition to water-carried wastes from toilet, kitchen, laundry, bathing or other facilities used for household purposes.

Nonstructural controls are practices or procedures implemented by employees at a facility to manage storm water or to prevent contamination of storm water.

NPDES means National Pollutant Discharge Elimination System.

Outfall is the location at which a point source discharge first enters a surface water of the state.

Part 91 agency means an agency that is designated by a county board of commissioners pursuant to the provisions of Section 9105 of Part 91 of the NREPA; an agency that is designated by a city, village, or township in accordance with the provisions of Section 9106 of Part 91 of the NREPA; or the Department for soil erosion and sedimentation control activities under Part 615, Supervisor of Wells; Part 631, Reclamation of Mining Lands; or Part 632, Nonferrous Metallic Mineral Mining, of the NREPA, pursuant to the provisions of Section 9115 of Part 91 of the NREPA.

Part 91 permit means a soil erosion and sedimentation control permit issued by a Part 91 agency pursuant to the provisions of Part 91 of the NREPA.

Partially treated sewage is any sewage, sewage and storm water, or sewage and wastewater, from domestic or industrial sources that is treated to a level less than that required by the permittee's NPDES permit, or that is not treated to national secondary treatment standards for wastewater, including discharges to surface waters from retention treatment facilities.

Point of discharge is the location of a point source discharge where storm water is discharged directly into a separate storm sewer system.

Point source discharge means a discharge from any discernible, confined, discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, or rolling stock. Changing the surface of land or establishing grading patterns on land will result in a point source discharge where the runoff from the site is ultimately discharged to waters of the state.

Polluting material means any material, in solid or liquid form, identified as a polluting material under the Part 5 Rules, Spillage of Oil and Polluting Materials, promulgated under Part 31 of the NREPA (R 324.2001 through R 324.2009 of the Michigan Administrative Code).

POTW is a publicly owned treatment work.

Predevelopment is the last land use prior to the planned new development or redevelopment.
Pretreatment is reducing the amount of pollutants, eliminating pollutants, or altering the nature of pollutant properties to a less harmful state prior to discharge into a public sewer. The reduction or alteration can be by physical, chemical, or biological processes, process changes, or by other means. Dilution is not considered pretreatment unless expressly authorized by an applicable National Pretreatment Standard for a particular industrial category.

Public (as used in the MS4 individual permit) means all persons who potentially could affect the authorized storm water discharges, including, but not limited to, residents, visitors to the area, public employees, businesses, industries, and construction contractors and developers.

Public body means the United States; the state of Michigan; a city, village, township, county, school district, public college or university, or single-purpose governmental agency; or any other body which is created by federal or state statute or law.

Qualified Personnel means an individual who meets qualifications acceptable to the Department and who is authorized by an Industrial Storm Water Certified Operator to collect the storm water sample.

Qualifying storm event means a storm event causing greater than 0.1 inch of rainfall and occurring at least 72 hours after the previous measurable storm event that also caused greater than 0.1 inch of rainfall. Upon request, the Department may approve an alternate definition meeting the condition of a qualifying storm event.

Quantification level means the measurement of the concentration of a contaminant obtained by using a specified laboratory procedure calculated at a specified concentration above the detection level. It is considered the lowest concentration at which a particular contaminant can be quantitatively measured using a specified laboratory procedure for monitoring of the contaminant.

Quarterly monitoring frequency refers to a three month period, defined as January through March, April through June, July through September, and October through December. When required by this permit, an analytical result, reading, value or observation shall be reported for that period if a discharge occurs during that period.

Regional Administrator is the Region 5 Administrator, U.S. EPA, located at R-19J, 77 W. Jackson Blvd., Chicago, Illinois 60604.

Regulated area means the permittee's urbanized area, where urbanized area is defined as a place and its adjacent densely-populated territory that together have a minimum population of 50,000 people as defined by the United States Bureau of the Census and as determined by the latest available decennial census.

Secondary containment structure means a unit, other than the primary container, in which significant materials are packaged or held, which is required by state or federal law to prevent the escape of significant materials by gravity into sewers, drains, or otherwise directly or indirectly into any sewer system or to the surface waters or groundwaters of the state.

Separate storm sewer system means a system of drainage, including, but not limited to, roads, catch basins, curbs, gutters, parking lots, ditches, conduits, pumping devices, or man-made channels, which is not a combined sewer where storm water mixes with sanitary wastes, and is not part of a POTW.

Significant industrial user is a nondomestic user that: 1) is subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N; or 2) discharges an average of 25,000 gallons per day or more of process wastewater to a POTW (excluding sanitary, noncontact cooling and boiler blowdown wastewater); contributes a process waste stream which makes up five (5) percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the permittee as defined in 40 CFR 403.12(a) on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's treatment plant operation or violating any pretreatment standard or requirement (in

accordance with 40 CFR 403.8(f)(6)).

Significant materials means any material which could degrade or impair water quality, including but not limited to: raw materials; fuels; solvents, detergents, and plastic pellets; finished materials such as metallic products; hazardous substances designated under Section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (see 40 CFR 372.65); any chemical the facility is required to report pursuant to Section 313 of Emergency Planning and Community Right-to-Know Act (EPCRA); polluting materials as identified under the Part 5 Rules (R 324.2001 through R 324.2009 of the Michigan Administrative Code); Hazardous Wastes as defined in Part 111, Hazardous Waste Management, of the NREPA; fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with storm water discharges.

Significant spills and significant leaks means any release of a polluting material reportable under the Part 5 Rules (R 324.2001 through R 324.2009 of the Michigan Administrative Code).

Special-use area means storm water discharges for which the Department has determined that additional monitoring is needed from: secondary containment structures required by state or federal law; lands on Michigan's List of Sites of Environmental Contamination pursuant to Part 201, Environmental Remediation, of the NREPA; and/or areas with other activities that may contribute pollutants to the storm water.

Stoichiometric means the quantity of a reagent calculated to be necessary and sufficient for a given chemical reaction.

Storm water means storm water runoff, snow melt runoff, surface runoff and drainage, and non-storm water included under the conditions of this permit.

Storm water discharge point is the location where the point source discharge of storm water is directed to surface waters of the state or to a separate storm sewer. It includes the location of all point source discharges where storm water exits the facility, including *outfalls* which discharge directly to surface waters of the state, and *points of discharge* which discharge directly into separate storm sewer systems.

Structural controls are physical features or structures used at a facility to manage or treat storm water.

SWPPP means the Storm Water Pollution Prevention Plan prepared in accordance with this permit.

Tier I value means a value for aquatic life, human health or wildlife calculated under R 323.1057 of the Water Quality Standards using a tier I toxicity database.

Tier II value means a value for aquatic life, human health or wildlife calculated under R 323.1057 of the Water Quality Standards using a tier II toxicity database.

Total maximum daily loads (TMDLs) are required by the Clean Water Act for waterbodies that do not meet water quality standards. TMDLs represent the maximum daily load of a pollutant that a waterbody can assimilate and meet water quality standards, and an allocation of that load among point sources, nonpoint sources, and a margin of safety.

Toxicity reduction evaluation (TRE) means a site-specific study conducted in a stepwise process designed to identify the causative agents of effluent toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in effluent toxicity.

Water Quality Standards means the Part 4 Water Quality Standards promulgated pursuant to Part 31 of the NREPA, being R 323.1041 through R 323.1117 of the Michigan Administrative Code.

Weekly monitoring frequency refers to a calendar week which begins on Sunday and ends on Saturday. When required by this permit, an analytical result, reading, value or observation shall be reported for that period if a discharge occurs during that period.

WWSL is a wastewater stabilization lagoon.

WWSL discharge event is a discrete occurrence during which effluent is discharged to the surface water up to 10 days of a consecutive 14 day period.

3-portion composite sample is a sample consisting of three equal-volume grab samples collected at equal intervals over an 8-hour period.

7-day concentration
FOR WWSLs THAT COLLECT AND STORE WASTEWATER AND ARE AUTHORIZED TO DISCHARGE ONLY IN THE SPRING AND/OR FALL ON AN INTERMITTENT BASIS – The 7-day concentration is the sum of the daily concentrations determined during any 7 consecutive days of discharge during a WWSL discharge event divided by the number of daily concentrations determined. If the number of daily concentrations determined during the WWSL discharge event is less than 7 days, the number of actual daily concentrations determined shall be used for the calculation. The calculated 7-day concentration will be used to determine compliance with any maximum 7-day concentration limitations. When required by the permit, report the maximum calculated 7-day concentration for the WWSL discharge event in the "MAXIMUM" column under "QUALITY OR CONCENTRATION" on the DMR. If the WWSL discharge event was partially in each of two months, the value shall be reported on the DMR of the month in which the last day of discharge occurred.

FOR ALL OTHER DISCHARGES – The 7-day concentration is the sum of the daily concentrations determined during any 7 consecutive days in a reporting month divided by the number of daily concentrations determined. If the number of daily concentrations determined is less than 7, the actual number of daily concentrations determined shall be used for the calculation. The calculated 7-day concentration will be used to determine compliance with any maximum 7-day concentration limitations in the reporting month. When required by the permit, report the maximum calculated 7-day concentration for the month in the "MAXIMUM" column under "QUALITY OR CONCENTRATION" on the DMR. The first 7-day calculation shall be made on day 7 of the reporting month, and the last calculation shall be made on the last day of the reporting month.

7-day loading
FOR WWSLs THAT COLLECT AND STORE WASTEWATER AND ARE AUTHORIZED TO DISCHARGE ONLY IN THE SPRING AND/OR FALL ON AN INTERMITTENT BASIS – The 7-day loading is the sum of the daily loadings determined during any 7 consecutive days of discharge during a WWSL discharge event divided by the number of daily loadings determined. If the number of daily loadings determined during the WWSL discharge event is less than 7 days, the number of actual daily loadings determined shall be used for the calculation. The calculated 7-day loading will be used to determine compliance with any maximum 7-day loading limitations. When required by the permit, report the maximum calculated 7-day loading for the WWSL discharge event in the "MAXIMUM" column under "QUANTITY OR LOADING" on the DMR. If the WWSL discharge event was partially in each of two months, the value shall be reported on the DMR of the month in which the last day of discharge occurred.

FOR ALL OTHER DISCHARGES – The 7-day loading is the sum of the daily loadings determined during any 7 consecutive days in a reporting month divided by the number of daily loadings determined. If the number of daily loadings determined is less than 7, the actual number of daily loadings determined shall be used for the calculation. The calculated 7-day loading will be used to determine compliance with any maximum 7-day loading limitations in the reporting month. When required by the permit, report the maximum calculated 7-day loading for the month in the "MAXIMUM" column under "QUANTITY OR LOADING" on the DMR. The first 7-day calculation shall be made on day 7 of the reporting month, and the last calculation shall be made on the last day of the reporting month.

24-hour composite sample is a flow-proportioned composite sample consisting of hourly or more frequent portions that are taken over a 24-hour period. A time-proportioned composite sample may be used upon approval of the Department if the permittee demonstrates it is representative of the discharge.

PART II

Section B. Monitoring Procedures

1. Representative Samples

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

2. Test Procedures

Test procedures for the analysis of pollutants shall conform to regulations promulgated pursuant to Section 304(h) of the Clean Water Act (40 CFR Part 136 – Guidelines Establishing Test Procedures for the Analysis of Pollutants), unless specified otherwise in this permit. **Test procedures used shall be sufficiently sensitive to determine compliance with applicable effluent limitations**. Requests to use test procedures not promulgated under 40 CFR Part 136 for pollutant monitoring required by this permit shall be made in accordance with the Alternate Test Procedures regulations specified in 40 CFR 136.4. These requests shall be submitted to the Manager of the Permits Section, Water Resources Division, Michigan Department of Environment, Great Lakes, and Energy, P.O. Box 30458, Lansing, Michigan, 48909-7958. The permittee may use such procedures upon approval.

The permittee shall periodically calibrate and perform maintenance procedures on all analytical instrumentation at intervals to ensure accuracy of measurements. The calibration and maintenance shall be performed as part of the permittee's laboratory Quality Assurance/Quality Control program.

3. Instrumentation

The permittee shall periodically calibrate and perform maintenance procedures on all monitoring instrumentation at intervals to ensure accuracy of measurements.

4. Recording Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information: 1) the exact place, date, and time of measurement or sampling; 2) the person(s) who performed the measurement or sample collection; 3) the dates the analyses were performed; 4) the person(s) who performed the analyses; 5) the analytical techniques or methods used; 6) the date of and person responsible for equipment calibration; and 7) the results of all required analyses.

5. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years, or longer if requested by the Regional Administrator or the Department.

PART II

Section C. Reporting Requirements

1. Start-Up Notification

If the permittee will not discharge during the first 60 days following the effective date of this permit, the permittee shall notify the Department within 14 days following the effective date of this permit, and then 60 days prior to the commencement of the discharge.

2. Submittal Requirements for Self-Monitoring Data

Part 31 of the NREPA (specifically Section 324.3110(7)); and R 323.2155(2) of Part 21, Wastewater Discharge Permits, promulgated under Part 31 of the NREPA, allow the Department to specify the forms to be utilized for reporting the required self-monitoring data. Unless instructed on the effluent limitations page to conduct "Retained Self-Monitoring," the permittee shall submit self-monitoring data via the Department's MiWaters system.

The permittee shall utilize the information provided on the MiWaters website, located at https://miwaters.deq.state.mi.us, to access and submit the electronic forms. Both monthly summary and daily data shall be submitted to the Department no later than the 20th day of the month following each month of the authorized discharge period(s). The permittee may be allowed to submit the electronic forms after this date if the Department has granted an extension to the submittal date.

3. Retained Self-Monitoring Requirements

If instructed on the effluent limits page (or otherwise authorized by the Department in accordance with the provisions of this permit) to conduct retained self-monitoring, the permittee shall maintain a year-to-date log of retained self-monitoring results and, upon request, provide such log for inspection to the staff of the Department. Retained self-monitoring results are public information and shall be promptly provided to the public upon request.

The permittee shall certify, in writing, to the Department, on or before January 10th (April 1st for animal feeding operation facilities) of each year, that: 1) all retained self-monitoring requirements have been complied with and a year-to-date log has been maintained; and 2) the application on which this permit is based still accurately describes the discharge. With this annual certification, the permittee shall submit a summary of the previous year's monitoring data. The summary shall include maximum values for samples to be reported as daily maximums and/or monthly maximums and minimum values for any daily minimum samples.

Retained self-monitoring may be denied to a permittee by notification in writing from the Department. In such cases, the permittee shall submit self-monitoring data in accordance with Part II.C.2., above. Such a denial may be rescinded by the Department upon written notification to the permittee. Reissuance or modification of this permit or reissuance or modification of an individual permittee's authorization to discharge shall not affect previous approval or denial for retained self-monitoring unless the Department provides notification in writing to the permittee.

4. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report. Such increased frequency shall also be indicated.

Monitoring required pursuant to Part 41 of the NREPA or Rule 35 of the Mobile Home Park Commission Act, 1987 PA 96, as amended, for assurance of proper facility operation, shall be submitted as required by the Department.

5. Compliance Dates Notification

Within 14 days of every compliance date specified in this permit, the permittee shall submit a *written* notification to the Department indicating whether or not the particular requirement was accomplished. If the requirement was not accomplished, the notification shall include an explanation of the failure to accomplish the requirement, actions taken or planned by the permittee to correct the situation, and an estimate of when the requirement will be accomplished. If a written report is required to be submitted by a specified date and the permittee accomplishes this, a separate written notification is not required.

6. Noncompliance Notification

Compliance with all applicable requirements set forth in the Clean Water Act, Parts 31 and 41 of the NREPA, and related regulations and rules is required. All instances of noncompliance shall be reported as follows:

a. 24-Hour Reporting
Any noncompliance which may endanger health or the environment (including maximum and/or minimum daily concentration discharge limitation exceedances) shall be reported, verbally, within 24 hours from the time the permittee becomes aware of the noncompliance. A written submission shall also be provided within five (5) days.

b. Other Reporting
The permittee shall report, in writing, all other instances of noncompliance not described in a. above at the time monitoring reports are submitted; or, in the case of retained self-monitoring, within five (5) days from the time the permittee becomes aware of the noncompliance.

Written reporting shall include: 1) a description of the discharge and cause of noncompliance; and 2) the period of noncompliance, including exact dates and times, or, if not yet corrected, the anticipated time the noncompliance is expected to continue, and the steps taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

7. Spill Notification

The permittee shall immediately report any release of any polluting material which occurs to the surface waters or groundwaters of the state, unless the permittee has determined that the release is not in excess of the threshold reporting quantities specified in the Part 5 Rules (R 324.2001 through R 324.2009 of the Michigan Administrative Code), by calling the Department at the number indicated on the second page of this permit (or, if this is a general permit, on the COC); or, if the notice is provided after regular working hours, call the Department's 24-hour Pollution Emergency Alerting System telephone number, 1-800-292-4706 (calls from **out-of-state** call 1-517-373-7660).

Within ten (10) days of the release, the permittee shall submit to the Department a full written explanation as to the cause of the release, the discovery of the release, response (clean-up and/or recovery) measures taken, and preventive measures taken or a schedule for completion of measures to be taken to prevent reoccurrence of similar releases.

8. Upset Noncompliance Notification

If a process "upset" (defined as an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee) has occurred, the permittee who wishes to establish the affirmative defense of upset shall notify the Department by telephone within 24 hours of becoming aware of such conditions; and within five (5) days, provide in writing, the following information:

a. that an upset occurred and that the permittee can identify the specific cause(s) of the upset;

b. that the permitted wastewater treatment facility was, at the time, being properly operated and maintained (note that an upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation); and

c. that the permittee has specified and taken action on all responsible steps to minimize or correct any adverse impact in the environment resulting from noncompliance with this permit.

No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

In any enforcement proceedings, the permittee, seeking to establish the occurrence of an upset, has the burden of proof.

9. Bypass Prohibition and Notification

a. Bypass Prohibition
Bypass is prohibited, and the Department may take an enforcement action, unless:

1) bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

2) there were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass; and

3) the permittee submitted notices as required under 9.b. or 9.c. below.

b. Notice of Anticipated Bypass
If the permittee knows in advance of the need for a bypass, it shall submit prior notice to the Department, if possible at least ten (10) days before the date of the bypass, and provide information about the anticipated bypass as required by the Department. The Department may approve an anticipated bypass, after considering its adverse effects, if it will meet the three (3) conditions listed in 9.a. above.

c. Notice of Unanticipated Bypass
The permittee shall submit notice to the Department of an unanticipated bypass by calling the Department at the number indicated on the second page of this permit (if the notice is provided after regular working hours, call: 1-800-292-4706) as soon as possible, but no later than 24 hours from the time the permittee becomes aware of the circumstances.

d. Written Report of Bypass
A written submission shall be provided within five (5) working days of commencing any bypass to the Department, and at additional times as directed by the Department. The written submission shall contain a description of the bypass and its cause; the period of bypass, including exact dates and times, and if the bypass has not been corrected, the anticipated time it is expected to continue; steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass; and other information as required by the Department.

e. Bypass Not Exceeding Limitations
The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to ensure efficient operation. These bypasses are not subject to the provisions of 9.a., 9.b., 9.c., and 9.d., above. This provision does not relieve the permittee of any notification responsibilities under Part II.C.11. of this permit.

f. Definitions

1) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

2) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

10. Bioaccumulative Chemicals of Concern (BCC)

Consistent with the requirements of R 323.1098 and R 323.1215 of the Michigan Administrative Code, the permittee is prohibited from undertaking any action that would result in a lowering of water quality from an increased loading of a BCC unless an increased use request and antidegradation demonstration have been submitted and approved by the Department.

11. Notification of Changes in Discharge

The permittee shall notify the Department, in writing, as soon as possible but no later than 10 days of knowing, or having reason to believe, that any activity or change has occurred or will occur which would result in the discharge of: 1) detectable levels of chemicals on the current Michigan Critical Materials Register, priority pollutants or hazardous substances set forth in 40 CFR 122.21, Appendix D, or the Pollutants of Initial Focus in the Great Lakes Water Quality Initiative specified in 40 CFR 132.6, Table 6, which were not acknowledged in the application or listed in the application at less than detectable levels; 2) detectable levels of any other chemical not listed in the application or listed at less than detection, for which the application specifically requested information; or 3) any chemical at levels greater than five times the average level reported in the complete application (see the first page of this permit, for the date(s) the complete application was submitted). Any other monitoring results obtained as a requirement of this permit shall be reported in accordance with the compliance schedules.

12. Changes in Facility Operations

Any anticipated action or activity, including but not limited to facility expansion, production increases, or process modification, which will result in new or increased loadings of pollutants to the receiving waters must be reported to the Department by a) submission of an increased use request (application) and all information required under R 323.1098 (Antidegradation) of the Water Quality Standards or b) by notice if the following conditions are met: 1) the action or activity will not result in a change in the types of wastewater discharged or result in a greater quantity of wastewater than currently authorized by this permit; 2) the action or activity will not result in violations of the effluent limitations specified in this permit; 3) the action or activity is not prohibited by the requirements of Part II.C.10.; and 4) the action or activity will not require notification pursuant to Part II.C.11. Following such notice, the permit or, if applicable, the facility's COC may be modified according to applicable laws and rules to specify and limit any pollutant not previously limited.

13. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities from which the authorized discharge emanates, the permittee shall submit to the Department 30 days prior to the actual transfer of ownership or control a written agreement between the current permittee and the new permittee containing: 1) the legal name and address of the new owner; 2) a specific date for the effective transfer of permit responsibility, coverage and liability; and 3) a certification of the continuity of or any changes in operations, wastewater discharge, or wastewater treatment.

If the new permittee is proposing changes in operations, wastewater discharge, or wastewater treatment, the Department may propose modification of this permit in accordance with applicable laws and rules.

14. Operations and Maintenance Manual

For wastewater treatment facilities that serve the public (and are thus subject to Part 41 of the NREPA), Section 4104 of Part 41 and associated Rule 2957 of the Michigan Administrative Code allow the Department to require an Operations and Maintenance (O&M) Manual from the facility. An up-to-date copy of the O&M Manual shall be kept at the facility and shall be provided to the Department upon request. The Department may review the O&M Manual in whole or in part at its discretion and require modifications to it if portions are determined to be inadequate.

At a minimum, the O&M Manual shall include the following information: permit standards; descriptions and operation information for all equipment; staffing information; laboratory requirements; record keeping requirements; a maintenance plan for equipment; an emergency operating plan; safety program information; and copies of all pertinent forms, as-built plans, and manufacturer's manuals.

Certification of the existence and accuracy of the O&M Manual shall be submitted to the Department at least sixty days prior to start-up of a new wastewater treatment facility. Recertification shall be submitted sixty days prior to start-up of any substantial improvements or modifications made to an existing wastewater treatment facility.

15. Signatory Requirements

All applications, reports, or information submitted to the Department in accordance with the conditions of this permit and that require a signature shall be signed and certified as described in the Clean Water Act and the NREPA.

The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

The NREPA (Section 3115(2)) provides that a person who at the time of the violation knew or should have known that he or she discharged a substance contrary to this part, or contrary to a permit, COC, or order issued or rule promulgated under this part, or who intentionally makes a false statement, representation, or certification in an application for or form pertaining to a permit or COC or in a notice or report required by the terms and conditions of an issued permit or COC, or who intentionally renders inaccurate a monitoring device or record required to be maintained by the Department, is guilty of a felony and shall be fined not less than $2,500.00 or more than $25,000.00 for each violation. The court may impose an additional fine of not more than $25,000.00 for each day during which the unlawful discharge occurred. If the conviction is for a violation committed after a first conviction of the person under this subsection, the court shall impose a fine of not less than $25,000.00 per day and not more than $50,000.00 per day of violation. Upon conviction, in addition to a fine, the court in its discretion may sentence the defendant to imprisonment for not more than 2 years or impose probation upon a person for a violation of this part. With the exception of the issuance of criminal complaints, issuance of warrants, and the holding of an arraignment, the circuit court for the county in which the violation occurred has exclusive jurisdiction. However, the person shall not be subject to the penalties of this subsection if the discharge of the effluent is in conformance with and obedient to a rule, order, permit, or COC of the Department. In addition to a fine, the attorney general may file a civil suit in a court of competent jurisdiction to recover the full value of the injuries done to the natural resources of the state and the costs of surveillance and enforcement by the state resulting from the violation.

16. Electronic Reporting

Upon notice by the Department that electronic reporting tools are available for specific reports or notifications, the permittee shall submit electronically all such reports or notifications as required by this permit, on forms provided by the Department.

PART II

Section D. Management Responsibilities

1. Duty to Comply

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit, more frequently than, or at a level in excess of, that authorized, shall constitute a violation of the permit.

It is the duty of the permittee to comply with all the terms and conditions of this permit. Any noncompliance with the Effluent Limitations, Special Conditions, or terms of this permit constitutes a violation of the NREPA and/or the Clean Water Act and constitutes grounds for enforcement action; for permit or Certificate of Coverage (COC) termination, revocation and reissuance, or modification; or denial of an application for permit or COC renewal.

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

2. Operator Certification

The permittee shall have the waste treatment facilities under direct supervision of an operator certified at the appropriate level for the facility certification by the Department, as required by Sections 3110 and 4104 of the NREPA. Permittees authorized to discharge storm water shall have the storm water treatment and/or control measures under direct supervision of a storm water operator certified by the Department, as required by Section 3110 of the NREPA.

3. Facilities Operation

The permittee shall, at all times, properly operate and maintain all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes adequate laboratory controls and appropriate quality assurance procedures.

4. Power Failures

In order to maintain compliance with the effluent limitations of this permit and prevent unauthorized discharges, the permittee shall either:

a. provide an alternative power source sufficient to operate facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit; or

b. upon the reduction, loss, or failure of one or more of the primary sources of power to facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit, the permittee shall halt, reduce or otherwise control production and/or all discharge in order to maintain compliance with the effluent limitations and conditions of this permit.

5. Adverse Impact

The permittee shall take all reasonable steps to minimize or prevent any adverse impact to the surface waters or groundwaters of the state resulting from noncompliance with any effluent limitation specified in this permit including, but not limited to, such accelerated or additional monitoring as necessary to determine the nature and impact of the discharge in noncompliance.

6. Containment Facilities

The permittee shall provide facilities for containment of any accidental losses of polluting materials in accordance with the requirements of the Part 5 Rules (R 324.2001 through R 324.2009 of the Michigan Administrative Code). For a POTW, these facilities shall be approved under Part 41 of the NREPA.

7. Waste Treatment Residues

Residuals (i.e. solids, sludges, biosolids, filter backwash, scrubber water, ash, grit, or other pollutants or wastes) removed from or resulting from treatment or control of wastewaters, including those that are generated during treatment or left over after treatment or control has ceased, shall be disposed of in an environmentally compatible manner and according to applicable laws and rules. These laws may include, but are not limited to, the NREPA, Part 31 for protection of water resources, Part 55 for air pollution control, Part 111 for hazardous waste management, Part 115 for solid waste management, Part 121 for liquid industrial wastes, Part 301 for protection of inland lakes and streams, and Part 303 for wetlands protection. Such disposal shall not result in any unlawful pollution of the air, surface waters or groundwaters of the state.

8. Right of Entry

The permittee shall allow the Department, any agent appointed by the Department, or the Regional Administrator, upon the presentation of credentials and, for animal feeding operation facilities, following appropriate biosecurity protocols:

a. to enter upon the permittee's premises where an effluent source is located or any place in which records are required to be kept under the terms and conditions of this permit; and

b. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect process facilities, treatment works, monitoring methods and equipment regulated or required under this permit; and to sample any discharge of pollutants.

9. Availability of Reports

Except for data determined to be confidential under Section 308 of the Clean Water Act and Rule 2128 (R 323.2128 of the Michigan Administrative Code), all reports prepared in accordance with the terms of this permit, shall be available for public inspection at the offices of the Department and the Regional Administrator. As required by the Clean Water Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Clean Water Act and Sections 3112, 3115, 4106 and 4110 of the NREPA.

10. Duty to Provide Information

The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or the facility's COC, or to determine compliance with this permit. The permittee shall also furnish to the Department, upon request, copies of records required to be kept by this permit.

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.

PART II

Section E. Activities Not Authorized by This Permit

1. Discharge to the Groundwaters

This permit does not authorize any discharge to the groundwaters. Such discharge may be authorized by a groundwater discharge permit issued pursuant to the NREPA.

2. POTW Construction

This permit does not authorize or approve the construction or modification of any physical structures or facilities at a POTW. Approval for the construction or modification of any physical structures or facilities at a POTW shall be by permit issued under Part 41 of the NREPA.

3. Civil and Criminal Liability

Except as provided in permit conditions on "Bypass" (Part II.C.9. pursuant to 40 CFR 122.41(m)), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance, whether or not such noncompliance is due to factors beyond the permittee's control, such as accidents, equipment breakdowns, or labor disputes.

4. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee may be subject under Section 311 of the Clean Water Act except as are exempted by federal regulations.

5. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Clean Water Act.

6. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize violation of any federal, state or local laws or regulations, nor does it obviate the necessity of obtaining such permits, including any other Department of Environment, Great Lakes, and Energy permits, or approvals from other units of government as may be required by law.

Appendix B
GFIA Spill History/Std. Spill Reporting Form

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Michigan's Part 5 Spillage of Oil and Polluting Materials administrative rules were promulgated pursuant to Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act. The Rules address release prevention planning, secondary containment, surveillance, and release reporting requirements. They also include a list of "polluting materials" with threshold reporting quantities for "releases". Section 3.4 of the SWPPP discusses the release required to result in a "reportable spill". The definition of a "release" is defined further below:

Rule 324.2002(b) "**Release**" is defined in section 20101(1)(ll) of the act. For the purposes of this rule, "release" does not include any of the following:

(i) Spilling, leaking, or discharging less than 1000 gallons of a polluting material into a secondary containment structure that complies with these rules, if recovery of the material spilled, leaked, or discharged is initiated within 24 hours of detection, is completed as soon as practicable, but not more than 72 hours after detection, and if no polluting materials are released directly or indirectly to any public sewer system or to the surface waters or groundwaters of this state.

(ii) Spilling, leaking, or discharging less than 55 gallons of oil to the ground surface, if the spill, leak, or discharge is detected and the oil recovered within 24 hours of the spill, leak, or discharge, and if oil is not released directly or indirectly to any public sewer system or to the surface waters or groundwaters of this state.

(iii) Spilling, leaking, or discharging less than 55 gallons of oil to the surface waters of this state, if effective recovery measures are implemented in response to the spill, leak, or discharge immediately upon detection.

(iv) Releases of air contaminants as defined in section 5501(a) of the act.

(v) Permitted releases as defined in section 20101(1)(aa) of the act.

(ll) "**Release**" includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing of a hazardous substance into the environment, or the abandonment or discarding of barrels, containers, and other closed receptacles containing a hazardous substance.

Michigan Department of Environmental Quality

SPILL OR RELEASE REPORT

Issued by authority of the Michigan Department of Environmental Quality.

NOTE: Some regulations require a specific form to use and procedures to follow when reporting a release. Those forms and procedures **MUST** be used and followed if reporting under those regulations. This report form is to aid persons reporting releases under regulations that do not require a specific form. This report form is not required to be used. **To report a release, some regulations require a facility to call the PEAS Hotline at 800-292-4706 (or the DEQ District Office that oversees the county where it occurred) and other agencies and provide information that is included in this form. A written follow-up report might be required. This form may be used for the written follow-up report and to document the initial report. If you prefer to submit this report electronically by FAX or e-mail, contact the regulating agency for the correct telephone number or e-mail address.** Go to www.michigan.gov/chemrelease for more information.

Please print or type all information.

Name and Title of Person Submitting Written Report	Telephone Number (provide area code) ( )

Name of Business Street Address City, State, ZIP Business Telephone Number (provide area code) ( )	**RELEASE LOCATION** (Provide address if different than business, if known, and give directions to the spill location. Include nearest highway, town, road intersection, etc.)

SITE IDENTIFICATION NUMBER AND OTHER IDENTIFYING NUMBERS (if applicable)	County	Township	Tier/Range/Section (if known)

RELEASE DATA: Complete all applicable categories. Check all the boxes that apply to the release. Provide the best available information regarding the release and its impacts. Attach additional pages if necessary.

DATE & TIME OF RELEASE (if known)	**DATE & TIME OF DISCOVERY**	**DURATION OF RELEASE** (if known)	**TYPE OF INCIDENT**
____/____/____ ____ am/pm	____/____/____ ____ am/pm	____ days ____ hours ____ minutes	☐ Explosion ☐ Fire ☐ Leaking container ☐ Other ____ ☐ Loading/unloading release ☐ Pipe/valve leak or rupture ☐ Vehicle accident

MATERIAL RELEASED (chemical or trade name) ☐ **CHECK HERE IF ADDITIONAL MATERIALS LISTED ON ATTACHED PAGE.**	**CAS NUMBER OR HAZARDOUS WASTE CODE**	**ESTIMATED QUANTITY RELEASED** (indicate unit e.g. lbs, gals, cu ft or yds)	**PHYSICAL STATE RELEASED** (indicate if solid, liquid, or gas)

FACTORS CONTRIBUTING TO RELEASE

☐ Equipment failure ☐ Operator error ☐ Faulty process design ☐ Training deficiencies ☐ Unusual weather conditions ☐ Other ____

SOURCE OF LOSS

☐ Container ☐ Railroad car ☐ Pipeline ☐ Ship ☐ Tank ☐ Other ____ ☐ Tanker ☐ Truck

TYPE OF MATERIAL RELEASED

☐ Agricultural: manure, pesticide, fertilizer
☐ Chemicals
☐ Flammable or combustible liquid
☐ Hazardous waste
☐ Liquid industrial waste
☐ Oil/petroleum products or waste
☐ Salt
☐ Sewage
☐ Other ____
☐ Unknown

MATERIAL LISTED ON OR DEFINED BY

☐ CAA Section 112(r) list (40 CFR Part 68)
☐ CERCLA Table 302.4 (40 CFR Part 302)
☐ EPCRA Extremely Hazardous Substance (40 CFR Part 355)
☐ NREPA Part 31, Part 5 Rules polluting material
☐ NREPA Part 111 or RCRA hazardous waste
☐ NREPA Part 121 liquid industrial waste
☐ Other list ____
☐ Unknown

IMMEDIATE ACTIONS TAKEN

☐ Containment
☐ Dilution
☐ Evacuation
☐ Hazard removal
☐ Neutralization
☐ System shut down
☐ Other ____
☐ Diversion of release to treatment
☐ Decontamination of persons or equipment
☐ Monitoring

RELEASE REACHED

☐ Surface waters (include name of river, lake, drain involved) ____ Distance from spill location to surface water, in feet ____
☐ Drain connected to sanitary sewer (include name of wastewater treatment plant and/or street drain, if known) ____
☐ Drain connected to storm sewer (include name of drain or water body it discharges into, if known) ____
☐ Groundwater (indicate if it is a known or suspected drinking water source and include name of aquifer, if known) ____
☐ Soils (include type e.g. clay, sand, loam, etc.) ____
☐ Ambient Air
☐ Spill contained on impervious surface

EXTENT OF INJURIES (if any)	**WAS ANYONE HOSPITALIZED?** ☐ Yes Number Hospitalized: _____ ☐ No	**NUMBER OF INJURIES TREATED ON SITE**

Describe the incident, the type of equipment involved in the release, how the volume of loss was determined, along with any resulting environmental damage caused by the release. Identify who immediately responded to the incident (own employees or contractor — include cleanup company name, contact person, and telephone number). Also identify who did further cleanup activities if performed or known when report submitted.

☐ **CHECK HERE IF DESCRIPTION OR ADDITIONAL COMMENTS ARE INCLUDED ON ATTACHED PAGE**

Estimated quantity of any recovered materials and a description of how those materials were managed (include disposal method if applicable)

☐ **CHECK HERE IF DESCRIPTION OR ADDITIONAL COMMENTS ARE INCLUDED ON ATTACHED PAGE**

Assessment of actual or potential hazards to human health (Include known acute or immediate and chronic or delayed effects, and where appropriate, advice regarding medical attention necessary for exposed individuals.)

☐ **CHECK HERE IF DESCRIPTION OR ADDITIONAL COMMENTS ARE INCLUDED ON ATTACHED PAGE**

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY NOTIFIED:

INITIAL CONTACT BY: ☐ **Telephone** ☐ **FAX** ☐ **Email** ☐ **Other**

DATE/TIME INITIAL CONTACT: _____

☐ PEAS: 800-292-4706 Log Number Assigned _____

☐ DEQ District or Field Office

- ☐ Bay City
- ☐ Cadillac
- ☐ Calumet
- ☐ Crystal Falls
- ☐ Detroit
- ☐ Gaylord
- ☐ Grand Rapids
- ☐ Gwinn
- ☐ Jackson
- ☐ Kalamazoo
- ☐ Lansing
- ☐ Newberry
- ☐ Warren

Divisions or Offices Contacted:

- ☐ Air Quality
- ☐ Remediation & Redevelopment
- ☐ Office of Oil Gas & Minerals
- ☐ Water Resources
- ☐ Office of Waste Management & Radiological Protection
- ☐ Office of Drinking Water & Municipal Assistance

NOTE: DEQ Office locations are subject to change

NAME AND TITLE OF PERSON MAKING INITIAL REPORT:

_____

DEQ STAFF CONTACTED & TELEPHONE NUMBER:

_____

_____

_____

OTHER ENTITIES NOTIFIED:

	Date:	Time:
☐ National Response Center (NRC): 800-424-8802	_____	_____
☐ US Coast Guard Office: ☐ Detroit ☐ Grand Haven ☐ Sault Ste. Marie	_____	_____
☐ US Department of Transportation	_____	_____
☐ US Environmental Protection Agency	_____	_____
☐ 911 (or primary public safety answering point)	_____	_____
☐ Local Fire Department	_____	_____
☐ Local Police/State Police/Sheriff Dept	_____	_____
☐ Local Emergency Planning Committee	_____	_____
☐ State Emergency Response Commission via MI SARA Title III Program	_____	_____
☐ Wastewater Treatment Plant Authority	_____	_____
☐ Hazmat Team	_____	_____
☐ Local Health Department	_____	_____
☐ MIOSHA	_____	_____
☐ Bureau of Fire Services Fire Marshal Division	_____	_____
☐ MI Dept of Agriculture & Rural Dev: 800-405-0101	_____	_____
☐ Other _____		

PERSON CONTACTED & TELEPHONE NUMBER:

_____

_____

_____

DATE WRITTEN REPORT SUBMITTED	**SIGNATURE OF PERSON SUBMITTING WRITTEN REPORT**

Appendix C
Inspection and Training Forms

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Comprehensive Quarterly Inspection Checklist
Gerald R. Ford International Airport, Grand Rapids, Michigan

Yes	No	N/A	Item
			1. Drainage
			Monthly outfall inspections completed since last inspection?
			Issues/problems identified during monthly outfall inspections? (if yes, include followup discussion)
			Onsite Drainage Network
			Have any catchbasins required maintenance since last inspection?
			Swales/Open Drains on-site showing signs of erosion?
			Any on-site indications of spills observed during daily airfield inspections?
			(If yes to any of the above, include followup discussion)
			Construction Projects
			Are there currently any construction projects on airport property that require an SESC permit?
			If yes, has the contractor/developer obtained SESC permits from the Township?
			2. Materials Storage
			Glycols/Pavement Deicing Materials
			Do the Glycol and Pavement deicing inventories in SWPPP Table 3-2 appear to be correct?*
			Do aircraft deicing fluid storage areas appear to be in a neat and orderly fashion?
			Are there any visual signs of spills and leaks?
			Are spill response materials/equipment available/nearby?
			Provide additional comments on issues and followup actions as appropriate.
			Fuel Handling (consider all fuel storage areas - Farm, FBOs, Tenants, KCDA, KCRC)
			Are Policies and Procedures being Followed (e.g. Handling/Storing of Haz. Substances and Materials)
			If yes, are tenant inspection records available (fuel storage areas and mobile refuelers)?
			Monthly KCDA SPCC inspection records completed since last semi-annual inspection?
			Overall condition of fuel storage areas checked
			Any maintenance/repairs required since last inspection?
			Signs of spills or leaks observed since last inspection?
			Are spill kits/equipment available/nearby?
			Do any storage containers show signs of corrosion or need for repair?
			Provide additional comments on issues and followup actions as appropriate.
			Other Materials Storage and/or Tenant activities
			Do the materials and general quantities shown in SWPPP Table 3-2 appear to be correct?*
			Are outdoor storage areas (KCDA and tenant areas) kept in a neat and orderly fashion?
			Do outdoor storage areas (KCDA and tenant areas) show any signs improper activities?
			Drums stored outside without proper containment?
			Municipal dumpsters with open lids?
			Other?
			Salt/Sand Storage (KCDA domes, KCRC domes, Car rental facilities)
			Is storage under roof or protected from precipitation?
			Are there any signs of outdoor storage, or unplanned releases to the environment?
			Other Issues
			Provide additional comments on issues and followup actions as appropriate.
			3. SWPPP Review, Recordkeeping and Documentation
			Training records current.
			Current version of Annual Deicing Management and Monitoring Plan included.
			Were any revisions made since the last comprehensive inspection?
			If yes, have the revisions been documented?
			Current versions of the Airport Rules and Regulations included?
			Current versions of the Airport Policies and Procedures on handling/storing hazardous substances included?
			Is the tenant list in Table 3-1 correct?
			Have any spills occurred since the last inspection?
			If yes, have they been reported or documented?
			Have any additional best management practices been added since the last inspection?
			Provide additional comments on issues and followup actions as appropriate.

* - Table 3-2 provides a general inventory based on the comphensive inspection
While the quantities will vary from inspection to inspection, please indicate if there are significant increases or decreases known to be present with respect to material storage and use.

Inspection Date: _____

Inspectors: _____

Quarterly Inspection Comments
Gerald R. Ford International Airport, Grand Rapids, Michigan

Comment No.

Comprehensive Quarterly Inspection Checklist

Gerald R. Ford International Airport, Grand Rapids, Michigan

The Airport continues to be in compliance with the SWPPP and terms of its NPDES permit.

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 gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Completed By: _____ Date: _____

STORM WATER POLLUTION PREVENTION PLAN
MONTHLY OUTFALL INSPECTION FORM

Completed by:

Date: _____ Time: _____ a.m. _____ p.m.

Time since last precipitation: Type of precipitation:

Hours Days ☐ Rain ☐ Snow ☐ Sleet ☐ Hail

Quantity of precipitation: _____ Inches

Flow observed: ☐ Yes ☐ No

CONTINUE IF FLOW IS OBSERVED. Visual Inspection:

COLOR	ODOR	FOREIGN MATERIAL	OIL SHEEN
☐ Clear	☐ Not Present	☐ Not Present	☐ Not Present
☐ Cloudy	☐ Present	☐ Present	☐ Present
☐ NA	☐ NA	☐ NA	☐ NA

Outfall location (i.e., sewer manhole/drainage ditch location):
O

Temperature (use descriptors such as hot or cold if thermometer is not available:

Volume (gallons/minute):

☐ None ☐ Low ☐ Moderate ☐ High

Review of structural controls:

☐ Road Culvert ☐ Drainage Ditch ☐ Detention Basin Other:

Suspected potential sources of storm water contamination and comments:

General comments:

Employee Stormwater Management Training Record

Gerald R. Ford International Airport, Grand Rapids, Michigan

Training Date:	
Trainer:	
Trainer Signature	
Topics Covered:	

Employee Training Record		
Name	**Company**	**Signature**

Note: To be completed during initial and subsequent annual SWPPP training. Keep documentation of training with current copy of the SWPPP.

Appendix D
GFIA Procedure for Conducting Visual Assessment of Stormwater Discharges

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Appendix D: GFIA Procedure for Conducting Visual Assessment of Stormwater Discharges

In accordance with Part I.B.3.c. of Gerald R. Ford International Airport's (GRR, GFIA) National Pollutant Discharge Elimination System (NPDES) Individual Permit (MI0055735, effective June 1, 2021), this document describes the procedure for conducting visual assessments of stormwater discharges from outfalls regulated under the permit that convey stormwater associated with industrial activities at GRR.

This procedure will be followed to ensure that representative stormwater samples are collected from each discharge point. The attached report form[1] will be completed for each water sample collected and assessed. Completed forms will be maintained at GRR for at least three years.

Sample Collection Timing

The visual assessment will be conducted in association with the quarterly comprehensive inspection performed in each quarter of the year. Visual assessments will be conducted within one month (before or after) of the corresponding comprehensive inspection, as weather permits. A qualifying rainfall event will be defined as a storm event causing greater than 0.1 inch of rainfall and occurring at least 72 hours after the previous measurable storm event that created 0.1 inch of rainfall. The forecast from the National Weather Service station at GRR (https://www.weather.gov/grr/) will be used to identify a qualifying event appropriate for sampling.

If adverse weather conditions prevent a visual assessment during the required month, a substitute visual assessment will be conducted during the next qualifying storm event and documentation of the rationale will be noted on the report form. These conditions may include flooding, high winds, electrical storms, other dangerous conditions, or situations that create no discharge such as drought or extended frozen conditions.

Monitoring Locations

Visual assessment samples will be collected at the following locations as shown in Figure 1. These are the outfalls that convey stormwater associated with industrial activities at the airport.

- Outfall 004
- Outfall 006
- Outfall 007
- Outfall 008

Outfall 011 is not included in this procedure because visual observations are already collected daily at that location as required by Part I.A.1 of the permit.

36TH STREET
KRAFT AVENUE
CSX R/R
THORNAPPLE RIVER DRIVE
PATTERSON AVE.
STORM WATER DETENTION AREA
NTS UPSTREAM
INTERSTATE I-96
44TH ST.
V-006
V-007
V-008
V-004
THORNAPPLE RIVER
011A
48TH STREET
BROADMOOR AVE. (M37)
52ND STREET
60TH STREET
PAUL B. HENRY FREEWAY (M-6)
KILMER STREET
NORTH
GRAPHIC SCALE
0 400' 800' 1600' 3200'
SCALE 1"= 800'

MONITORING LOCATIONS
(5) MONTHLY INSPECTION LOCATIONS
(V-007) VISUAL INSPECTION LOCATIONS

GERALD R. FORD INTERNATIONAL AIRPORT
5500 44TH ST SE GRAND RAPIDS, MICHIGAN 49512
GERALD R. FORD INTERNATIONAL AIRPORT AUTHORITY

Monitor_Loc_2022.dwg	
4. 00-00-00	SHT
3. 00-00-00	NO
2. 00-00-00	1
1. 01-11-22	
DATE REVISED	RTS

I:\AUTOCAD\DRAINAGE\Monitor_Loc_2022.dwg

Sample Collection Procedure

Personnel

Samples for the visual assessment will be collected by one of the Industrial Storm Water Certified Operators at GRR or a qualified staff member who has been authorized by an Industrial Storm Water Certified Operator to collect the sample. GRR Industrial Stormwater Certified Operators are identified on page 3 of the Storm Water Pollution Prevention Plan (SWPPP). If a qualified staff member other than an Industrial Storm Water Certified Operator collects the stormwater samples, documentation of the appropriate training (located under "Conducting Visual Assessments of Industrial Storm Water Discharges" on the Michigan Department of Environment, Great Lakes, and Energy (EGLE), Water Resources Division (WRD) Industrial Storm Water website at https://www.michigan.gov/egle/0,9429,7-135-3313_71618_3682_3716-24018--,00.html) will be included with the report. All GRR Industrial Storm Water Certified Operators will also review the EGLE visual assessment tutorial located at https://www.youtube.com/watch?v=x5cxl8Yeh-8&list=PLXCrWyRfRQVVgOxxpl_YLRQXRMdFEEnRc.

Sampling Equipment

A sample collection kit will be prepared prior to the sampling effort. The kit will include:

- Clear glass bottles labelled for each sample location,
- Telescoping fiberglass pole with bottle holder,
- Small cooler,
- Visual assessment report form, and
- Personal protective equipment (rain gear, nitrile gloves, flashlight, etc.).

Timing

In accordance with the permit requirement, samples will be collected within the first 30 minutes of the start of a discharge from a qualifying storm event. If conditions preclude collection within the first 60 minutes of a discharge, samples will be collected as soon as possible and an explanation of why additional time was needed will be provided in the report. If sampling is conducted during a snowmelt event, the sample will be collected during a time of measurable discharge from the site.

It may be necessary to sample during multiple events to collect qualified samples at all four locations (e.g. outfalls 007 and 008 during one event, outfalls 004 and 006 during another event). Date and time of each event will be recorded and monitoring will be conducted within 30 days (plus or minus) of the corresponding comprehensive inspection, as weather conditions permit.

Visual Assessment Procedure

The visual assessment procedure includes four elements: 1) the assessment of a sample collected from each discharge point; 2) the observations and photos collected at each monitoring location during

sampling; 3) the documentation of observations using the visual assessment report form; and 4) follow-up activities (if necessary). The elements of the procedure are described below.

Sample Collection Procedure

Samples will be collected just downstream of the discharge points (at the open channel locations described above) using clean, clear, pre-labelled glass containers. Each sample will be labeled with the following information:

- Sampling location (e.g. Outfall 004, 006, 007, or 008),
- Date and time of collection, and
- Date and time of the beginning of the discharge event.

Staff will use nitrile gloves to avoid contact with the sample and bottle and to prevent contamination of the sample. At each location, a clean sample bottle will be attached to the sampling pole. The bottle lid will be removed and placed on a clean surface to minimize the chance for sample contamination. The bottle will then be submerged into the streamflow in mid-channel to collect a representative sample of the flow. Once the sample is collected, the bottle will be retrieved and care will be taken to avoid introducing any foreign material into the sample. The bottle lid will then be secured and the sample will be placed into the cooler for transport to the next sampling or sample assessment location.

Care will be taken during sampling to note and avoid potential hazards including poor lighting, poor footing (i.e., slip/trip/fall hazards), high/dangerous flow conditions, thermal hazards (heat, cold), and potentially dangerous weather conditions (e.g., wind, lightning, etc.). If any of the identified hazards preclude the safe collection of samples, the condition(s) will be noted and a substitute visual assessment will be conducted during the next qualifying storm event as noted above.

Samples will be taken to the Administration Office for visual assessment. Samples will be assessed in the office as soon as practicable after collection so no special storage will normally be required. If samples need to be held longer than one hour, they will be refrigerated.

Field Observation of Discharge

Immediately after collecting the sample, a color photo will be taken of the monitoring location and the stream channel downstream of the discharge. The photos will be downloaded, saved, and stored with the visual assessment files.

Observations of the stormwater at each monitoring location will also be noted at the time of sample collection. Observation will include noting if any of the following characteristics are present: unnatural[2]

[2] There may be variations from the narrative standard for receiving waters that are due to naturally occurring phenomenon. For example, sheen may be observed at an outfall. Some sheens are not caused by petroleum products but indicate the presence of a biological/bacterial film. Biological sheens tend to be silver, dull in color and if disturbed will break into small platelets and do not reform. Petroleum sheens are typically shiny, rainbow colored, and will form back together if disturbed. Another common example is pollen which may cause the discharge to be yellow or light green. These observations will be recorded during the visual assessment.

odor, color, turbidity; presence of oil films or sheens; and/or floating or suspended solids, foams, or deposits as a result of the discharge. Observations will be noted on the report form.

Sample Assessment and Documentation

The visual assessment of the sample will be conducted by the Industrial Storm Water Operator and the results documented within 72 hours of sample collection. The sample will be assessed within one hour of collection or as soon thereafter as practicable. The assessment will be conducted in a well-lit area. The certified operator will assess each sample first by gently shaking or mixing the sample and then taking a color photo of the sample against a white background. The photo will be saved on the operator's computer network along with the visual assessment report form. The operator will then observe and make note of the characteristics of the sample (color, floating solids, oil film/sheen, foam, odor, and turbidity/clarity) and fill out the report form.

The following information will be documented for each sample using the attached visual assessment report form:

- sampling location/discharge point number (e.g., Outfall 004, 006, 007, or 008);
- storm event information (length in hours, size in inches of precipitation, duration of time since previous discharge event, and date and time discharge began);
- the nature of the discharge (rainfall or snowmelt);
- date and time of the visual assessment/field observation at each discharge point;
- name and title of the Industrial Storm Water Certified Operator or Qualified Personnel who conducted the visual assessment of the stormwater discharge at each monitoring location;
- observations made during the discharge assessment;
- any visual recordings, if applicable;
- date and time of the visual assessment of each stormwater sample;
- name, title, and operator number of the Industrial Storm Water Certified Operator who conducted the visual assessment of each sample;
- observations made during the visual assessment of each sample;
- color photograph of each sample against a white background; and,
- probable sources of any observed contamination.

Storm event information will be obtained from the National Weather Service at GRR (https://www.weather.gov/grr/).

After visually assessing the sample collected during the discharge event, the certified operator will review and sign the report form. All visual assessment documentation will be electronically stored on the operator's computer network and retained for at least three years.

Follow-Up

If unnatural characteristics are observed, the operator will attempt to determine possible sources of potential contamination, review stormwater control measures, and take corrective actions as soon as possible. The investigation may include evaluating the effectiveness of existing control measures and potentially installing additional control measures. GFIA's SWPPP will be updated as necessary to reflect additional controls implemented.

Any unusual characteristics of the discharge that could cause a violation of the Water Quality Standards (unusual color, excessive turbidity, foaming, floating solids, or petroleum sheen as compared to receiving water) in the receiving water will be reported within 24 hours to EGLE, WRD, Grand Rapids District Office (616-356-0500) followed by a written report within five days detailing the findings of the investigation and the steps taken to correct the condition.

Appendix 1

EGLE Industrial Stormwater Visual Assessment Form

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
WATER RESOURCES DIVISION

INDUSTRIAL STORM WATER PROGRAM
QUARTERLY VISUAL ASSESSMENT REPORT

This Visual Assessment Report form can be used by permittees to meet the visual assessment documentation requirements of the National Pollutant Discharge Elimination System (NPDES) Wastewater Discharge General Permit for Industrial Storm Water Discharges or NPDES Individual Permits. This report form and other Industrial Storm Water Program compliance assistance materials can be found at EGLE's WRD, Industrial Storm Water webpage Michigan.gov/IndustrialStormWater.

General Information

1. Facility Name:
2. Certificate of Coverage (COC) Number or NPDES Individual Permit Number:
3. Discharge point or sampling point location (unique id/label from site map e.g. 001):

Qualifying Storm Event and Storm Water Sample Collection Information

- *The storm water sample shall be collected during normal hours of operation by an Industrial Storm Water Certified Operator, Qualified Personnel as defined in the permit, or automatic sampling device.*
- *The storm water sample shall be collected within the first 30 minute time period of a discharge resulting from a qualifying storm event as defined in the permit. If it is not possible to collect the sample within the first 30 minutes of discharge, the sample shall be collected as soon thereafter as practicable. In the case of snowmelt, samples shall be collected during a period with measurable discharge from the site.*

1. Identify the type of storm event: ☐ Snowmelt ☐ Rainfall
    - Rainfall event information:
        - Duration of the rain event expressed in hours:
        - How many inches of rain fell during the event?
        - The last qualifying storm event was at least 72 hours prior to start of this event: ☐ Yes ☐ No – If No, explanation required:
2. Date and time the storm water discharge began:
3. Date and time the storm water sample was collected:
4. How was the storm water sample collected? ☐ Automatic Sampler ☐ Manually – List name(s) of personnel that collected the water sample:
5. Was the storm water sample collected within the first 30 minutes of discharge: ☐ Yes ☐ No – If No, explanation required:
6. Describe any notable observations of the discharge while the storm water sample was collected (A response to this question is not required if the storm water sample was collected with an automatic sampler):

Visual Assessment Information

❖ *The visual assessment of the storm water sample shall be performed and documented by an Industrial Storm Water Certified Operator.*

1. Date and time of the storm water sample visual assessment:
2. Visual assessment of the storm water sample identified the following characteristics:
   - Color: ☐ No ☐ Yes (describe):
   - Oil Sheen: ☐ No ☐ Yes (describe):
   - Turbidity: ☐ No ☐ Yes (describe):
   - Floating Solids: ☐ No ☐ Yes (describe):
   - Suspended Solids: ☐ No ☐ Yes (describe):
   - Settleable Solids: ☐ No ☐ Yes (describe):
   - Foam: ☐ No ☐ Yes (describe):
   - Any other characteristics that need further explanation:
3. An unaltered, full-color photograph of the water sample was taken against a white background: ☐ No ☐ Yes

Results Summary

1. Based on the results of the visual assessment, are there unusual characteristics associated with the discharge that require corrective actions? ☐ No ☐ Yes – If Yes, then describe the corrective actions taken and document the corrective action completed date:
2. If the response is Yes to question (1) above, were the unusual characteristics significant enough to consider the storm water discharge in violation of the permit? ☐ No ☐ Yes – If Yes, then describe the noncompliance reporting actions taken to comply with the permit:

Industrial Storm Water Certified Operator Signature

Signature (signed or typed) & Certification Number:	Date:

If you need this information in an alternate format, contact EGLE-Accessibility@Michigan.gov or call 800-662-9278.

EGLE does not discriminate on the basis of race, sex, religion, age, national origin, color, marital status, disability, political beliefs, height, weight, genetic information, or sexual orientation in the administration of any of its program or activities, and prohibits intimidation and retaliation, as required by applicable laws and regulations. Questions or concerns should be directed to the Nondiscrimination Compliance Coordinator at EGLE-NondiscriminationCC@Michigan.gov or 517-249-0906.

This form and its contents are subject to the Freedom of Information Act and may be released to the public.

Appendix E
GFIA Rules and Regulations

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GERALD R. FORD INTERNATIONAL AIRPORT

RULES & REGULATIONS

Adopted: July 1, 2016
Amended: October 30, 2019
Effective: October 30, 2019

CONTENTS

GERALD R. FORD INTERNATIONAL AIRPORT AUTHORITY
RULES & REGULATIONS

1. ORGANIZATION

1.1 TITLE

This Resolution may be cited as the Gerald R. Ford International Airport Authority Rules and Regulations.

1.2 AUTHORITY

This Resolution is created pursuant to authority granted by the Michigan Aeronautics Code MCLA 259.133.

1.3 PURPOSE

A. The Airport is operated by the Gerald R. Ford International Airport Authority created by Public Act 95 of 2015 and is certified by the Federal Aviation Administration as a Commercial Service Airport.

These Rules and Regulations have been adopted by the Gerald R. Ford International Airport Authority Board, and are issued pursuant to the authority by the Regional Airport Authorities Act and by the Aeronautics Code of the State of Michigan for the construction and operation of airports under its control and to safeguard the public. The provisions of this document are intended to provide for the safe, orderly, and efficient operation of the Airport.

B. Violation of these Rules and Regulations shall subject the offender to administrative action by the Gerald R. Ford International Airport Authority and to penalties for such violations as provided in section 1.9 of these Rules and Regulations.

1.4 SCOPE

A. The Airport is governed by the Gerald R. Ford International Airport Authority Board under the Rules and Regulations set forth herein, the rules and regulations of the Michigan Aeronautics Commission, Federal Aviation Administration, Transportation Security Administration and other applicable Federal, State, and local rules and regulations.

B. All users of and any persons on the Airport property shall be governed by these Rules and Regulations and by any emergency directives issued by the President & CEO pursuant to these Rules and Regulations. It shall be the responsibility of all persons, firms, and corporations operating on the Airport to acquaint themselves with and adhere to the Rules and Regulations contained herein at all times. These Rules and Regulations supersede all those previously published, and are subject to change by the Board at any time.

C. These Rules and Regulations are not intended to amend, modify or supersede any provision of Federal, State, county, city or township law and/or ordinances, or any specific contractual agreement of the Gerald R. Ford International Airport Authority Board with which they may conflict, and shall, insofar as possible, be interpreted so that no such conflict shall exist.

1.5 DEFINITIONS

The following words and phrases, as used in the Gerald R. Ford International Airport Authority Rules and Regulations, shall have the meanings indicated herein:

(1) Accident: A collision between an aircraft, Vehicle, person, stationary object or other property that results in property damage, bodily injury or death. An entry into or emerging from a moving Vehicle or Vehicle by a person, which results in bodily injury or death to such person or another person, or that results in property damage.

(2) Advertising: The action of calling something (as a commodity for sale, a service offer or desire) to the attention of the public by audio recording, posting, distributing or displaying signs, literature, circulars, pictures, sketches or other forms of printed or written material.

(3) Aeronautical Activity: Any activity or service that involves, makes possible, facilitates, is related to, assists with, or is required for the operation of Aircraft or another Aeronautical Activity, or which contributes to or is required for the safety of such operations.

(4) Agreement: A written contract, executed by both parties, and enforceable by law between the Board and an entity granting a concession, transferring rights or interest in land and/or improvements, and/or otherwise authorizing and/or prohibiting the conduct of certain Activities. Such Agreement will recite the terms and conditions under which the Activity will be conducted at the Airport including, but not limited to, term of the Agreement; rents, fees, and charges to be paid by the entity; and the rights and obligations of the respective parties. For purposes of clarification, the following terms may be substituted for the term Agreement – Lease or Concession.

(5) Air Operations Area (AOA): Restricted area of the Airport, either fenced or posted that provides access to locations where aircraft are parked or operated. Areas include, but are not limited to, the aircraft ramps, aprons, taxiways, runways, unimproved land attributed to the taxiways, runways and contiguous areas delineated for the protection and security of aeronautical activity.

(6) Air Traffic Control Tower (ATCT): Air traffic control facility located at the Airport, and operated by the Federal Aviation Administration, which controls activity on the Movement Areas of the Airport.

(7) Aircraft: Any contrivance now known or hereafter invented which is used or designed for navigation of or flight in the air, except a parachute or other contrivance designed for such navigation but used primarily as safety equipment. This includes, but is not limited to, airplanes, airships, balloons, dirigibles, rockets, helicopters, gliders, gyrocopters, ground-effect machines, sailplanes, amphibians, and seaplanes.

(8) Aircraft Operator: A person who uses, causes to be used, or authorizes to be used an Aircraft, with or without the right of legal control (as owner, Grantee, or otherwise), for the purpose of air navigation including the piloting of Aircraft, or on any part of the surface of the Airport.

(9) Aircraft Rescue and Firefighting (ARFF): Fire protection and rescue for aircraft emergencies as provided by the Gerald R. Ford International Airport.

(10) Airport: Means the Gerald R. Ford International Airport and all land, improvements, and appurtenances within the legal boundaries of the Airport as it now exists on the Airport Layout Plan (or Exhibit D of the most recent FAA grant) and as it may hereinafter be extended, enlarged, or modified.

(11) Airport Certification Manual: A document required by the Federal Aviation Administration detailing the Airport's requirements as contained in 14 CFR Part 139.

(12) Airport Employee: Person of any organization, activity or government agency located on or contributing to the operation, maintenance or servicing of the Airport.

(13) Airport Management: The President & CEO, the Senior Vice President & COO, the Vice President & CFO, the Public Safety and Operations Director, the Engineering and Planning Director, the Marketing and Communications Director, and the Human Resources Director complete the Airport management team referred to as Airport Management.

(14) Airport Operations: Part of Airport Management that provides oversight for all airport operations and administers personnel policies and procedures including discipline and is authorized to enforce airport rules and regulations.

(15) Airport Police: Airport Police Officers are provided by the Gerald R. Ford International Airport. They are authorized by statute with powers to arrest, and are responsible for the enforcement of the rules, regulations and laws applicable to the Airport, the State of Michigan and the Federal government.

(16) Airport Security Program: A document required by the Transportation Security Administration detailing the Airport's requirements as contained in Transportation Security Regulation Part 1542.

(17) Authority: The Gerald R. Ford International Airport Authority, a regional airport authority organized and existing by virtue of 2015 P.A. 95 and operated by the Gerald R. Ford International Airport Authority Board.

(18) Board: The Gerald R. Ford International Airport Authority Board, responsible for the administration of the Gerald R. Ford International Airport.

(19) Chief Executive Officer or CEO: The Authority's Chief Executive Officer as that term is used in The Regional Airport Authority Act, 2015 P.A. 95, or his designee, including anyone serving in the capacity of Interim or Acting CEO.

(20) Code of Federal Regulations (CFR): Codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the Federal Government.

(21) Combustible Liquid: Any liquid having a flash point at or above 100 degrees Fahrenheit and below 200 degrees Fahrenheit.

(22) Commercial Activity: To provide or offer to provide goods, services or entertainment in return for financial remuneration or remuneration in kind or a promise of financial remuneration or remuneration in kind or to accept or agree to accept financial remuneration or remuneration in kind for the provision of goods, services or entertainment.

(23) Commercial Air Carrier: Any entity that undertakes directly by hire, lease or other arrangements to engage in the carriage by aircraft of persons or property for compensation. This definition includes, but is not limited to all classes of air carriers as defined by the Federal Aviation Administration.

(24) Commercial Transporter: Any entity (other than a TNC) operating a Commercial Transport Vehicle (other than a TNC Vehicle) or Vehicles for the purpose of soliciting or transporting persons and/or baggage to and/or from the Airport for hire. Examples of Commercial Transporters include, but are not limited to Taxicabs, limousines, Hotel Transport Vehicles, rental car Courtesy Vehicles, delivery Vehicles and chartered or scheduled buses. This definition does not include TNCs or the use of company owned/leased Vehicles provided to employees for personal use.

(25) Commercial Transport Vehicle: Any Vehicle (other than a TNC Vehicle) used for the transportation of passengers, for hire or so constructed, or used to transport goods, wears or merchandise, and/or all Vehicles designed and used for drawing other Vehicles and so constructed as to carry any load thereon either independently or any part, or any part of, the weight of a Vehicle or load so drawn. This definition does not include TNC Vehicles.

(26) Commercial Vehicle Lane: Designated traffic lane, generally located in front of the Parking Structure. Such lane is reserved for use by Commercial Transporter Vehicles and is separated from the Vehicle traffic lane by a median.

(27) Concessionaire: An entity authorized by the Board through an agreement to undertake and profit by a specified activity including but not limited to a gift shop, restaurant or car rental agency.

(28) Contractor: A person or entity who, as part of an independent business, makes an agreement to do a specific piece of work, retaining control of the means and method of doing the job.

(29) Courtesy Vehicle: Any Vehicle (other than a Hotel Transport Vehicle) provided by a company to pick up customers and guests or others, and/or deliver said customers and guests or others to the Airport.

(30) Crosswalk: That portion of a roadway or parking lot included within the prolongation or connection of the lateral lines of sidewalks, intersections, or other portions of the roadway distinctly marked for pedestrian crossing by lines or other marking on the surface.

(31) Curb Front: Designated area along the Vehicle Traffic Lane and adjacent to the Airport Terminal Building for loading /unloading of passengers and baggage into and out of Vehicles.

(32) Derelict Equipment: Any equipment that is not used on a regular basis for its intended purpose that is not reasonably required to be available for unscheduled use.

(33) Doping: The application of a preparation to strengthen and tighten aircraft fabric.

(34) Driver: A person who operates a Vehicle or Motor Vehicle.

(35) Emotional Support/Comfort/Therapy Animals: Any dog that provides companionship, relieve loneliness, and or helps with depression, anxiety, and certain phobias but that does not meet the definition of a Service Animal.

(36) Engine Run-up: The operation of any aircraft engine above idle speed for observation or maintenance purposes.

(37) Environmental Protection Agency (EPA): An agency of the Federal government responsible for the implementation and enforcement of Federal environmental laws and regulations.

(38) Escort: To accompany or supervise an individual(s) who does not have unescorted access authority to areas restricted for security purposes, as identified in the Airport Security Program.

(39) Federal Aviation Administration (FAA): The division within the Department of Transportation of the United States government that has the responsibility of promoting safety in the air, by both regulation and education.

(40) Firearm: Any weapon from which a dangerous object may be shot or propelled by the use of explosives, gas, air or mechanical means.

(41) First Amendment Rights Activities: All activities, including, but not limited to, leafleting and picketing that may be constitutionally protected forms of expression or religion.

(42) Fixed Base Operator (FBO): A commercial operator authorized and required, by agreement with the Board, to provide to the public the sale of products, services, and facilities to include, at minimum, the activities as required by the Airport's Minimum Standards.

(43) Flammable Liquids: Any liquid having a flash point of less than 100 degrees Fahrenheit when tested by closed-cup methods. This includes any other combustible liquids now used for aircraft fuels.

(44) Foreign Object Debris (FOD): Any object found in an inappropriate location that, as a result of being in that location, can damage equipment or injure airplane or airport personnel.

(45) Fueling Agent: Any entity, including its employees and agents, authorized by the President & CEO to dispense aviation or Motor Vehicle fuels at the Airport.

(46) Fuel Tanker Vehicle: A Vehicle self-propelled or without power used to refuel aircraft or carry fuel.

(47) General Aviation: All phases of aviation other than aircraft manufacturing, military aviation and scheduled and non-scheduled Commercial Air Carrier operations.

(48) Geofence: A virtual perimeter around the Airport property that is provided and supported by a TNC and approved by the Authority, and which prevents TNC Drivers who are within the Geofence from accepting requests for TNC Prearranged Rides from TNC Passengers located at the Airport unless the TNC Driver is in the TNC Staging Area.

(49) GRR: The FAA's identifier for the Airport.

(50) Hazardous Materials: Any hazardous or toxic substances, materials or wastes, including, but not limited to, those substances, materials, and wastes listed in the United States Department of Transportation Hazardous Materials Table (49 CFR 172.101) or by the Environmental Protection Agency as hazardous substances (40 CFR Part 302) and amendments thereto, or such substances, materials and wastes which are or become regulated under any applicable local, State or Federal law including, without limitation, any material, waste or substance which is petroleum or petroleum distillate, asbestos, polychlorinated biphenyls, defined as a "hazardous waste" pursuant to the Resource Conservation and Recovery Act, 42 U.S.C. §6901, et seq. or defined as a "hazardous substance" pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §9601, et seq.

(51) Hotel Transport Vehicle: Any Vehicle provided by any hotel, motel, or other entity that provides public lodging accommodations, to pick up and/or deliver customers and guests or others to the Airport, regardless of whether such transportation is provided for a fee or free of charge.

(52) Incident: An occurrence or event that interrupts normal procedure or operations, or precipitates an accident.

(53) Leafleting: The distribution of handbills, tracts, circulars, flyers, literature or other written or printed material for religious, charitable or other noncommercial purposes.

(54) Loading Gate: The space reserved for the loading and unloading of aircraft at the terminal concourse.

(55) Michigan Aeronautics Commission: The agency created by the State of Michigan under Public Act 327 of the Public Acts of Michigan for 1945 or any successor thereto established by law.

(56) Michigan Department of Environmental Quality (MDEQ): A department of the State of Michigan with authority for the Federal Clean Water Act and Michigan Waste Water Commission Act Part 31 of Public Act 451 of 1994, as amended.

(57) Minimum Standards: Those qualifications, standards, and criteria set forth, by the Board, as the minimum requirements that must be met as a condition for the right to engage in Aeronautical Activities at the Airport.

(58) Motor Vehicle: A Vehicle which is self-propelled. This definition includes, but is not limited to, the following: automobiles, trucks, buses, limousines, semi-tractors, snowmobiles, motorcycles and mopeds.

(59) Movement Area: Runways, taxiways and their associated safety areas. Movement on these areas is controlled by the FAA/ATCT during periods when the ATCT is operational.

(60) Non-movement Area: Service areas (roads, ramps, taxiways) related to movement of aircraft and a Vehicle, including a Motor Vehicle, which is self-propelled. The ATCT may provide information for these areas that is advisory only and does not imply control or responsibility of non-movement areas.

(61) Off-Airport Rental Car Company: Any entity engaged in the business of renting Motor Vehicles to and for use by the public that conducts no part of its business operations on Airport property, other than advertising inside the Airport terminal. This definition does not include entities engaged in operations related to Peer-to-Peer Vehicle Sharing.

(62) Operate: To physically manipulate the controls of an aircraft or Motor Vehicle necessary to put it in motion.

(63) Operating Directive: An immediate order issued by the President & CEO regarding procedures to insure handling, policing, and protection of the public while at the Airport and to insure compliance with all of the Federal, State and local laws, ordinances and regulations.

(64) Passenger Loading and Unloading Zone: An area at the Airport designated by the President & CEO and reserved for the exclusive use of Vehicles that are actually engaged in loading or unloading of passengers and/or baggage.

(65) Peer-to-Peer Vehicle Sharing: The authorized use of a Motor Vehicle by an individual other than the Vehicle's owner through a platform that is in the business of

connecting Vehicle owners with drivers to enable the sharing of Motor Vehicles for financial consideration.

(66) Permit: An operating certificate issued by the Board enabling a commercial entity to conduct Commercial Activities and/or specific Aeronautical Activities at the Airport.

(67) Person: Any individual, firm, partnership, corporation, company, association, and any trustee, receiver, assignee or similar representative thereof.

(68) Picketing: To demonstrate or protest, as part of a labor demonstration or otherwise, by assembling, patrolling, walking, marching, parading, posting or sitting-in.

(69) President & CEO: The Authority's Chief Executive Officer as that term is used in The Regional Airport Authority Act, 2015 P.A. 95, or his designee, including anyone serving in the capacity of Interim or Acting CEO.

(70) Private Vehicle: A Vehicle (registered to an individual) transporting persons or property for which no charge is paid directly or indirectly by the passenger or by any other entity, excepting and excluding any Vehicle that is a Courtesy Vehicle as defined herein.

(71) Ramp (Apron): An area of the Airport within the AOA designated for the loading, unloading, servicing, or parking of aircraft.

(72) Rental Car: Any Motor Vehicle including, but not limited to, any automobile, truck, van or motorcycle whose owner holds such Vehicle out for hire for the general public. This definition does not include Vehicles used in connection with Peer-to-Peer Vehicle Sharing.

(73) Rules and Regulations: The provisions of duly passed resolutions and operating directives of the Board as well as any operating directives issued by the President & CEO.

(74) Runway: A surface reserved exclusively for the landing and take-off of aircraft.

(75) SASO (Specialized Aeronautical Service Operator): A commercial aeronautical operator that provides any one or a combination of Aeronautical Activities or aeronautical services. Examples of these services may include aircraft rental; flight training; aircraft maintenance; air ambulance; aircraft sales; avionics, instrument or propeller services; ground service equipment repair; aircraft ground handling; or other specialized commercial flight support businesses.

(76) Secured Area: A portion of an Airport, specified in the Airport security program, in which certain security measures specified in Part 1542 of 49 CFR Chapter XII are carried out. This area is where aircraft operators and foreign air carriers that have a security program under Parts 1544 or 1546 of this chapter enplane and deplane passengers and sort and load baggage, and any adjacent areas that are not separated by adequate security measures.

(77) Security Identification Display Area (SIDA): That portion of the AOA requiring each person to continuously display, on his/her outermost garment, above waist level, an Airport approved identification medium unless the individual is accompanied by an Airport approved escort.

(78) Service Animal: Any dog (and in some cases, miniature horses) that is individually trained to do work or perform tasks for the benefit of an individual with a disability, including a physical, sensory, psychiatric, intellectual, or other mental disability. The work or tasks performed by a Service Animal must be directly related to the individual's disability. Examples of work or tasks include, but are not limited to, assisting individuals who are blind or have low vision with navigation and other tasks, alerting individuals who are deaf or hard of hearing to the presence of people or sounds, providing non-violent protection or rescue work, pulling a wheelchair, assisting an individual during a seizure, alerting individuals to the presence of allergens, retrieving items such as medicine or the telephone, providing physical support and assistance with balance and stability to individuals with mobility disabilities, and helping persons with psychiatric and neurological disabilities by preventing or interrupting impulsive or destructive behaviors. The crime deterrent effects of an animal's presence and the provision of emotional support, well-being, comfort, or companionship do not constitute work or tasks for the purposes of this definition.

(79) Service Animal in Training: Any dog (and in some cases, miniature horses) that is being trained to be a Service Animal.

(80) Significant Materials: Any material which could degrade or impair water quality, including but not limited to : raw materials, fuels, solvents, detergents, and plastic pellets; finished materials such as metallic products; hazardous substances designated under Section 101 (14) of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (see 40 CFR 372.65); any chemical the facility is required to report pursuant to Section 313 of Emergency Planning and Community Right-to-Know Act (EPCRA); polluting materials as identified under the Part 5 Rules (Rules 324.2001 through 324.2009 of the Michigan Administrative Code); Hazardous Waste as defined in Part 111 of the Michigan Act; fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with storm water discharges.

(81) Smoking: Inhaling, exhaling, burning or carrying any lighted cigar, cigarette, pipe, weed, or plant. Also to include electronic cigarettes and personal vaporizers.

(82) Solicitation: A request, direct or indirect, for money, credit, property, financial assistance, or other thing of value in pursuit of a commercial activity or for religious, political or charitable purposes. Solicitation, as defined herein, shall be deemed completed when communicated to any person located upon the Airport regardless of whether or not the person making such solicitation receives any contribution or makes any sale referred to herein. Solicitation includes any entreaty or appeal where the soliciting person initiates face-to-face contact with any person, such as, without limitation, the gathering of signatures or circulation of a petition.

(83) Sterile Area: A portion of an Airport defined in the Airport security program that provides passengers access to boarding aircraft and to which that access generally is controlled by TSA, or by an aircraft operator under Part 1544 or 49 CFR Chapter XII or a foreign air carrier under Part 1546 of said chapter, through the screening or persons and property.

(84) Stopping, Standing or Parking: Any stopping or standing of a Vehicle, whether occupied or not, except when necessary to avoid conflict with other traffic or in compliance with the direction of a law enforcement officer or traffic control signal, sign, or device.

(85) Storm Water Pollution Prevention Plan (SWPPP): A guide that provides pollution prevention planning guidance for facilities with a National Pollutant Discharge Elimination System (NPDES) storm water permit. The Airport has developed a SWPPP, which is an official document of the Airport that documents processes and procedures for ensuring that significant materials associated with activities at the Airport do not come into contact, or have minimized contact with storm water.

(86) Substantial Damage: Damage or structural failure which adversely affects the structural strength, performance, or flight characteristics of the Aircraft and which would normally require major repair or replacement of the affected component(s).

(87) Suspension: The temporary discontinuance for up to 30 days of a Driver's or a firm's privilege to operate at the Airport.

(88) Taxicab, Taxi, or Cab: A licensed public Motor Vehicle carrier which is not designed to carry more than 9 passengers and is licensed as such by the City of Grand Rapids or any other municipality.

(89) Taxicab Loading Zone: Designated area adjacent to the Airport Terminal Building for the loading/unloading of passengers and baggage into and out of Taxicabs under contract with the Airport.

(90) Taxicab Stand: An area assigned for the exclusive use of Taxicabs (under contract with the Airport) awaiting passengers.

(91) Taxiway: A surface used primarily by aircraft to proceed to and from ramps and runways.

(92) Tenant (Grantee/Permittee): A person, corporation, or any other entity who occupies or rents property on the Airport or who is authorized to conduct business operations of any kind upon the Airport premises regardless of whether or not a written agreement with the Board for such business exists.

(93) Terminal Building: Means the main airline terminal building at the Airport, including concourses and passenger loading bridges.

(94) Three Strikes Program: A program developed to ensure continued security awareness and compliance among Airport Employees, Tenants, Vendors and contractors.

(95) TNC Digital Network: An online-enabled application, website, or system offered or utilized by a TNC that enables the prearrangement of rides between TNC Passengers and TNC Drivers

(96) TNC Driver: An individual who satisfies all of the following:

a. Receives connections to potential TNC Passengers and related services from a TNC in exchange for payment of a fee to the TNC.

b. Uses a personal Vehicle to offer or provide TNC Prearranged Rides to TNC Passengers upon connection through a TNC Digital Network in return for compensation or payment of a fee.

(97) TNC Loading Area: The area adjacent to the Airport Terminal Building designated by the President & CEO for loading and unloading of TNC Passengers and baggage.

(98) TNC Passenger: An individual who receives a TNC Prearranged Ride from a TNC Driver.

(99) TNC Prearranged Ride: The provision of transportation by a TNC Driver to a TNC Passenger, beginning when a TNC Driver accepts a ride requested by a TNC Passenger through a TNC Digital Network, continuing while the TNC Driver transports the requesting TNC Passenger, and ending when the last requesting TNC Passenger departs from the TNC Vehicle.

(100) TNC Staging Area: The area on Airport property designated by the President & CEO where TNC Drivers shall park while waiting for TNC Passengers to request a TNC Prearranged Ride.

(101) TNC Vehicle: Any TNC Passenger service Vehicle used by a TNC Driver.

(102) Transportation Network Company ("TNC"): A person or entity that uses a TNC Digital Network to connect TNC Passengers to TNC Drivers who provide TNC Prearranged Rides. TNC does not include a Taxi service, transportation service arranged through a transportation broker, ridesharing arrangement, or transportation service using fixed routes at regular intervals.

(103) Transportation Security Administration (TSA): A division of the Department of Homeland Security created as a result of the Aviation and Transportation Security Act of 2001. The TSA is charged with the responsibility of day-to-day Federal security screening operations for passenger air transportation.

(104) Transportation Security Regulation (TSR): Federal regulation of the Transportation Security Administration as published in Title 49 of the Code of Federal Regulations.

(105) Ultralight Vehicle: A Vehicle that is used only for aviation recreation, or sport aviation purposes, and satisfies all criteria and requirements of 14 CFR Part 103, including subsequent amendments.

(106) Vehicle: Every device in, upon, or by which a person or property is, or may be transported or drawn upon a roadway regardless of means of propulsion, except devices moved upon stationary rails or tracks.

(107) Vehicle Traffic Lane: Designated traffic lane, immediately adjacent to the front of the Airport Terminal Building. Such lane is generally reserved for use by non-Commercial Transporter Vehicles, valet, and private Vehicles, unless otherwise authorized/designated.

(108) Vendor: Any person or entity that sells real property, goods, or services.

1.6 ADMINISTRATION AND POLICY

A. Administration of the terms of these Rules and Regulations shall be under the authority and control of the President & CEO.

B. Policymaking aspects of these Rules and Regulations reside with the Authority Board.

1.7 EMERGENCY POWERS OF THE PRESIDENT & CEO

When an emergency exists at the Airport, the President & CEO or his/her designated representative is empowered to issue such directives and to take such action that, within his/her discretion and judgment are necessary or desirable to protect persons and property and expedite the operation of the Airport. Such directives and actions of the President & CEO shall have the force of a regulation hereunder so long as said emergency exists.

1.8 CONFLICT WITH OTHER AUTHORITY

Should any part of these Rules and Regulations conflict with Federal or State law or local ordinance, then such Federal, State, or local authority will take precedence. The Rules and Regulations promulgated herein shall in no way supersede or abrogate regulations set forth in TSR Part 1542 (Airport Security) or 14 CFR Part 139 (Certification and Operations of Land Airports). If any provision of these Rules and Regulations or the application thereof to any person or circumstances is held invalid, the remainder of the Rules and Regulations shall not be affected thereby.

1.9 ENFORCEMENT

The President & CEO shall enforce the provisions of these Rules and Regulations and may call upon Airport Operations or Airport Police for such assistance as the President & CEO may from time to time require.

Civil Enforcement;

Removal from the Airport: Any person who fails or refuses to comply promptly with the Rules and Regulations contained herein following notice of violation by the President & CEO, where such noncompliance interferes with the management, regulation or operation of the Airport and its facilities or creates any hazard or condition that endangers the public or Airport personnel or property, may be promptly removed or ejected from the Airport by the authority of the President & CEO.

Civil Fines: Any individual that violates these Rules and Regulations or violates the Airport Security Program or permits violations to occur on/in areas under their control shall be subject to fines by the President & CEO according to the schedule of fines set forth in Exhibit A. Fines not remitted within 30 calendar days from the date of issue shall increase by a factor of two; fines not remitted within 90 days of the date of issue shall increase by a factor of three.

A. Airport Employees: An Airport Employee's Airport-issued identification badge may be suspended during the period of time when an investigation into an incident is taking place. Payment of any subsequent fines shall be required to reinstate the badge. Failure to pay fines may result in the permanent revocation of the employee's Airport-issued identification badge and loss of access privileges.

B. Concessionaires, Contractors, Tenants, Grantees, Permittees and Vendors: fines shall be regarded as additional rent, fees or contract back charges as the case may be and shall be enforced in the same manner and to the same extent as nonpayment of rent and fees under the lease or concession agreement or back charge against retainage, default or other remedy under contract.

1.10 APPEAL PROCESS

Any Company or individual may appeal any civil enforcement under section 1.9 or any violation of the Three Strikes Program under section 3.2, by following the steps below. Any revocation imposed pursuant to the 3rd Violation under section 3.2 shall be imposed immediately and not stayed pending an appeal hereunder. With respect to all other appealable penalties or violations, the imposition of same will be held in abeyance pending a proper and timely appeal to Step 1 or Step 2 as the case may be.

Step #1- Appeal the violation in writing to the Airport Police Chief within seven (7) business days of receiving a violation. The Chief may rescind the violation if additional information presented establishes innocence. A decision will be made within seven (7) business days from date of receipt of the appeal. If the Airport Police Chief is unavailable, an appeal may be initiated at Step 2.

Step #2- If not satisfied with the outcome of a Step 1 appeal, an appeal may be brought to the Public Safety & Operations Director within seven (7) business days of the Step 1 decision. The Public Safety and

Operations Director will render a decision within seven (7) business days of receipt of such appeal.

Step #3- If not satisfied with the outcome of a Step 2 appeal, an appeal may be brought to an Airport Committee (to include a minimum of two Director level positions, to exclude the Public Safety and Operations Director, and to be determined by the President/CEO). The appeal should be presented in writing and addressed to the President & CEO. The airport committee shall set a time and place for the meeting no later than fifteen (15) business days after receipt of the appeal and a decision must be rendered within fifteen (15) business days after the meeting. **The decision of this committee is final.**

2. PERSONAL CONDUCT

2.1 COMPLIANCE WITH SIGNS

All persons shall observe and obey all posted signs, fences, doors, and barricades prohibiting entry into specified areas or governing the activities and demeanor of the public while on the Airport.

2.2 TRESPASSING

Any person or persons who fail to leave the Airport, or a specified area thereof; or any person or persons who knowingly or willingly violate these Rules and Regulations, or who refuse to comply therewith after proper request to do so by the President & CEO, shall be regarded as trespassing and shall be subject to removal from and denial of access to the Airport for such period of time as may be specified by the President & CEO.

A. No person(s), singly or in association with others, shall by his/her or their conduct or by congregating with others prevent any person or persons lawfully entitled thereto from the use and enjoyment of the Airport and its facilities or any part thereof, or prevent any other person or persons lawfully entitled thereto from passage from place to place, or through entrances, exits, or passageways on the Airport.

B. It shall be unlawful for any person to remain in or on any public area, place, or facility at the Airport in such a manner as to hinder or impede the orderly passage in or through or the normal or the customary use of such area, place, or facility by persons or Vehicles entitled to such passage or use.

C. A person shall not trespass upon the area within the boundary of an approved or licensed airport, landing field, or other aeronautical facility, or operate or cause to be operated a Vehicle or device, or conduct an activity upon or across a licensed airport, landing field, or other aeronautical facility, unless that operation or activity is authorized by the President & CEO.

2.3 PRESERVATION OF PROPERTY

No person may destroy, injure, deface, or disturb any building, sign, equipment, marker, or other structure, tree, flower, lawn, or other property on the Airport. Any person causing or being responsible for such actions will immediately report such event to the President & CEO. Failure to report such incidents may result in an assessed penalty.

2.4 PUBLIC SAFETY

No person shall adversely affect, or endanger the health or safety of the public or employees of the Airport.

3. SECURITY

The following provisions govern Airport Security at the Gerald R. Ford International Airport. The Airport Authority has overall responsibility for security at the Airport as described in TSR Part 1542 and further defined in the Airport's approved Airport Security Program. TSA directed security enhancements or measures as implemented by the Airport may supersede these Rules and Regulations. The Airport Authority reserves the right to deny, suspend or revoke the Airport-issued identification badge of any individual when, in the sole opinion of the Authority, that person poses a security threat.

3.1 SECURITY COMPLIANCE

Each Airport Tenant shall be responsible for the security of its leased/assigned premises, its employees and compliance with the Airport Security Program and other applicable programs and procedures (e.g. Three Strikes Program).

Each Airport Tenant shall be responsible for reimbursing the Authority any fines levied against the Authority by the TSA as a result of their failure or their employee's failure to comply with the provisions of the Airport Security Program or the Three Strikes Program.

All Airport Employees, Tenants, Vendors and Contractors shall comply with the provisions of this document. This will ensure security awareness in compliance with provisions of the Airport Security Program and the Three Strikes Program.

Any fines resulting from a violation of the Airport's Rules and Regulations not attributable to an individual employee shall be assessed to the appropriate Tenant, Vendor, or Contractor.

No person may make, or cause to be made, any of the following:

A. Any fraudulent or intentionally false statement in any application for any access or identification medium.

B. Any fraudulent or intentionally false entry in any record or report that is kept, made, or used to show compliance with the Airport Security Program.

C. Any reproduction or alteration, for fraudulent purposes, of any access or identification medium issued by the Authority.

No person may:

D. Tamper or interfere with, compromise, modify, attempt to circumvent, or cause a person to tamper or interfere with, the system, measure, or procedure of the Airport Security Program.

E. Enter or be present within a secured area, AOA, SIDA or sterile area without complying with the systems, measures or procedures being applied to control access to, or presence of or movement in such areas.

F. Use, allow to be used, or cause to be used, any Airport-issued or Airport-approved access or identification medium that authorizes the access, presence, or movement of persons or Vehicles in secured areas, AOAs, or SIDAs in any other manner than for which it was issued.

It is a violation for any person to open or leave open, unlock or leave unlocked or leave unattended any perimeter security gate/door as described in the Airport Security Program, except when the gate/door is operated in compliance with the provisions of the Airport Security Program.

It is a violation for any person to enter an area which is controlled for security purposes unless they are appropriately displaying an Airport issued or Airport approved identification badge, or are under proper escort.

Each individual issued an identification badge by the Authority shall be responsible for challenge requirements as contained in the Airport Security Program.

Each individual/employee is responsible for their Airport issued ID badge. In the event a badge is lost or stolen, the employee shall report such to Airport Communications. If an individual/employee loses their Airport issued identification badge they shall be required to pay a lost badge fee, in addition to fees associated with the replacement of that badge.

It is a violation of any person to operate a Vehicle (motorized or other) which is not identified in compliance with the Airport Security Program.

3.2 THREE STRIKES PROGRAM

The purpose of the Three Strikes Program is to develop and ensure continued security awareness and compliance among Airport Employees, Tenants, Vendors and Contractors. The program is applicable to all persons who have been issued a GRR Identification Badge.

A. INDIVIDUAL VIOLATIONS

Absent any cause for revocation of security access privileges, the following progressive penalty procedure may be generally followed for violations of security procedures and/or regulations, including the Airport Security Plan. The severity of the violation may deem a more severe action.

The process is as follows:

1st Violation - An Airport Authority representative will confiscate the individual's identification badge until the offender can be counseled by their manager/supervisor and the Authority has received a written letter requesting reinstatement of the badge. The letter must confirm that the required counseling on the severity of the violation has been completed. The individual is also required to complete the appropriate Authority security training program within ten (10) business days. Failure to complete re-training will result in the temporary suspension of the individual's ID badge. Days elapsed between the time the badge is revoked and letter presented will count as "time served".

2nd Violation - An Airport Authority representative will confiscate the individual's identification badge until the offender has re-taken the Authority security training program, the offender can be counseled by their employer, and the Authority has received a written letter requesting reinstatement of the badge. The letter must confirm that the required counseling on the severity of the violation has been completed. The Airport Authority will ensure the individual's ID badge is suspended for a minimum of three (3) working days.

3rd Violation – May result in permanent revocation of the individual's GRR Secured Area, Sterile Area, Cargo or AOA Badge.

Below are examples of individual violations that are applicable to the Three Strikes Program:

- Failure to properly display identification badge
- Unauthorized presence in restricted area
- Failure to properly challenge
- Failure to properly identify a Vehicle
- Failure to properly escort
- Using someone else's badge
- Allowing someone to use your badge
- Failure to secure an access point
- Piggybacking
- Failure to comply with any other provision of the Airport Security Program or applicable TSA Security Directive

A combination of any three (3) violations in a three (3) month period under the Three Strikes Program that are attributed to employees of a specific Tenant, Contractor or Vendor shall result in a $ 100.00 fine being assessed to such Tenant, Contractor or Vendor. Each subsequent, consecutive quarter (three month period) that the same Tenant, Contractor or Vendor receives three or more violations will result in a fine, double the amount of the prior quarter. If two or less strike violations are received by a Tenant, Contractor or Vendor during a designated three month period (yearly quarter) the fine structure will reset to zero. Three month, quarterly periods shall be designated as follows: January - March, April – June, July – September, October – December.

B. TENANT, CONTRACTOR OR VENDOR VIOLATIONS

Any violation not attributable to an employee shall be assessed to the Tenant, Contractor, or Vendor responsible for the violation.

A combination of any three (3) violations in a six (6) month period under the Three Strikes Program that are attributed to employees of a specific Tenant, Contractor, or Vendor shall be assessed penalties to that Tenant, Contractor, or Vendor. A "Penalty" occurs when there are three (3) violations committed by employees or subcontractors of the same tenant, contractor or vendor within a 6 month period of time. Violations drop off after six (6) months.)

The penalties are as follows:

1st Penalty - results in a fine of $100.

2nd Penalty - results in a fine of $200

3rd Penalty - results in a fine of $400

Fines assessed against Tenants, Contractors or Vendors for security violations will double with each subsequent offense. (Example: $800, $1600, etc.) All violations will be entered into a database for record keeping purposes and will remain on file for a rolling twenty four (24) month period. If the Tenant, Contractor or Vendor does not have another penalty within twenty four (24) months, a future offense will be treated according to the rules as a first offense.

4. PARKING AND VEHICLE OPERATIONS

4.1 PUBLIC PARKING

A. No person shall park or leave standing any Vehicle, whether occupied or not, on Airport premises except within designated parking areas and then only in accordance with regulations governing the use of said areas.

B. No person shall double park any Vehicle in any area.

C. No person shall park or leave any Vehicle within areas designated as passenger loading and unloading zones other than while actually boarding or discharging persons or freight from the Motor Vehicle.

D. No person shall park, stop or leave standing any Vehicle of any type, except within areas designated for the particular type of Vehicle involved and then only in accordance with the posted regulations relating to the area and type of Vehicle.

E. No person shall park a Vehicle in excess of 60 days in the Long Term or 30 days in the Short Term Airport Parking Facilities. Vehicles parked in excess of the number of days mentioned herein are subject to tow or impound.

F. No person shall park any Vehicle in such a manner that the Vehicle shall not be entirely within one stall as designated by the lines or marks on the pavement. Persons using two or more parking spaces shall compensate the Authority according to the number of spaces used.

4.2 ENFORCEMENT OF VEHICLE PARKING

A. Airport Police Officers are authorized to immediately tow any Vehicle parked in such a manner as to obstruct Airport vehicular traffic or such that it disrupts the orderly flow of pedestrian traffic.

B. A Vehicle towed under this section shall be transported to a location for subsequent retrieval by the owner(s) thereof.

C. The owner of any Vehicle parked at the Airport shall be deemed to have consented to pay the cost of removal and storage of the Vehicle when the same is parked contrary to the provisions of this regulation.

4.3 EMPLOYEE PARKING

A. Parking is provided to Airport-based employees. Parking for non-based crewmembers of Tenant airlines and their affiliates may be provided at the discretion of the Tenant manager and the President & CEO. Failure to comply with the use of the assigned parking area may result in the loss of parking privileges and/or loss of the Airport-issued identification badge or Airport-issued parking card.

B. Employee automobile parking permits or decals will be issued only to persons authorized by the President & CEO and will be valid only when used by the person to whom it was issued and while that person is an employee of an Airport Tenant.

C. The President & CEO is authorized to determine the period of time that any particular employee parking permit or decal will be valid and the fee to be required.

D. Lost, stolen, or unserviceable parking permits will be replaced at the employee's expense.

E. Employees utilizing parking permits will display, in the lower left-hand corner of the Vehicle windshield, a numbered Airport decal in serviceable condition. Parking permits are the property of the Authority and must be surrendered upon termination of parking privileges or upon sale or transfer of the Vehicle.

F. Employees shall park only in the areas designated for employee parking by the President & CEO. Employees are not allowed to park in the parking structure even if they are willing to pay the parking fee unless using the structure for personal use.

G. Employees shall comply with any additional parking lot procedures and regulations promulgated by the President & CEO.

H. No person shall park a Vehicle in excess of 30 days in the Airport Employee Parking Lot. Vehicles parked in excess of 30 days are subject to tow and impound. The Airport Employee will be responsible for all associated fees.

4.4 VEHICLE OPERATING REQUIREMENTS

Any person operating a Motor Vehicle on the Airport must possess a valid Motor Vehicle driver's license. Any person that has been granted Movement Area or Non-movement Area driving privileges must immediately inform Airport Communications upon having their Motor Vehicle driver's license suspended or revoked and refrain from driving on the Airport until otherwise allowed by the Authority. It shall be unlawful and in violation of these Rules and Regulations for any person to knowingly:

A. Fail to comply with any lawful order or direction of any law enforcement officer invested by law with authority to direct, control or regulate traffic.

B. Violate established programs controlling the operation of Vehicles on the AOA or any other portion of the Airport. Vehicles operated on any portion of the AOA will also be identified and controlled in compliance with the Airport Security Program.

C. Operate any Vehicle other than an aircraft on the movement area of the Airport without using an Authority approved light. Vehicles accompanied by an approved escort Vehicle with an Authority approved light shall be exempt from application of this subsection.

D. Clean or make repairs to Vehicles on the Airport, except those Vehicles owned and operated by a Tenant. All cleaning and repair of Vehicles approved by the President & CEO shall be performed in designated areas meeting Federal, State and local laws and regulations covering Vehicle cleaning and repair activities.

E. Operate a Vehicle on the AOA without a functioning exhaust system.

F. Operate a Vehicle on the AOA without fully functioning emergency brakes, taillights and, during the hours between one half hour before sunset and one half hour after sunrise and during other times when visibility is less than 3 miles, headlights. If the Vehicle's lights are inoperative, the Vehicle shall not be operated during the above time period until repairs are completed.

G. Operate a Vehicle on the Non-movement Area without a "D" or "M" designation on their Airport issued identification badge. Vehicles accompanied by an approved escort Vehicle shall be exempt from this requirement.

H. Operate a Vehicle on the Movement Area without prior approval from the Authority and proper clearance from the ATCT.

I. Fail to maintain ground equipment free from leakage of engine fluids, excessive discharge of exhaust gasses, and excessive noise. If any of the above conditions exist, the Vehicle shall be repaired in a timely manner. The President & CEO may order the equipment out of service until necessary repairs are completed.

J. Operate a Vehicle in excess of 20 mph on the ramp and 15 mph within 50 feet of an aircraft or building.

K. Fail to give aircraft and pedestrians the right of way over Vehicles on the AOA.

L. Operate any Vehicle between an aircraft and a gate or under a passenger loading bridge.

M. Park a Vehicle near any aircraft in such a manner so as to prevent it or the other ground equipment from being readily driven or towed away from the aircraft in case of an emergency.

N. Park a Vehicle or equipment in such a manner as to restrict the safe and efficient movement of other motorized ground equipment or aircraft on any portion of the AOA.

O. Park a Vehicle or equipment in an area that is not approved by the President & CEO for such parking.

P. Park Vehicles or equipment not related to baggage handling in the baggage makeup area.

Q. Use studded tires or chains on any paved Airport surface.

4.5 ACCIDENTS

All persons involved in an accident on the Airport shall report to an Airport Law Enforcement Officer or in the event of an aircraft related incident report to an Operations Supervisor, as soon after the accident as possible, furnishing their names, addresses, and any other required information. The individual concerned is responsible for making such additional reports as may be required by Federal, State and local laws and regulations.

5. COMMERCIAL GROUND TRANSPORTATION

A. No Commercial Transporter (other than a Hotel Transport Vehicle) shall transport any person to or from the Airport, without possessing a license to do so pursuant to a written agreement between Commercial Transporter and the Authority.

B. No Hotel Transport Vehicle shall transport any person to or from the Airport, without possessing a license to do so pursuant to a written agreement between the owner and operator of such Hotel Transport Vehicle and the Authority.

C. Compliance with Federal, State and Local Laws and Ordinances: No Commercial Transport Vehicle shall be operated in violation of traffic ordinances established by Federal, State and local laws or ordinances, nor in any event without proper regard for the public safety and welfare.

D. Compliance with Rules and Regulations: No Commercial Transport Vehicle shall be operated in violation of the Rules and Regulations

E. Compliance with Federal, State and Local Licensing Regulations: No Commercial Transport Vehicle shall be operated on the property of the Airport until such Vehicle has been registered in accordance with all appropriate requirements of Federal, State and local laws or ordinances and all proper licenses have been obtained therefore.

F. Vehicles Subject to Inspection: The President & CEO or his/her designee shall have the right at any time (upon display of proper identification) to enter into or upon any Commercial Transport Vehicle for the purpose of determining that all the provisions of these Rules and Regulations are being properly adhered to. After such inspection, any Vehicle found to be unsuitable in accordance with provisions as set forth in these Rules and Regulations may be immediately barred from Airport property by the President & CEO.

G. Commercial Loading/Unloading Zones: Upon entry onto Airport property without passengers or after discharging passengers at the airport terminal, each Commercial Transport Vehicle shall proceed to the proper parking area designated by the President & CEO or leave the Airport property.

H. Loading and Unloading: Commercial Transport Vehicle's authorized to operate on the property of the Airport shall use only the commercial loading/unloading areas designated by the President & CEO for such purpose. Use of the commercial loading/unloading areas shall be in accordance with any regulations set forth by the President & CEO.

Taxicabs shall remain in queue while in the Taxicab Stand and proceed to the Taxicab Loading Zone on a "first-in/first-out" basis. The Taxicab in position to be loaded may not refuse a properly presented fare. Taxicabs in the Taxicab Loading Zone that have been hired for an incoming fare which has not arrived must proceed out of the Taxicab Loading Zone to the nearest open space within the passenger loading/unloading zone.

I. Soliciting: No person may solicit passengers or fares on the property of the Airport except as allowed under these Rules and Regulations.

J. Vehicle Appearance and Condition: All Commercial Transporter Vehicles must conform to a standard of cleanliness established by the President & CEO.

(1) The exterior of Commercial Transport Vehicles shall be maintained in a clean, undamaged condition and present a favorable appearance. Exterior of Commercial Transport Vehicles shall include body paint, all glass, hubcaps, head and tail lights, grills, bumpers and body trim. Commercial Transport Vehicles that have been damaged and can be driven safely in accordance with State law and without reduction to the customers' comfort shall be given a 3 week grace period to perform needed repairs. After such time, the Vehicle will be restricted from operating at the Airport until proper repairs are made.

(2) The interior of approved Commercial Transport Vehicles, including the trunk, shall be maintained in a condition so as to be free of grease, dirt and trash. Passengers shall be able to use the seats and trunk of the Vehicles without fear of soiling or damaging either their wearing apparel or their luggage. Interior seat fabric must not be ripped, torn or have holes.

(3) All Commercial Transport Vehicles must be free from leakage of engine fluids, excessive discharge of exhaust gasses and excessive exhaust noise. In addition, all heating and/or air conditioning units must be operational.

(4) Driver's Appearance: Commercial Transport Vehicle Drivers shall be properly attired in a clean shirt or blouse with collar, and slacks or skirts. Drivers shall wear shoes or dress boots with socks (no sandals permitted). Drivers shall be clean shaven or have facial hair neatly trimmed and maintain a well groomed appearance and sanitary hygiene.

(5) Driver Conduct: Each Driver of a Commercial Transport Vehicle shall remain in his/her Vehicle or immediately adjacent to his/her Vehicle at all times while such Vehicle is upon the property of the Airport except for those Drivers who get out and leave their Vehicle in the queue to use the restroom facilities. Taxicab Drivers must remain in their Vehicles when in the Taxicab Stand and the Taxicab Loading Zone. Nothing in this subsection shall be held to prohibit any Driver from aligning to a street or sidewalk for the purpose of assisting passengers into or out of his/her Vehicle.

Each Driver of a Commercial Transporter Vehicle shall treat members of the public with the utmost courtesy, at all times. No Driver shall solicit patronage in a loud or annoying tone of voice, nor shall any Driver annoy any person by any sign, nor shall any Driver obstruct the movement of any person.

K. Insurance: Each Commercial Transporter shall procure and maintain insurance coverage limits as required in the Fiscal Insurance Requirement policy adopted by

the board. Each policy shall name the Authority as a named insured and shall contain a waiver of all subrogation in favor the Authority.

L. From time to time the Authority may review applicable insurance limits and coverages and each Commercial Transporter agrees to provide insurance as shall then comply with current policy requirements of the Authority.

M. Indemnification: Each Commercial Transporter shall indemnify, protect, defend, and hold the Authority and the County of Kent completely harmless from and against liabilities, losses, suits, claims, judgments, fines or demands arising by reason of injury or death of any person or damage to any property, including all reasonable costs for investigation and defense thereof (including but not limited to attorneys' fees, court costs, and expert fees), of any nature whatsoever arising or alleged to arise, either directly or indirectly, out of or in connection with the use of the Airport by such Commercial Transporter and its Drivers, officers, agents, employees, contractors, subcontractors, licensees, or invitees or the negligent acts or omissions or willful misconduct of such Commercial Transporter or its Drivers, officers, agents, employees, contractors, subcontractors, licensees, or invitees, except to the extent such injury, death or damage is caused by the sole act or omission of such Commercial Transporter or its agents, representatives, contractors or employees. Each Commercial Transporter shall give the Authority notice of any such claims or actions within 5 business days of any such claim.

N. Inconsistencies with Agreement: To the extent that there are any inconsistencies between these Rules and Regulations and an agreement between the Authority and a Commercial Transporter, the specific agreement shall prevail.

O. Penalties for Violation: Any Driver or Commercial Transporter who violates any provision of these Rules and Regulations shall be subject to penalty as set forth herein.

P. Rental Car Parking:

(1) Rental Cars shall park only in spaces designated in the Rental Car ready lot or designated service facility. The Rental Car ready lot shall be utilized only by on-Airport rental car companies having a contractual relationship with the Board authorizing the use of said lot.

(2) Rental Cars owned by an Off-Airport Rental Car Company may be parked in areas designated for public parking and shall conform to all regulations applicable to privately owned Vehicles.

(3) Any Vehicle including any Rental Car which is parked in a public parking area of the Airport shall be treated as a privately owned Vehicle for purposes of determining the applicable parking fee.

(4) Courtesy Vehicles operated by Off-Airport Rental Companies shall utilize spaces provided in the Commercial Vehicle Lane and shall have no more than one Vehicle in the Commercial Vehicle Lane at any one time.

5A. TRANSPORTATION NETWORK COMPANIES

(a.) No TNC shall conduct, nor permit its affiliate TNC Drivers to conduct, TNC operations on Airport property, including without limitation soliciting TNC Passengers or transporting any person to or from the Airport, without possessing a license to do so pursuant to a written agreement between the TNC and Authority.

(b.) Compliance with Federal, State and Local Laws and Ordinances: No TNC Vehicle shall be operated in violation of traffic ordinances established by the Authority or Federal, State and local laws or ordinances, nor in any event without proper regard for the public safety and welfare.

(c.) Compliance with Rules and Regulations: No TNC Vehicle shall be operated in violation of these Rules and Regulations.

(d.) Compliance with Federal, State and Local Licensing Regulations: No TNC Vehicle shall be operated on the property of the Airport until such Vehicle has been registered in accordance with all appropriate requirements of Federal, State and local laws or ordinances and all proper licenses have been obtained therefore.

(e.) Vehicles Subject to Inspection: The President & CEO or his/her designee shall have the right at any time (upon display of proper identification) to enter into or upon any TNC Vehicle for the purpose of determining that all the provisions of these Rules and Regulations are being properly adhered to.

(f.) TNC Staging Area: Upon entry onto Airport property without TNC Passengers or a confirmed request for a TNC Prearranged Ride, or after discharging TNC Passengers at the TNC Loading Area, each TNC Vehicle shall proceed to the TNC Staging Area or leave the Airport property.

(g.) TNC Loading Area: TNC Vehicles authorized to operate on the property of the Airport shall use only the TNC Loading Area for purposes of loading/unloading of TNC Passengers and baggage into and out of TNC Vehicles. Use of the TNC Loading Area shall be in accordance with any regulations set forth by the President & CEO.

(h.) Soliciting: No person may solicit TNC Passengers or fares on the property of the Airport except as allowed under these Rules and Regulations.

(i.) Vehicle Appearance and Condition: All TNC Vehicles must conform to a standard of cleanliness established by the President & CEO.

(1.) The exterior of TNC Vehicles shall be maintained in a clean, undamaged condition and present a favorable appearance. Exterior of TNC Vehicles shall include body paint, all glass, hubcaps, head and tail lights, grills, bumpers and body trim.

TNC Vehicles that have been damaged and can be driven safely in accordance with State law and without reduction to the TNC Passengers' comfort shall be given a 3 week grace period to perform needed repairs. After such time, such TNC Vehicle will be restricted from operating at the Airport until proper repairs are made.

(2.) The interior of approved TNC Vehicles, including the trunk, shall be maintained in a condition so as to be free of grease, dirt and trash. TNC Passengers shall be able to use the seats and trunk of the Vehicles without fear of soiling or damaging either their wearing apparel or their luggage. Interior seat fabric must not be ripped, torn or have holes.

(3.) All TNC Vehicles must be free from leakage of engine fluids, excessive discharge of exhaust gasses and excessive exhaust noise. In addition, all heating and/or air conditioning units must be operational.

(4.) Driver Conduct:

(a.) Each TNC Driver shall remain in his/her Vehicle or immediately adjacent to his/her Vehicle at all times while such Vehicle is upon the property of the Airport except for those Drivers who get out and leave their Vehicle in the TNC Staging Area to use the restroom facilities. Nothing in this Section shall be held to prohibit any TNC Driver from aligning to a street or sidewalk for the purpose of assisting TNC Passengers into or out of his/her Vehicle.

(b.) No TNC Driver shall solicit patronage in any method outside of the TNC Digital Network, nor shall any TNC Driver annoy any person by any sign or obstruct the movement of any person. TNC Drivers may only solicit or accept requests for TNC Prearranged Rides from TNC Passengers located on Airport property when such TNC Driver is either in the TNC Staging Lot or is located outside of the Geofence.

(c.) Each TNC Driver shall treat members of the public with the utmost courtesy, at all times.

(j.) Insurance: Each TNC and all TNC Drivers shall procure and maintain insurance coverage limits as required in the Fiscal Insurance Requirement policy adopted by the board, but in no case less than the limits required by Michigan Public Act 345 of 2016, as amended, or any successor legislation thereto. Each policy shall name the Authority as a named insured and shall contain a waiver of all subrogation in favor the Authority.

From time to time the Authority may review applicable insurance limits and coverage's and Each TNC and all TNC Drivers agree to provide insurance as shall then comply with current policy requirements of the Authority.

(k.) Indemnification: Each TNC shall indemnify, protect, defend, and hold the Authority and the County of Kent completely harmless from and against liabilities, losses, suits, claims, judgments, fines or demands arising by reason of injury or death of any person or damage to any property, including all reasonable costs for investigation and defense thereof (including but not limited to attorneys' fees, court costs, and expert fees), of any nature whatsoever arising or alleged to arise, either directly or indirectly, out of or in connection with the use of the Airport by such TNC, its TNC Drivers, officers, agents, employees, contractors, subcontractors, licensees, or invitees or the negligent acts or omissions or willful misconduct of such TNC, its TNC Drivers, officers, agents, employees, contractors, subcontractors, licensees, or invitees, except to the extent such injury, death or damage is caused by the sole act or omission of such TNC, its agents, representatives, contractors or employees. Each TNC shall give the Authority notice of any such claims or actions within 5 business days of any such claim.

(l.) Inconsistencies with Agreement: To the extent that there are any inconsistencies between these Rules and Regulations and an agreement between the Authority and a TNC, the specific agreement shall prevail.

(m.) Penalties for Violation: Any TNC Driver or TNC who violates any provision of these Rules and Regulations may be barred from Airport property by the President & CEO.

5B. PEER-TO-PEER VEHICLE SHARING

No person or entity, shall engage in Peer-to-Peer Vehicle Sharing or any activities related thereto on Airport property in any capacity, including without limitation as a Vehicle owner, Driver, or Peer-to-Peer Vehicle Sharing platform operator.

6. AIR OPERATIONS AREA

No person shall operate any aircraft to, from, or on the Airport, or service, repair or maintain any aircraft, or conduct any aircraft operations on or from the Airport, except in conformity with all applicable regulations of the FAA, TSA, State of Michigan and Airport Rules and Regulations governing such operations. It shall be the responsibility of all persons, firms, and corporations operating on the Airport to acquaint themselves with and adhere to the Rules and Regulations contained herein at all times.

A. Whenever the President & CEO believes the condition of the Airport or any part of the Airport to be unsafe for Aeronautical Activity, the President & CEO has the authority to close the Airport or any part thereof.

B. The President & CEO may delay or otherwise restrict any flight activity or other operation of any aircraft at the Airport for reasons related to the public health, safety or welfare. This includes, but is not limited to, the following types of specialized Aeronautical Activity: ultralights, balloons, gliders, skydiving or banner towing.

C. No air meets, air shows, aerial demonstrations or other special activities shall be held at the Airport or above any lands owned by Gerald R. Ford International Airport unless advance written permission is obtained from the President & CEO.

D. All air carriers using the terminal shall load/unload passenger from aircraft gate positions unless prior approval is obtained from the President & CEO.

E. Tenants shall monitor and control their passenger ramp loading/unloading activities to ensure passenger safety at all times.

F. All aircraft utilizing aircraft gate positions must be parked in accordance with parking position markings unless prior approval is obtained from the President & CEO.

G. General aviation aircraft may not use the air carrier ramp (main airline terminal) or facilities unless authorized by the President & CEO.

H. Supplemental Parking: Requests for parking unscheduled aircraft on non-leased areas must be made in advance by calling Airport Communications. Such requests shall be granted on a first come, first served basis.

I. Disabled Aircraft: It is the responsibility of the aircraft owner or operator to promptly remove disabled aircraft and parts thereof upon approval from the appropriate governmental authorities. If any person refuses or is unable to move an aircraft or part thereof as directed by the President & CEO, the aircraft or part may be moved by the President & CEO at the owner's or operator's expense and without liability on the part of the Authority for damage which may result in the course of or by reason of such moving. The same shall apply to the removal of wrecked or damaged aircraft and parts on any portion of the Airport.

J. Derelict Aircraft: No person shall park or store any aircraft in non-flyable condition on Airport property, including leased premises, for a period in excess of 90 days, without written permission from the President & CEO.

K. Aircraft Accident Reporting: Persons involved in aircraft accidents or incidents which occur on the Airport and which involve Substantial Damage shall make a full report thereof to the President & CEO as soon after the accident as possible. It shall be a violation of these Rules and Regulations to withhold or deny information to the President & CEO. Such an infraction will be punishable by a fine or other administrative action deemed appropriate.

L. Towing of Aircraft: The President & CEO may authorize the towing or otherwise movement of aircraft parked in violation of these Rules and Regulations at the owner's or operator's expense and without liability on the part of the Authority, its

officers, employees or agents for damage which may result in a course of or by reason of such moving. All aircraft towing must be done with aircraft running lights on or with a qualified marshal at each wing tip. Aircraft shall not be parked in a manner that could disrupt or impede other operations, without prior permission from the President & CEO.

M. No person shall operate any aircraft weighing more than the designated load bearing capacity of any pavement being a part of the Airport premises without permission from the President & CEO.

N. No Tenant holding a lease for a paved area or operating under a use agreement may permit aircraft or equipment to exceed the weight-bearing capability of any portion of pavement under their control without permission from the President & CEO.

O. No person shall operate any aircraft contrary to an Airport issued Notice to Airmen (NOTAM) as published by the FAA.

P. Unless otherwise approved by the President & CEO, no person shall enter any portion of the AOA unless such access is required in order to perform official duties.

Q. No person may enter the movement area without approval from the Authority except for aircraft operators with proper ATC clearance.

R. No person shall conduct any snow removal activity on the AOA without prior coordination and approval of the President & CEO. No person may create an unsafe condition when creating snow piles/ridges.

S. The starting or operating of aircraft engines inside any hangar is prohibited.

T. No person shall use chain or metal cable to tie an aircraft down.

U. No person shall put in motion any aircraft without permission of the owner.

V. No person shall use salt on the AOA.

7. AIRPORT BUSINESS AND COMMERCIAL OPERATIONS

It shall be unlawful and a violation of these Rules and Regulations for any person or entity:

A. To engage in any Commercial Activity or service on the premises of the Airport without first obtaining an Agreement from the Board.

B. To engage in any Commercial Activity not specifically authorized by Agreement with the Airport.

C. To violate Airport Minimum Standards for any aeronautical or service activity.

D. To solicit for any purpose, at the Airport, in any manner unless such solicitation is approved pursuant to a written Agreement with the Board.

E. To post, distribute or display signs, advertisements or distribute circulars except pursuant to conditions of an agreement with the Board.

8. FIRST AMENDMENT RIGHTS ACTIVITIES

8.1 PURPOSE

These Rules and Regulations shall apply to all First Amendment activities which includes Picketing, Leafletting and Solicitation conducted on any area of the Airport. The Airport is a security-sensitive environment, designed and used as an air transportation facility. The Airport is neither designed nor intended as a public forum for First Amendment activities. Such activities will only be permitted in or upon the Public Areas of the Airport, in areas designated by the President & CEO and in the manner prescribed by these Rules and Regulations.

These Rules and Regulations will be enforced in a content-neutral manner without regard to either the identity of the person or organization seeking to engage in First Amendment activities or the viewpoint of the message sought to be communicated.

These provisions are adopted in order to maintain and enhance the efficient operation of the Airport for the following purposes:

A. To ensure the free and orderly flow of pedestrian traffic through the Airport premises and to ensure the efficient functioning of Airport operations and services by avoiding congestion, operational disruptions, duress and disturbance to passengers, patrons, concessionaires and tenants.

B. To ensure that the security of the Airport is properly maintained.

C. To protect persons using the Airport from fraud, deceptive practices, harassment, intimidation, interruption and inconvenience.

D. To protect the business operations of Airport Concessionaires and Tenants.

E. To ensure a reasonable balance between persons wishing to exercise constitutional freedoms, commercial Tenants and Concessionaires, the traveling public and the Airport's orderly and efficient operation.

8.2 SOLICITATION

No person shall engage in any solicitation on Airport property unless authorized to do so in writing by the President & CEO.

8.3 GENERAL RESTRICTIONS APPLICABLE TO ALL FIRST AMENDMENT ACTIVITIES

All persons engaged in First Amendment activities at the Airport shall be subject to the following general restrictions:

A. All First Amendment activities on Airport property require a written permit from the President & CEO. No more than 1 organization may possess a permit at any given time for a single location. A permit may be issued for a period not exceeding 10 business days.

B. All individuals, groups and organizations shall register with the President & CEO during normal business hours, not less than 24 hours in advance of conducting activities. Registration shall consist of providing the names, addresses (no post office boxes), email address, and telephone numbers of the persons expected to engage in activities, the dates, times and specific details of the activities and the name, address, email address and telephone number of the group or organization.

C. No person shall conduct such activities within 8 feet of premises leased or assigned to or provided for a Concessionaire or Tenant (such as a restaurant or shop), rest rooms, stairs, elevator, doorways or entranceways, information desk, and not within 16 feet of passenger or baggage screening locations.

D. No person shall conduct such activities upon any street, roadway, drive or parking lot at the Airport.

E. No person shall use sound or voice amplification systems, musical instruments, radio communication systems or other mechanical sound devices.

F. No person shall make a loud noise or shout or speak at a level which disturbs or interferes with the ability of others to hear announcements over the Airport public address system or to transact business at the Airport.

G. No person shall in any way obstruct, delay or interfere with the free movement of any person, nor shall any person assail, coerce, threaten or physically disturb any other person.

H. Parades, drive-by's or congregations of Vehicles are prohibited on Airport roadways.

I. No person conducting First Amendment activities shall contact, verbally engage or call the attention of any Airport patron or passenger unless the patron or passenger initiated the contact with the person.

J. No person shall set up any table, chair, stationary rack, vending machine or other structure or use any stationary or wheeled device, with the exception of persons requiring the use of a wheelchair or other disadvantaged related device; provided, that the President & CEO may authorize a small table, space provided, for a nominal fee.

K. No person shall wear or carry a sign or placard larger than 24" x 28" in size. No signs, placards or other material shall be affixed to the exterior or interior of any building or other appurtenance within the Airport premises without the President & CEO's approval.

L. All persons conducting First Amendment activities at the Airport agree to indemnify the Authority, its agents and employees, from and against any and all claims and demands by any third parties, whether just or unjust, for personal injuries (including death) or property damage (including theft or loss)

caused by or alleged to be caused by the activities of such person on Airport property.

M. First Amendment activities within Airport Terminal Building:

(1) Picketing or Soliciting anywhere inside the Airport Terminal Building or between the Terminal Building and the Airport Parking Garage is prohibited.

(2) Leafleting activities shall be confined to the front of the baggage claim area in the Airport Terminal Building, Exhibit B. The President & CEO is authorized to wholly or partially revoke, restrict or suspend a permit or to temporarily alter the location for conduct under the permit in the event of disruptions to normal activities by construction, cleaning and maintenance activities, peak passenger times, security threats, or emergencies that disrupt the normal operations or threaten the security of the public, including, but not limited to, strikes, aircraft or traffic accidents, riots, civil unrest, power failures or other emergency conditions or circumstances that disrupt the operations of the Airport.

(3) Leafleting shall be conducted in person by not more than 2 persons from a single group, organization or cause in each location at a time.

(4) Leafleting may only be conducted between the hours of 8:00 AM to 5:00 PM., Monday through Friday when Airport Administration personnel are on duty.

(5) At the conclusion of his or her leafleting, each person shall pick up all discarded leaflets and properly dispose of them or remove them from the premises.

N. First Amendment activities outside the Airport Terminal Building:

(1) First Amendment activities shall be confined to the areas of the Airport described as public sidewalks, as designated by the President & CEO, other than those immediately in front of or adjacent to the Terminal Building and the Airport Parking Garage.

(2) Leafleting and Picketing shall be conducted in person by not more than 3 persons from a single group, organization or cause in each location at a time.

(3) Leafleting may only be conducted only between the hours of 8:00 AM to 5:00 PM., Monday through Friday when Airport Administration personnel are on duty.

(4) At the conclusion of his or her leafleting, each person shall pick up all discarded leaflets and properly dispose of them or remove them from the premises.

8.4 INSTALLATION AND DISPLAY OF ADVERTISING AND PROMOTIONAL MATERIAL

The Authority maintains designated areas in the Airport for advertising and promotional displays. Airport Management or the Authority's Advertising Concessionaire as the case may be, should be contacted directly regarding available locations and pricing. This section applies only to contracts for the limited amount of space available for commercial advertising at the Airport. The Authority has different rules for free speech activities as referred to in sections 8.1 – 8.3 above.

The regulation of advertising and promotional material at the Airport is intended to: (i) maintain neutrality on religious and political issues; (ii) avoid creating an uncomfortable environment for the travelling public potentially generated by controversial subjects; (iii) avoid the potential for violating the Establishment Clause of the U.S. Constitution, which prohibits a public entity from advancing religion; (iv) prevent a potential reduction in revenue from selling advertising space, because commercial advertisers might be dissuaded from using the same forum used by those wishing to communicate controversial messages.

The following standards shall apply to all contracts for the installation, display and maintenance of advertising and promotional material on properties and facilities operated by the Authority.

A. Permitted Subject Matter: The subject matter of the advertisement or promotional display shall be limited to speech which is within one or more of the following permissible areas:

   (1) Proposes a commercial transaction;

   (2) Proposes the patronage of a commercial business;

   (3) Promotes a commercial industry;

   (4) Promotes economic development; or

   (5) Promotes tourism;

B. Limitations Upon Advertisements: The advertisement or promotional display shall not display anything that:

   (1) Contains a religious or political message;

   (2) Contains false, misleading or deceptive information or information that is libelous;

   (3) Promotes unlawful or illegal goods, services or activities;

   (4) Implies or declares an endorsement by the Authority of any service, product or point of view without the written authorization of the Authority;

   (5) Violates the intellectual property rights of another;

(6) Contains obscene material or depictions of sexual conduct as those terms are defined in 1984 P.A. 343, as amended.

(7) Contains depictions of nude or semi-nude persons;

(8) Depicts, by language or graphics, violence or anti-social behavior;

(9) Promotes an escort service, dating service, or sexually-oriented business;

(10) Contains images or information that demeans an individual or group of individuals on account of race, color, religion, national origin, ancestry, gender, age, disability or sexual orientation.

8.5 TENANT AND CONCESSIONAIRE ADVERTISING AND PROMOTIONAL DISPLAYS

Airport tenants, concessionaires and operators shall apply in advance to the President & CEO, or his designee, for permission to use any of its demised or assigned space for advertising or promotional displays of any kind. At a minimum, any such advertising or display shall avoid anything contained in section 8.4 B. above.

8.6 If any portion or section of this Chapter 8 shall be declared unconstitutional by a judgment or decree of any court of competent jurisdiction, such unconstitutionality shall not affect any of the remaining portions or sections of this Chapter 8.

A. SEVERABILITY: If any portion or section of these advertising standards shall be declared unconstitutional by a judgment or decree of any court of competent jurisdiction, such unconstitutionality shall not affect any of the remaining portions of this Section 8.4

9. ENVIRONMENTAL AND SAFETY

9.1 NOISE CONTROL PROCEDURES

The Authority requests that aircraft follow the published voluntary departure and arrival noise abatement procedures.

Maintenance engine run-ups shall only be conducted at the following locations:

Location	Heading
8L Hold Apron	260-080
Runway 26L Hold Apron	080
Taxiway K at K1	350
Runway 17 Hold Apron	350
Runway 8R Hold Apron (Air Carriers)	090-240
Southeast Terminal Ramp (Turbo props only)	300

Idle power maintenance engine run-ups are allowed on the ramps.

9.2 FLAMMABLE AND EXPLOSIVE MATERIALS

No person, without prior permission from the President & CEO, shall keep, transport, handle, or store at, in or upon the Airport, any cargo or explosives or other hazardous articles which are barred from lading in, or for transportation by civil aircraft in the United States under Federal, State and local laws and regulations controlling the use or transportation of flammable and/or explosive materials.

Compliance with said laws and regulations shall not constitute or be construed to constitute a waiver of the required notice or an implied permission to keep, transport, handle, or store such explosives or other dangerous articles at, in, or upon the Airport. Advance notice of at least one business day shall be given to the President & CEO to permit full investigation and clearances for any operation requiring a waiver of this rule.

A. Doping/Spray-Painting/Stripping: The use of "dope" (cellulose nitrate or cellulose acetate dissolved in volatile flammable solvents) within any hangar is prohibited. The process of doping shall be carried out as set forth by nationally recognized fire prevention standards and applicable local codes. For paint, varnish, or lacquer spraying operations, the arrangement, construction, ventilation, and protection of spraying booths and the storing and handling of materials shall be in accordance with nationally recognized fire prevention standards and Cascade Township codes.

B. Flammable Gases or Liquids: Gasoline, kerosene, ethyl jet fuel, ether, lubricating oil, or other flammable gases or liquids, including those used in connection with the process of "doping" shall be stored in accordance with the applicable codes, standards, and recommended practices of nationally recognized fire prevention standards. Buildings shall be provided with suitable fire appliances and first aid equipment.

C. Use of Cleaning Fluids: Cleaning of aircraft parts and other equipment shall preferably be done with non-flammable cleaning agents or solvents. When the use of flammable solvents cannot be avoided, only liquids having flash points in excess of 100° F shall be used and special precautions shall be taken to eliminate ignition sources in accordance with nationally recognized fire prevention standards. Cleaning processes that emit odors affecting the terminal building are not allowed.

9.3 FUELING/DE-FUELING OPERATIONS

A. Normal Operations: Guidelines, as established by nationally recognized fire prevention standards and Federal, State, and local authorities, including Spill Prevention, Control, and Countermeasures (SPCC) regulations shall be followed.

B. Prohibited Operations: No aircraft shall be fueled or de-fueled while inside any building or structure. No aircraft shall be fueled or de-fueled while one or more of its engines are running or while combustion heaters (e.g. wing and

tail surface heaters, integral cabin heaters) are operating except under the following conditions:

If an aircraft auxiliary power unit has failed on a jet aircraft and a suitable ground power unit is not available, a jet engine mounted at the rear of the aircraft or on the wing on the side opposite the fueling point may be operated during fueling operations to provide power provided that the aircraft is not parked within 50 feet of any other aircraft, building, hangar, concourse or passenger loading bridge.

C. All persons, Tenants, employees, and agencies involved in fueling operations shall abide by the following:

(1) Fuel trucks shall not be parked within 50 feet of any aircraft, fuel storage facility, or building unless they are engaged in a fueling or defueling operation. This prohibition shall not apply to the repair of such equipment. In such cases, the fuel truck shall be electrically grounded upon entering the building.

(2) Fuel trucks, whether loaded or empty, shall never be operated or parked within a distance of 10 feet of another fuel truck and shall be chocked when stationary.

(3) No aircraft shall be fueled or de-fueled while passengers are on board unless such activity is allowed by the aircraft operator and all safety provisions adopted by the operator for such activity are adhered to.

(4) No fuel Vehicle shall be backed within 20 feet of an aircraft unless a person is posted to assist or guide, or cones are placed for guidance.

(5) No person shall engage in aircraft fueling or de-fueling operations without adequate fire extinguishing equipment readily accessible at the point of fueling.

(6) No person shall start the engine of an aircraft on the Airport if there is any gasoline or other volatile fluid on the ground within the vicinity of the aircraft, unless directed to do so by the President & CEO.

(7) No person shall operate a radio transmitter, receiver, cell phone or two-way pager while an aircraft is being fueled or defueled unless authorized to do so by the President & CEO.

(8) Except for passengers, no person other than persons engaged in the fueling, servicing, and operation of an aircraft shall be permitted within 100 feet of such aircraft during fueling or de-fueling.

(9) Fueling and de-fueling operations shall conform to the standards, and regulations set forth in the Authority's Storm Water Pollution Prevention Plan (SWPPP) and shall conform to all required secondary containment Rules and Regulations.

(10) Fueling or de-fueling operations shall not be conducted when lightning is occurring in the immediate vicinity of the Airport.

(11) Aircraft fuel servicing personnel shall not carry lighters or matches on their person while performing fuel servicing operations.

(12) Aircraft and Motor Vehicles shall be fueled on the Airport only at locations and with equipment approved by the President & CEO.

(13) A fueling agent shall not permit any employee or agent to fuel/defuel and aircraft unsupervised unless he/she has first completed an FAA approved training program in acceptable fueling procedures, fire extinguishing procedures and procedures to summon the Airport Fire Department. Certification that each fueler has received this training shall be in compliance with the Authority's Handling and Storage of Hazardous Substances and Materials Policies and Procedures.

(14) Handling and storage of fuel shall be conducted in accordance with the Authority's Handling and Storage of Hazardous Substances and Materials policies and procedures.

(15) All spills greater than 49 gallons, and any spill that enters a storm sewer or designated waters of the State, shall be immediately reported to the MDEQ at 1-800-292-4706. All appropriate and necessary response actions to contain and collect spilled materials shall be taken. All reporting requirements per Local, State and Federal requirements must be complied with.

(16) Each Class II and Class III fuel spill shall be investigated by the manager of the Tenant fueling agent involved in the spill to determine whether standard operating procedures were properly carried out, and what corrective measures are required. A copy of the investigation report must be sent to the Aircraft Rescue Firefighting Chief.

(17) A Tenant shall be responsible for the clean up and disposal of any hazardous waste in accordance with the Authority's Handling and Storage of Hazardous Materials Policies and Procedures.

9.4 SMOKING

A. Smoking or carrying lighted smoking materials, striking matches or other lighting devices shall not be permitted anywhere on the AOA, or in any hangars, shops, buildings, or other areas in which flammable liquids are stored or used except in cases where specific smoking areas have been designated by the President & CEO for that purpose. It shall be unlawful and in violation of this subsection to light or carry lighted smoking materials inside any ground Vehicle anywhere on the AOA.

B. Smoking within any portion of the terminal building or within 10 feet of entrances, windows, and ventilation systems is prohibited.

Any person violating this subsection shall be subject to a warning. Upon being warned, the individual shall extinguish the smoking materials or leave the premises. If the individual refuses to either leave the premises or to extinguish smoking materials, he or she shall be subject to a fine.

9.5 OPEN FLAME OPERATIONS

No person shall conduct any gas or open flame operations, including gas or charcoal grills, on the AOA or in any building unless specifically approved by the President & CEO.

9.6 LEASEHOLD/ASSIGNED SPACE HOUSEKEEPING

All persons occupying space at the Airport shall keep the space allotted to them policed, free from rubbish or accumulation of any material, and in a sanitary & sightly condition. All floors shall be kept clean and free from fuel and oil. The use of volatile or flammable solvents for cleaning floors is prohibited. Metal receptacles with self-extinguishing covers shall be used for the storage of oily waste rags and similar material. Persons occupying space shall remove the contents of the receptacles daily. Drip pans shall be placed under leaks as necessary. Clothes lockers shall be constructed of metal or fire-resistant material. No Tenant, Grantee, Concessionaire, or agent thereof doing business on the Airport may:

A. Keep uncovered trash containers adjacent to sidewalks or roads in a public area of the Airport.

B. Dispose of any fill, building materials, receptacles or discarded or waste materials on Airport property except as approved in writing by the President & CEO. No liquids shall be placed or dumped into Airport property storm drains or the sanitary sewer system at the Airport that will damage such drains or system or will result in water pollution upon having passed through such drain or system.

C. Store property or equipment not normally used for flight operations or other aviation activities. Storage of property or equipment of a non-aviation nature must be provided for by written permission from the Board.

D. Keep derelict equipment on the Airport. Persons or Tenants responsible for derelict equipment are subject to recurrent and compounding fines plus any costs incurred by the Authority for the removal and disposal of such equipment.

E. Spill any solid or liquid material at the Airport. In such event, it shall immediately be cleaned up by the person responsible for such spillage, and disposed of properly.

F. Cause unnecessarily or unreasonably any smoke, dust, fumes, gaseous matter or any other matter to be emitted into the atmosphere or carried by the atmosphere.

G. Operate an uncovered Vehicle to haul trash, dirt or any other material on the Airport without prior permission of the President & CEO.

H. Dispose of garbage, papers, refuse or other forms of trash, including cigarettes, cigars and matches, except in receptacles provided for such purpose.

I. Dump or dispose of materials other than storm water into the Airport's storm water drainage system.

If a tenant, grantee, or concessionaire fails to keep and maintain the premises and improvements in good condition and repair, reasonable wear and use excepted, and in a sanitary and sightly condition for a period of 30 days after written notice from the President & CEO to do so, the President & CEO, upon the expiration of such 30 day period, may, but shall not be obligated to, enter upon the premises involved and perform the obligation of the Tenant, Grantee or Concessionaire. The Tenant, Grantee or Concessionaire will be charged the reasonable cost and expense thereof. If such Tenant, Grantee or Concessionaire's failure to perform any such obligation adversely affects or endangers the health or safety of the public or of employees at the Airport, the President & CEO may, but shall not be obligated to, perform such obligation at any time with or without prior notice, and charge to the Tenant, Grantee or Concessionaire the reasonable cost and expense plus any reasonable administrative costs of such performance. The Tenant Grantee or Concessionaire agrees to pay the Authority such charge in addition to any other amounts payable. In the event the President & CEO deems it necessary to enter and repair without providing prior notice, the President & CEO will provide notice to the Tenant, Grantee, or Concessionaire as soon as practicable after such entry and repair.

It is further stipulated that if the President & CEO shall perform any of the Tenant, Grantee, or Concessionaire obligations in accordance with provisions of this subsection, the President & CEO, or any affiliates or associates therein shall not be liable to the Tenant, Grantee or Concessionaire for any loss of revenue to it resulting from such performance.

9.7 FIRE EXTINGUISHERS

Fire extinguishing equipment at the Airport shall not be tampered with at any time nor used for any purpose other than fire fighting or fire prevention. All such equipment shall be maintained in accordance with applicable standards. Tags showing the date of the last inspection shall be attached to each unit or records acceptable to fire underwriters shall be kept showing the status of such equipment.

All Tenants or Grantees of hangars, aircraft maintenance buildings, or shop facilities shall supply and maintain an adequate number of readily accessible fire extinguishers. Vehicles designed for the transport and transfer of fuel shall carry on board at least two 20 BC fire extinguishers, one located on each side of the Vehicle.

Terminal tenants shall provide and maintain (at their sole expense) hand fire extinguishers for the interior of all exclusive lease areas in accordance with applicable safety codes and National Fire Protection Association Standards.

9.8 POWDER ACTIVATED TOOLS

No person shall use powder or explosive cartridge activated tools or fastening devices anywhere on the Airport without prior approval of Airport Police and the President & CEO.

9.9 HEATED HANGARS

Heating in any hangar shall only be through or by approved systems or devices as listed by the Underwriters Laboratories, Inc. as suitable for use in aircraft hangars and shall be installed in the manner prescribed by the Underwriters Laboratories, Inc. and in compliance with applicable Federal, State and local codes.

9.10 AIRCRAFT REPAIRS

Unless authorized by the President & CEO, no person shall repair an aircraft or aircraft engine, propeller, or other aircraft apparatus in any area of the Airport other than those areas specifically designed for such repairs, except that minor adjustments or repairs may be made while the aircraft is at an aircraft parking position. No person shall repair or cause repairs to be made to any aircraft, aircraft engine, propeller or other aircraft apparatus by any person on the Airport other than those specifically approved to conduct such operations through written agreement or authorization of the President & CEO.

9.11 FIREARMS AND WEAPONS

No person, except those persons authorized to do so under Michigan State Law and Federal government regulations may carry or transport any firearm or weapon on the Airport except when such firearm or weapon is properly encased for shipment and not in the individual's immediate possession. The Authority reserves the right to restrict the carrying of firearms and weapons by contract security or Tenant security personnel on the Airport.

A. Conditions Governing Use: No person shall discharge any firearm or weapon on the Airport except in the performance of official duties requiring the discharge thereof.

B. The carrying of a firearm or weapon on the Airport must be in compliance with all applicable Federal, State, and local regulations.

9.12 ANIMALS

A. Service Animals. Service Animals are permitted in all areas where the public are allowed, provided that they are on a harness, leash, or other tether, unless these devices interfere with the work or tasks such Service Animals provide.

The work or tasks performed by a Service Animal must be directly related to the individual's disability. Airport personnel may ask if the animal is a Service Animal (unless it is readily apparent that the animal is a Service Animal), and if so, what work or service task has the animal been trained to perform. An individual with a Service Animal is responsible for caring for, supervising and cleaning up after the Service Animal. Airport personnel may ask an individual with a Service Animal to remove such animal from the Airport premises if (1) such animal is out of control and the individual does not take effective action to control it; or (2) such animal is not housebroken.

B. Emotional Support/Comfort/Therapy Animals. Emotional Support/ Comfort/Therapy Animals are permitted in all areas where the public are allowed, provided that they are in a carrier at all times. Boarding of Emotional Support/Comfort/Therapy Animals is in the sole discretion of the applicable Commercial Air Carrier and individuals must check with the applicable Commercial Air Carrier for all rules and regulations relating thereto. Airport personnel may ask to see a certification or a doctor's note, dated within a year and signed, testifying that such animal is an Emotional Support/Comfort/Therapy Animal. An individual with an Emotional Support/Comfort/Therapy Animal is responsible for caring for, supervising and cleaning up after the Emotional Support/Comfort/Therapy Animal. Airport personnel may ask an individual with an Emotional Support/Comfort/Therapy Animal to remove such animal from the Airport premises if (1) such animal is out of control and the individual does not take effective action to control it; or (2) such animal is not housebroken.

C. Service Animals in Training. A Service Animal in Training is permitted in all areas where the public is allowed, provided that (1) it is accompanied by a trainer; (2) it is on a harness, leash, or other tether; and (3) it is wearing an item which easily identifies such animal as a Service Animal In Training. A trainer with a Service Animal In Training is responsible for caring for, supervising and cleaning up after the Service Animal In Training. A trainer with a Service Animal In Training is liable for any damage done to the Airport by the animal. Airport personnel may ask an individual with a Service Animal In Training to remove such animal from the Airport premises if (1) such animal is out of control and the trainer does not take effective action to control it; (2) such animal is not on a harness, leash, or other tether; or (3) such animal is not housebroken.

D. All Other Animals. Except for Service Animals, Emotional Support/ Comfort/Therapy Animals, Service Animals in Training, and animals being checked into an airline or picked up at baggage claim, all other animals are not allowed in the Airport.

All animals being checked into an airline or picked up at baggage claim shall remain in the check-in area or baggage claim area, as applicable, and be in a carrier. If such animal is too large for a carrier, the animal must be restrained by a leash and must be within five feet of the handler. Such animal must be completely under control of the handler at all times.

E. Pet Relief Area. The Airport will maintain a pet relief area immediately outside the terminal building of the Airport. All Service Animals and Emotional Support/Comfort/Therapy Animals are permitted to use the pet relief area.

F. General Prohibitions

(1) No person other than in conduct of an official or permitted act shall hunt, pursue, trap, catch, injure or kill any animal on the Airport.

(2) No person shall feed or do any other act to encourage the congregation of birds or other animals on the Airport, unless authorized to do so by the President & CEO.

9.13 FUEL STORAGE TANKS

A. No Tenant or other person shall install, maintain, or permit to be installed or maintained fuel storage tanks on the Airport without the express written approval of the President & CEO. All approved tanks must be installed and maintained in accordance with all Federal, State and local laws, regulations and ordinances. All fuel storage tanks on the Airport must be registered with the appropriate governing body(s). A current copy of each fuel storage tank registration, copies of the Michigan Class A and Class B Underground Storage Tank (UST) System Operators picture certifications, and copies of the proof of financial responsibility (insurance forms are acceptable) must be provided to the Authority.

B. No Tenant or other person shall operate GFIAA fuel dispensing equipment without receiving Class C Operator training. Pursuant to Federal, State, and Local regulations all users of GFIAA UST fuel dispensing facilities must be trained by a GFIAA Class A/B Operator prior to using these facilities and/or equipment in order to meet the Class C Operator training criteria.

9.14 ENVIRONMENTAL REGULATIONS

A. President & CEO's Consent Required: No person shall cause or permit any Hazardous or Significant Materials, as defined in section 1.5 (48, 74) to be stored or used on or about the Airport, except in compliance with Environmental Laws as described below and as permitted in writing by the President & CEO.

B. Compliance with Environmental Laws: Persons shall at all times and in all respects comply with all local, State, and Federal laws, ordinances, regulations, and orders relating to industrial hygiene, environmental protection, or the use, generation, manufacture, storage, disposal, or transportation of Hazardous and Significant Materials on, about or from the Airport (collectively "Environmental Laws").

C. Hazardous and Significant Materials Storage and Handling: All persons shall, at their own expense, procure, maintain in effect, and comply with all conditions of any permits, licenses, and other governmental and regulatory requirements or approvals required for their activities or use of the Airport,

including, without limitation, discharge of materials or wastes into or through any storm or sanitary sewer serving the premises. Except for permitted discharges into the sanitary sewer, persons shall cause any and all Hazardous and Significant Materials removed from the premises to be removed and transported solely by duly licensed haulers to duly licensed facilities for disposal. Persons shall in all respects handle, store, treat and manage any and all Hazardous and Significant Materials on or about the Airport in conformity with all applicable Environmental Laws and prudent industry practices regarding the management of such Hazardous and Significant Materials. Upon the expiration or earlier termination of the term of any lease/sublease, operating agreement or permit, the user shall cause all Hazardous and Significant Materials to be removed from the Airport and to be transported for use, storage, disposal or recycling in accordance and compliance with all applicable Environmental Laws; provided, however, that such person shall not take any remedial action in response to the presence of any Hazardous or Significant Materials in or about the premises, nor enter into any settlement agreement, consent decree, or other compromise with respect to any claims relating to any Hazardous or Significant Materials in any way connected with the premises without first notifying the President & CEO of the person's intention to do so and affording the President & CEO ample opportunity to appear, intervene, or otherwise appropriately assert and protect the Authority's interest with respect thereto.

D. Notices: If at any time any person shall become aware, or have reasonable cause to believe, that any Hazardous or Significant Material has come to be located on or about the Airport in violation or potential violation of Environmental Laws, he shall, immediately upon discovering such presence or suspected presence of the Hazardous or Significant Material, provide the President & CEO with written notice of that condition. In addition, such person shall immediately notify the President & CEO in writing of (1) any enforcement, cleanup, removal, or other governmental or regulatory action instituted or threatened pursuant to any Environmental Laws, (2) any claim made or threatened against the person or the premises relating to damage, contribution, cost recovery, compensation, loss, or injury resulting from or claimed to result from any Hazardous or Significant Materials, and (3) any reports made to any local, State, or Federal environmental agency arising out of or in connection with any Hazardous or Significant Materials on or removed from the Airport, including any complaints, notices, warnings, or asserted violations in connection therewith. Such person shall also supply to the President & CEO as promptly as possible, and in any event within 5 business days after the person first receives or sends the same, copies of all claims, reports, complaints, notices, warnings, or asserted violations relating in any way to the Airport or the person's use thereof. Such person shall promptly deliver to the President & CEO copies of hazardous waste manifests reflecting the legal and proper disposal of all Hazardous and Significant Materials removed from the Airport.

E. Indemnification: All persons shall indemnify, defend and hold harmless the Board and the Authority, including their agents, officers, employees,

successors and assigns, from and against any and all claims, liabilities, penalties, fines, judgments, forfeitures, losses, damages (including damages for the loss or restriction on use of usable space or of any amenity of the premises) costs, or expenses (including attorneys' fees, consultant fees, and expert fees) for the death of or injury to any person or damage to the Airport or any property whatsoever, arising from or caused by the person's failure to comply with any Environmental Laws or any covenants, terms or conditions relating to environmental matters in any lease/sublease, operating agreement or permit. Such person's obligations under this section shall include, without limitation, and whether foreseeable or unforeseeable, any and all costs incurred in connection with any investigation of the condition of the premises, and any and all costs of any required or necessary repair, cleanup, decontamination or remediation of the premises and the preparation and implementation of any closure, remedial action, or other required plans in connection therewith should the President & CEO have a reasonable basis to believe that such person has caused the presence of Hazardous or Significant Materials in violation of Environmental Laws and such person fails to first conduct its own environmental investigation, and any and all costs of any required or necessary repair, cleanup, decontamination or remediation of the premises and the preparation and implementation of any closure, remedial action, or other required plans in connection therewith and resulting from such person's violation of Environmental Laws. Such person's obligations under this section shall survive the expiration or earlier termination of the term of any lease/sublease, operating agreement or permit.

F. Inspection: The President & CEO, at his sole discretion, shall have the right to enter and inspect any premises on the Airport, including a person's business operations thereon, upon reasonable notice and in a manner so as not to unreasonably interfere with the conduct of such person's business, to investigate the presence or potential presence of Hazardous or Significant Materials on the premises in violation of Environmental Laws. During such inspection, the President & CEO shall have the right to visually inspect the premises and to take such soil, sludge or groundwater samples and conduct such tests as he may determine, in his sole discretion, to be necessary or advisable. The Authority shall pay for the costs of such investigations; provided, however, that if the results of such investigation indicate the presence of Hazardous or Significant Materials on or about the premises is in violation of Environmental Laws and such violation was caused by the user, then such person shall fully reimburse the Authority for such expenses within 10 days of receiving the President & CEO's written request for reimbursement.

G. NPDES Permit: All persons are on notice that the Authority holds a National Pollutant Discharge Elimination System ("NPDES") permit authorizing the discharge of storm water from the Airport ("Permit"). The Permit requires, in part, the implementation of best management practices (BMPs) with regard to the use of anti-icing and deicing materials (collectively "Deicing Materials") and the collection of storm water containing Deicing Materials. The BMPs are

described in the Authority's Storm Water Pollution Prevention Plan (SWPPP). The Permit and the Plan are incorporated by reference into these Rules and Regulations as if printed in their entirety herein.

H. Tenants shall continuously monitor and control the loading, unloading, or transfer of fuel, glycol, or any other hazardous or significant material on the Airport.

I. Washing of aircraft is prohibited on any ramp. Washing must be done in an aircraft hangar that has a drainage system that will prevent contaminants from entering the storm water system in compliance with the current NPDES storm water permit, and BMP program.

J. No fuel, grease, oil, dopes, paints, solvents, acids, flammable liquids or contaminants of any kind shall be allowed to flow into or be placed in any Airport sanitary or storm drain system, or onto any other portion of the Airport.

K. No person shall use urea or salt at any time on the AOA.

L. De-icing: All de-icing activities shall only be conducted at locations approved by the President & CEO. All de-icing spills are to be properly contained, cleaned up, and disposed of. Large uncontrolled spills or any spills that reach an Airport storm drain shall be immediately reported to Airport Communications. No person shall conduct de-icing operations until they have received training regarding company/tenant spill response procedures and best management practices.

M. Tenants shall inspect all the new or used liquid storage or transport/delivery equipment for defects or damage (tanks, hoses, pipes, connections, fittings, nozzles, etc.) which may allow leaking of materials. Inspections shall occur immediately upon receiving each new or used piece of equipment. Should the tenant not be able to inspect the equipment immediately the tenant shall ensure that the equipment has appropriate containment until the equipment can immediately be inspected. Tenants shall not accept delivery of new or used equipment with liquid in the tanks. This equipment shall arrive on site empty and stay empty until an inspection has been completed and all necessary corrections have been made to ensure the equipment will function properly without leaking any liquids. Tenants shall notify the Authority of delivery of all new or used liquid storage of all new or used liquid storage and transport/delivery equipment. Tenants shall be responsible for any equipment leaks and pay all fines issued as a result of equipment leaks.

10. GENERAL PROVISIONS

10.1 LIMITED LIABILITY

The Gerald R. Ford International Airport Authority will not be responsible for, nor assumes any liability for loss, injury, or damage to persons or property on the Airport or using Airport facilities.

10.2 CONSTRUCTION ACTIVITY

Tenants desiring to construct, enlarge, modify, alter, repair, move, demolish, or change the occupancy of property or to install or erect a sign of any description shall do so in accordance with the standards set by the Authority and any written agreement. Written approval in the form of a Construction Permit issued by the Authority is required for this activity. Authority approval does not relieve the tenant from the responsibility to comply with all local, state, and national building codes, or to obtain all necessary permits.

10.3 CONDUCT

A. All alcohol consumption shall be conducted in designated areas within the Terminal Building controlled by vendors holding a liquor license. Alcohol consumed in such areas shall have been purchased from the vendor.

B. No person shall commit any nuisance or any disorderly, obscene, indecent, or unlawful act on Airport premises.

C. No person shall use or remain on the Airport for any purpose other than air transportation and activities related thereto and activities expressly authorized by the President & CEO.

D. No person shall operate or release any model aircraft, flare, projectile, rocket, kite, balloon, drone or parachute or other similar contrivance at or upon the Airport without the prior written approval of the President & CEO. Such prohibition shall not apply to the National Weather Service when such activities are a regular operational function on its part.

E. No person shall throw, drop, or otherwise propel any object or substance of any kind from any Vehicle window or roof of any structure on the Airport. No person shall create FOD. No person shall fail to properly dispose of FOD in an approved container.

F. No person shall travel upon the premises of the Airport other than on roads, walks, or other facilities provided for such specific purpose.

G. No person shall use the roads or walks of the Airport in such manner as to hinder or obstruct their proper use.

H. No person may interfere or tamper with any aircraft without permission of the owner thereof. This provision is not intended to include the moving of aircraft as authorized by the President & CEO.

I. No person shall use Glycol unless reported to the Authority for cleanup.

J. No person shall use the Airport public address system for other than official purposes or in any means which is unprofessional or indecent as determined by the President & CEO.

11. SEVERABILITY

If any section, subsection, sentence, clause or phrase of these Rules and Regulations is for any reason held to be invalid or unconstitutional by a court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of these Rules and Regulations.

12. SUBORDINATION TO GRANTOR'S FEDERAL OBLIGATIONS

These Rules and Regulations shall be subordinate to the provisions of any existing or future agreement between the Board and the United States, the execution of which has been or may be required as a condition precedent to the expenditure of federal funds for the development of the Airport. In the event that the Board, through its President & CEO, reasonably determines that these Rules and Regulations, or any provision contained herein, causes or may cause a violation of any agreement between the Board and the United States, the Board shall have the unilateral right to modify these Rules and Regulations to ensure the Board's compliance with all such agreements with the United States.

EXHIBIT A - FINES

Violation Section	Fine	Penalty
2.1	Compliance with signs	$ 50
2.3	Preservation of property- Failure to Report	$ 100
2.4	Public safety	$ 100
4.1	Public parking	$ 50
4.3	Employee parking	$ 50
4.4	Vehicle operating requirements	$ 100
5	Commercial ground transportation/TNCs	$ 150
6	Air operations area	$ 100
7	Airport business and commercial operations	$ 150
8.2	Solicitation	$ 50
8.3	Non-commercial/first amendment activities	$ 50
9.1	Noise control procedures	$ 100
9.2	Flammable and explosive materials	$ 250
9.3	Fueling/de-fueling operations	$ 100
9.4	Smoking	$ 50
9.5	Open flame operations	$ 100
9.6	Leasehold/assigned space housekeeping	$ 250
9.7	Fire extinguishers	$ 100
9.8	Powder activated tools	$ 100
9.9	Heated hangars	$ 100
9.10	Aircraft repairs	$ 100
9.11	Firearms and weapons	$ 100
9.13	Fuel storage tanks	$ 250
9.14	Environmental regulations	$ 250
10.2	Construction activity	$ 150

The listed fines are applicable for the first infraction: For multiple infractions of the same rule within a 1 year period, the fine for each subsequent infraction is double the fine of the last infraction.

Fines imposed under these Rules and Regulations are independent of any fines, judgments, lawsuits or penalties imposed by other agreements with the Board or other agencies with jurisdiction.

EXHIBIT B - Airport Terminal Building

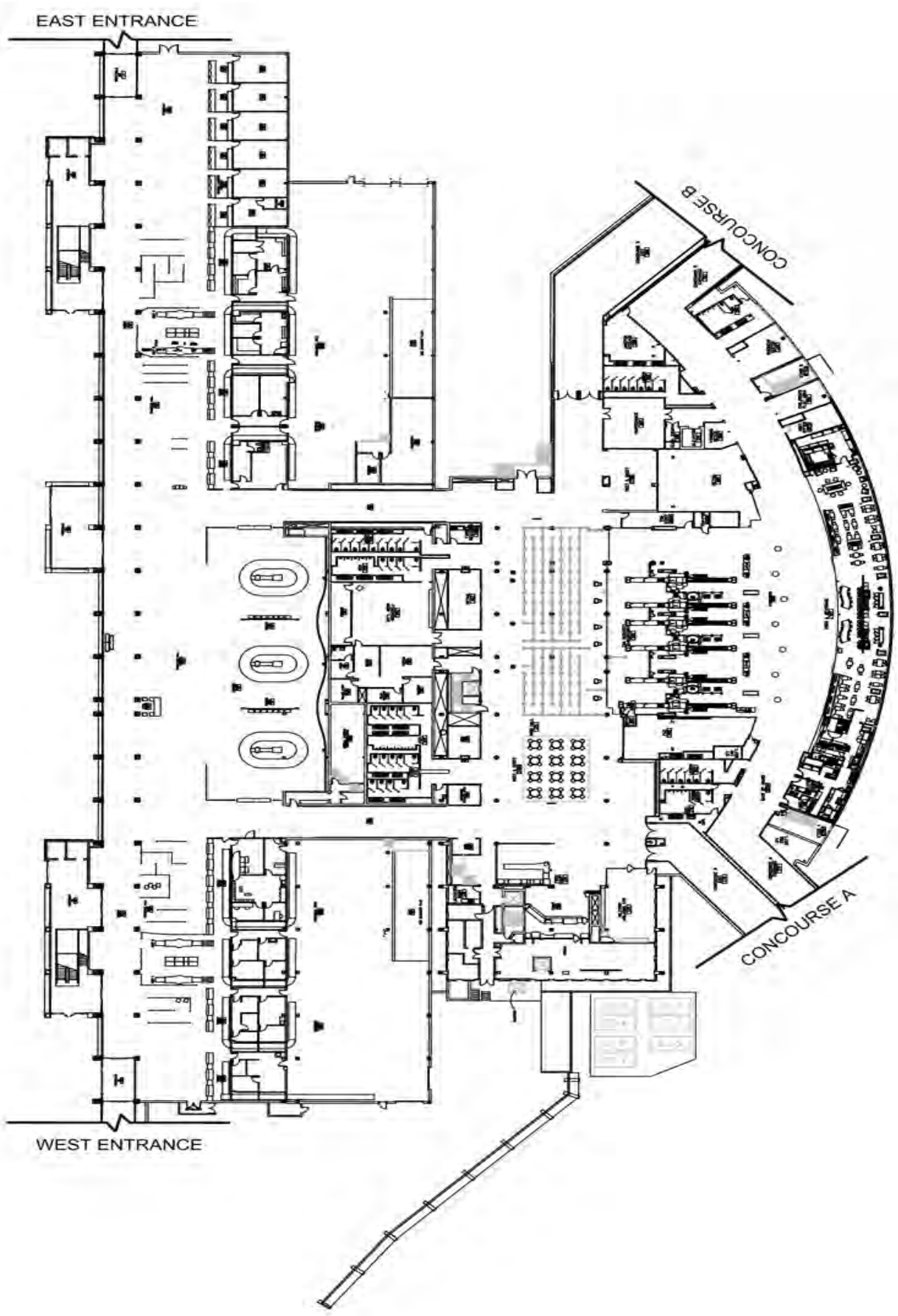


EXHIBIT C – MUNICIPAL CIVIL INFRACTION

GERALD R. FORD INTERNATIONAL AIRPORT AUTHORITY
ORDINANCE NO. _____

PARKING, TRAFFIC AND PERSONAL CONDUCT VIOLATIONS

Section 1: General-Penalties.

A person who commits a violation of any provision of this chapter shall be deemed responsible for a municipal civil infraction as defined by Section 113(1) of the Revised Judicature Act of 1961 ('the Act"), punishable as provided in the ordinance and in accordance with the Act. Each such violation which either continues or is repeated subsequent to a citation being issued by an authorized enforcement officer shall be considered and may be prosecuted as a separate violation of this section.

Section 2: Compliance with Signs.

All persons shall observe and obey all signs posted on fences, doors, and barricades, including signs prohibiting entry into specified areas or governing the activities and demeanor of the public while in the Airport.

Section 3: Public Parking.

A. An authorized local official, who issues a violation notice or citation for a vehicle that is stopped, standing, or parked in violation of this section may issue the violation notice or citation for the violation to the operator of the vehicle if the operator is present at the time of the violation.

B. If the operator of a vehicle that is in violation of this article in not present at the time the violation is observed by an authorized local official, the person in whose name that vehicle is registered in this state or another state at the time of the violation is responsible for the violation. In a proceeding under this article evidence of the registered owner or lessee of the vehicle shall be sufficient to establish that the person named as the registered owner or lessee is prima facie responsible for the violation, and a violation notice or citation may be issued to such owner or lessee by placing same conspicuously on the vehicle.

C. A registered owner of a vehicle who is found to be responsible for a civil infraction has the right to recover in a civil action against the person who parked, stopped, or left standing the vehicle in question, damages in the amount of any civil fine or costs, or both.

D. The registered owner of a vehicle may provide in a written agreement that the person who stopped, or left standing the vehicle in violation of an ordinance or state law, when the violation is a civil infraction, shall indemnify the registered owner for any civil fine and costs imposed upon the registered owner for that civil infraction.

E. The following conduct is prohibited:

1. No person shall park or leave standing any vehicle, whether occupied or not, on Airport premises except within designated parking areas and then only in accordance with regulations governing the use of said areas.

2. No person shall double park any vehicle in any area.

3. No person shall park or leave any vehicle within areas designated as passenger loading and unloading zones other than while actually boarding or discharging persons or freight from the motor vehicle.

4. No person shall park, stop or leave standing any vehicle of any type, except within areas designated for the particular type of vehicle involved and then only in accordance with the posted regulations relating to the area and type of vehicle.

5. No person shall park a vehicle in excess of 60 days in the Long Term or 30 days in the Short Term Airport Parking Facilities. Vehicles parked in excess of the number of days mentioned herein are subject to towing and impound.

6. No person shall park any vehicle in such a manner that the vehicle shall not be entirely within one stall as designated by the lines or marks on the pavement.

Section 4: Rental Car Parking.

A. Rental cars shall park only in spaces designated in the rental car ready lot or designated service facility. The rental car ready lot shall be utilized only by on-airport rental car companies having a contractual relationship with the Airport Authority authorizing the use of said lot.

B. Rental cars owned by an off-airport rental car company may be parked in areas designated for public parking only and shall conform to all regulations applicable to privately owned vehicles.

C. Any vehicle including any rental car which is parked in a public parking area of the Airport shall be treated as a privately owned vehicle for purposes of determining the applicable parking fee.

D. Courtesy vehicles operated by off-airport rental companies shall utilize spaces provided in the Commercial Vehicle Lane and shall have no more than one vehicle in the Commercial Vehicle Lane at any one time.

Section 5: Traffic Violations.

A. **Adoption of Michigan Vehicle Code.** The Michigan Vehicle Code, 1949 PA 300, being MCL 257.1 through 257.923 as amended, is adopted by reference. A complete copy of the Michigan Vehicle Code is available to the public at the Airport Authority office for inspection. The penalties provided by the Michigan Vehicle Code are hereby adopted by reference as the penalties for violations of the corresponding provisions of this article.

B. References in the Michigan Vehicle Code to “local authorities” shall mean the Gerald R. Ford International Airport Authority.

C. No person shall operate a motor vehicle upon Airport Authority property in violation of the Michigan Vehicle Code.

Section 6: Commercial Ground Transportation.

A Commercial Transporter is defined as any entity operating a Commercial Vehicle or vehicles for the purpose of soliciting or transporting persons and/or baggage to and/or from the Airport for hire. Examples of Commercial Transporters include, but are not limited to taxicabs, Uber and Lyft operators, limousines, hotel/motel courtesy vehicles, rental car courtesy vehicles, delivery vehicles and chartered or scheduled buses.

A. No Commercial Transporter, unless authorized by the Airport Authority may use the facilities of the Airport for soliciting for the transportation of passengers from the Airport unless the transportation has been prearranged by the passenger.

B. No Commercial Transport vehicle shall be operated in violation of traffic ordinances established by Federal, State and local laws or ordinances, nor in any event without proper regard for the public safety and welfare.

C. No Commercial Transport vehicle shall be operated in violation of the Rules and Regulations established by the Gerald R. Ford International Airport Authority.

D. No Commercial Transport vehicle shall be operated on the property of the Airport until such vehicle has been registered in accordance with all appropriate requirements of Federal, State and local laws or ordinances and all proper licenses have been obtained therefore.

E. The Airport Authority shall have the right at any time (upon display of proper identification) to enter into or upon any Commercial Transport vehicle for the purpose of determining that all the provisions of the Rules and Regulations are being properly adhered to. After such inspection, any vehicle found to be unsuitable in accordance with provisions as set forth in these Rules and Regulations may be immediately barred from Airport property by the Airport Authority.

F. Upon entry onto Airport property without passengers or after discharging passengers at the airport terminal, each Commercial Transport vehicle shall proceed to the proper parking area designated by the Airport Authority or leave the Airport property.

G. Commercial Transport vehicles authorized to operate on the property of the Airport shall use only the commercial loading/unloading areas designated by the Airport Authority for such purpose. Use of the commercial loading/unloading areas shall be in accordance with any regulations set forth by the Airport Authority.

H. Ground transportation concessionaire's transporters shall remain in queue while in the taxicab hold area and proceed to the taxicab loading zone on a "first-in/first-out" basis. The taxicab in position to be loaded may not refuse a properly presented fare. Taxicabs in the taxicab loading zone that have been hired for an incoming fare which has not arrived must proceed out of the taxicab loading zone to the nearest open space within the passenger loading/unloading zone.

I. No person may solicit passengers or fares on the property of the Airport except as allowed under the Rules and Regulations.

Section 7: Animals.

A. No person shall hunt, pursue, trap, catch, injure or kill any animal on the Airport, except as officially authorized by the Airport Authority.

B. No person shall feed or perform any other act to encourage the congregation of birds or other animals on the Airport, unless authorized to do so by the Airport Authority.

C. No person shall bring into the Airport Terminal Building any animal that is not appropriately caged with the exception of service animals. While in the terminal, all animals, with the exception of service animals, shall remain caged.

Section 8: Personal Conduct.

A. All alcohol consumption shall be conducted in designated areas within the Terminal Building controlled by vendors holding a liquor license. Alcohol consumed in such areas shall have been purchased from the vendor and shall not be consumed or possessed outside of the permitted area designated by official signs.

B. No person shall throw, drop, or otherwise propel any object or substance of any kind from any vehicle window or roof of any structure on the Airport.

C. No person shall travel upon the premises of the Airport other than on roads, walks, or other facilities provided for public travel.

Section 9: Relationship to Rules and Regulations.

The Gerald R. Ford International Airport Authority has adopted Rules and Regulations that have the force of law pursuant to the Aeronautics Code of the State of Michigan, Public Act 327 of 1945, MCL 259.143. A violation of this chapter is also a violation of the Rules and Regulations, and the Airport Authority may enforce the Rules and Regulations in a separate civil proceeding or by taking other enforcement action permitted under said Rules and Regulations. In a proceeding under this chapter, the penalties listed in this ordinance shall supersede the penalties provided in the Rules and Regulations.

Section 10: Schedule of Fines.

The Gerald R. Ford International Airport Authority adopts by reference the schedule of fines that is attached to this ordinance. If a person is found responsible for a violation of this chapter, after having previously been found responsible for the same violation within the preceding calendar year, the amount of the fine shall be doubled for a second offense, and tripled for a third offense, provided that such fine shall not exceed $500. For Traffic Violations under Section 5, the fine established under the Michigan Vehicle Code shall be applied by the district court and the court may adopt a schedule of fines that supersedes the amount listed

in Section 12. The Airport Authority may amend the schedule of fines from time to time by a resolution of the Board.

Section 11: Severability.

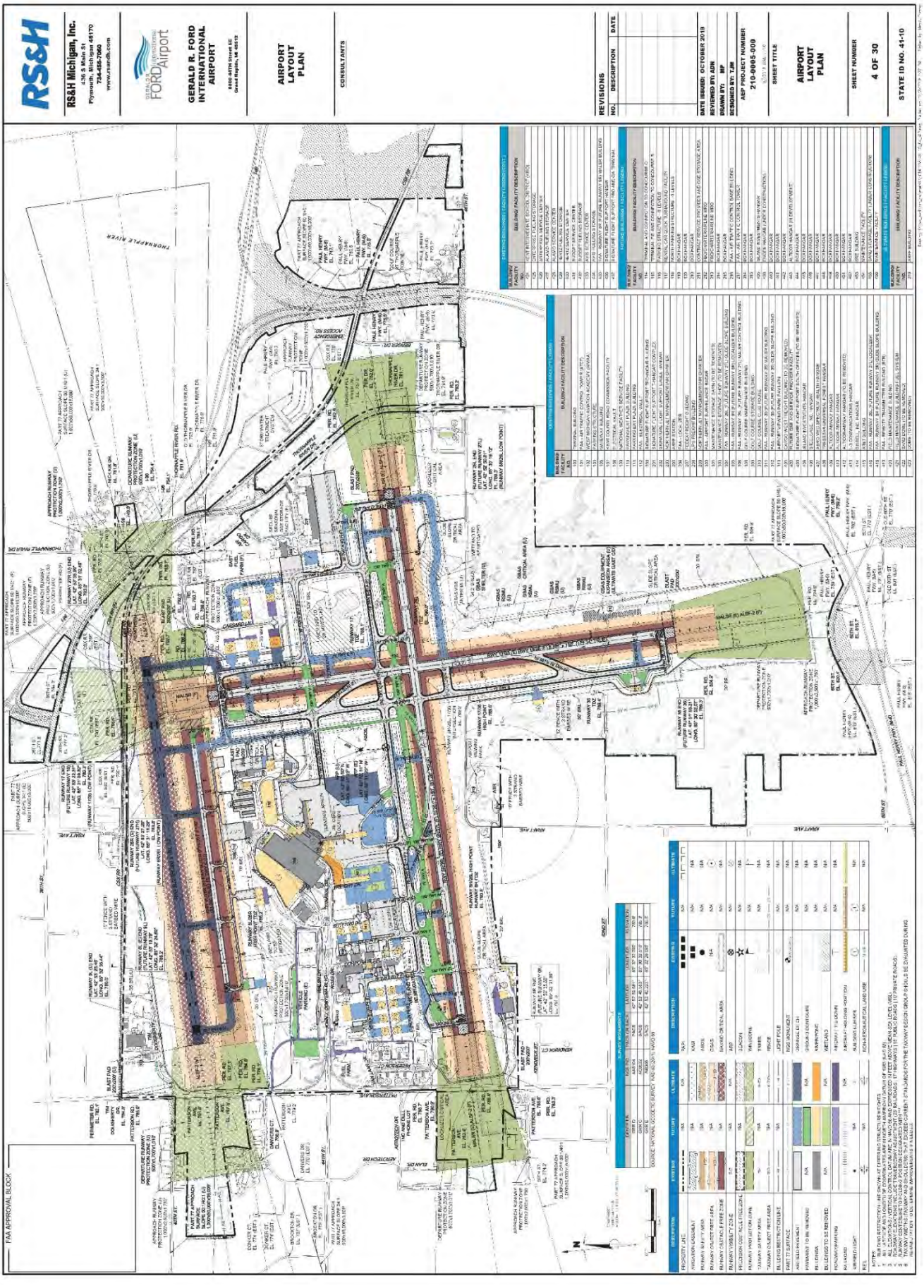
If any section, subsection, sentence, clause or phrase of this Ordinance is for any reason held to be invalid or unconstitutional by a court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this Ordinance.

Section 12: Schedule of Fines for Municipal Civil Infractions.

Violation	Penalty
Sec. 2, Compliance with Signs	$ 50.00
Sec. 3, Public Parking	$ 50.00
Sec. 4, Rental car parking violation	$ 50.00
Sec. 5, Traffic Violations	$ 150.00
Sec. 6, Commercial Ground Transportation	$ 75.00
Sec. 7, Animals	$ 50.00
Sec. 8, Personal Conduct	$ 100.00

The fine for each of the above violations shall be doubled for a second offense and tripled for a third offense, if the subsequent offense is committed within the same calendar year as the first offense.

EXHIBIT D – AIRPORT LAYOUT PLAN



Appendix F
GFIA Handling and Storage of Hazardous Substances and Materials Policy and Procedures – 2016

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Handling and Storing of Hazardous Substances and Materials

Policy and Procedures
July 1, 2016

Gerald R. Ford International Airport Authority
5500 44th Street SE
Grand Rapids, MI 49512

Section 1 - General

1.1 The Gerald R. Ford International Airport Authority, under 14 CFR, Part 139, is required to establish and maintain standards for protecting against fire and explosions in storing, dispensing, and handling fuel, lubricants, and oxygen. This program is a result of that requirement.

1.2 Consistent with regulatory requirements, each tenant of the Gerald R. Ford International Airport that operates a fuel storage facility and/or fueling vehicle on the Airport is required to comply with the requirements of this program.

1.3 Inspections shall be made by qualified Airport Authority personnel to ensure and enforce compliance with this program and with applicable Federal, State, and Local Regulations.

Section 2 - Fire Safety - Handling And Dispensing Fuel

2.1 Fuel Farms – Storage Areas

2.1.1 Overall, the Fuel Storage Area should be:

a. Fenced and signed to reduce chance of unauthorized entry and/or tampering.

b. Posted with "FLAMMABLE - NO SMOKING" signs.

c. Free of materials, equipment, functions and activities, which would be ignition sources.

d. Marked with letters at least 3 inches high to identify the type and grade of fuel.

2.1.2 Fueling stations will be:

a. Equipped with two (2) accessible fire extinguishers (one of which may be on a vehicle), that have been approved by a recognized laboratory and hold at least a 20 BC rating for each.

b. Equipped with hoses, nozzles and outflow connectors that are controlled by a spring-loaded, non-by-passable automatic (dead-man) fuel cut-off feature that is capable of overriding all other controls and stopping, with one physical movement, all fuel flow.

c. If a top load system, equipped with metallic drop tube (having anti-splash deflector) long enough to reach bottom of the deepest fuel tank.

d. Equipped with a dead-man control.

e. Equipped with a boldly marked emergency cutoff.

f. Equipped with a bond wire and appropriate connector clamp for bonding fueling vehicles.

2.1.3 Electrical equipment, switches and wiring will be:

a. Protected from heat, abrasion or other impact which could cause failure of insulation.

b. Explosion proof in design and approved for such use by a recognized testing laboratory

2.2 Mobile Fuelers

2.2.1 Overall, this equipment will:

a. Be marked on all sides with a standard hazardous material placard with ID number and NO-SMOKING both on the outside and inside of the crew compartment.

b. Be equipped with hoses, nozzles and outflow connectors that are controlled by a spring-loaded, non-by-passable automatic (dead-man) fuel cut-off feature that is capable of overriding all other controls and stopping, with one physical movement, all fuel flow.

c. Be equipped with two (2) accessible fire extinguishers that have been approved by a recognized laboratory and hold at least a 20 BC rating.

d. Contain no feature, which would allow fuel or concentrated fumes to contact exhaust system, hot exhaust gasses or any other ignition source.

e. Not be equipped with ABC type fire extinguishers where they may be used on aircraft fires.

f. Be equipped with wheel chocks to be used anytime the mobile fueler is parked to prevent any inadvertent movement.

2.2.2 Fuel tanks will be:

a. Closed and equipped with gasket dome covers which:

(1) Contain a 3 psi emergency vapor pressure relief valve.

(2) Are adequate to prevent fuel spillage during vehicle movement.

b. Equipped with a tank bottom outflow cutoff valve which can block fuel flow and spill in event of piping rupture or other valve failure (Emergency shut-off).

2.2.3 Piping will be protected from impact/stress, which could cause rupture/fuel spillage.

2.2.4 Hoses, nozzles and outflow connectors will be controlled by a spring-loaded, non-by-passable automatic (dead-man) flow cut-off feature that is capable of overriding all other controls and stopping, with one physical movement, all fuel flow.

2.2.5 Electrical equipment and wiring will be:

a. Protected from heat, abrasion or other impact which could cause failure of insulation.

b. Explosion proof in design and be approved for such use by a recognized testing laboratory.

2.2.6 Bonding and grounding equipment will:

a. Provide electrical continuity between all metallic or conductive components.

b. Utilize clamps and wires to facilitate a definite electrical bond connection between the mobile fueler and aircraft being fueled or the mobile fueler and the fueling station.

Section 3 - Fueling Personnel

3.1 Fueling Agent Training Requirements

3.1.1 Supervisors

At least one supervisor with each fueling agent must have completed an FAA-approved aviation fuel training course in fire safety prior to initial performance of duties unless this individual is enrolled in an authorized aviation fuel training course that will be successfully completed within 90 days of initiating duties. This individual must also receive recurrent instruction at least every 24 consecutive calendar months. Following initial training, supervisory personnel will:

a. Understand and be able to explain the purpose of and safely perform periodic inspections/checks needed to keep equipment operational and functioning safely.

b. Understand and be able to explain what should be done when a required component of a fuel storage system or mobile fueler is inoperable.

c. Understand the basic "fire triangle" and be able to identify the more common ignition sources found on airports.

d. Understand static-generation/retention misting of fuels and the dangers associated with filtering and pumping fuels to and from storage tanks, mobile fuelers and aircraft.

e. Understand the three classes of fuel spills, and be able to implement the required actions when a spill occurs.

f. Understand and be able to explain the hazards of atmospheric electric phenomena, including lightning and static charging of aircraft in flight.

g. Understand and be able to explain the main features of proper fire fighting techniques using and demonstrating use of the fire extinguishers normally maintained at fuel storage areas and on mobile fuelers.

h. Understand and be able to explain de-fueling procedures and precautions.

i. Understand the purpose and proper procedures for bonding mobile fuelers to aircraft and bonding/grounding mobile fuelers to fueling stations.

j. Maintain records of individual training and recurrent training of all fueling employees for at least 24 consecutive calendar months.

3.1.2 Other staff

All other employees who fuel aircraft, accept fuel shipments, or otherwise handle fuel shall receive at least initial on-the-job training and recurrent instruction every 24 consecutive calendar months in fire safety from the supervisor trained in accordance with Section 3.1 of this program. Following initial training, personnel providing fueling service will:

a. Understand and be able to explain the purpose of and safely perform periodic inspections/checks needed to keep equipment operational and functioning safely.

b. Understand and be able to explain what should be done when a required component of a fuel storage system or mobile fueler is inoperable.

c. Understand the basic "fire triangle" and be able to identify the more common ignition sources found on airports.

d. Understand static-generation/retention misting of fuels and the dangers associated with filtering and pumping fuels to and from storage tanks, mobile fuelers and aircraft.

e. Understand the three classes of fuel spills, and be able to implement the required actions when a spill occurs.

f. Understand and be able to explain the hazards of atmospheric electric phenomena, including lightning and static charging of aircraft in flight.

g. Understand and be able to explain the main features of proper fire fighting techniques using and demonstrating use of the fire extinguishers normally maintained at fuel storage areas and on mobile fuelers.

h. Understand and be able to explain de-fueling procedures and precautions.

i. Understand the purpose and proper procedures for bonding mobile fuelers to aircraft and bonding/grounding mobile fuelers to fueling stations.

3.2 Fueling Agent Training Records

Each fueling agent shall provide written confirmation to the Airport Authority once every 12 consecutive calendar months that the training in section 3.1 has been accomplished. All fueling agents will receive hands-on training from Airport Fire Personnel in the proper use of handheld fire extinguisher (within 60 days of fire safety training) along with a hand out of FAR.321, Exhibit 7, Section 2.

3.3 Clothing and Footwear

Fueling personnel shall be appropriately clothed (garments other than silk, polyesters, nylon with wool, or other static generating fabrics; shoes containing no taps, hobnails or other material which could generate sparks on pavement).

3.4 Supervision

Fueling personnel shall be supervised and periodically checked to assure training and knowledge levels are maintained, all equipment and required components are kept fully operational, required periodic checks and inspections are made when due, required records are kept and the proper grounding and bonding connections are being made.

3.5 Other

Fueling personnel shall not carry on their persons (at any time within 100 feet of any tank, dock, storage area, mobile fueler or aircraft) any igniting device, including safety matches, strike-anywhere matches, cigarette lighters, or other items which could become ignition sources if operated, bumped, hit or dropped.

Section 4 - Fueling Operations

4.1 Fueling Safety

Fueling agents will ensure that:

a. Only qualified personnel are allowed to operate a fuel storage system or equipment or to fuel aircraft.

b. Fueling is performed only outside; never in a building.

c. Mobile fuelers are always parked at least 10 feet away from each other and 50 feet away from any building or aircraft not being fueled/de-fueled.

d. No smoking or other ignition sources are permitted within 100 feet of a fueling operation or facility.

e. Before commencing any unloading, loading, fueling or de-fueling operations, all fueling vehicle motors, engines, radios, and other electrical and mechanical equipment (except auxiliary power units) not needed for that specific operation are turned off and kept off.

f. All systems and mobile fuelers are bonded and/or grounded as appropriate before commencing and during all fuel handling operations.

g. Before commencing any unloading, loading, fueling or de-fueling operation, all fuel storage areas and mobile fuelers are in safe operating condition.

h. Before commencing any unloading, loading, fueling or de-fueling operation, the dead-man control is operable and is used to control fuel flow.

i. Fuel storage areas and all equipment are kept neat and free of trash and combustible items which could cause or contribute to a fire.

j. All fire extinguishers are checked for charge and condition at least monthly.

k. All fuel operations are suspended when there are lightning discharges within 5 miles of the Airport.

Section 5 - Inspections, Maintenance And Reporting

5.1 Inspections of Fuel Storage Areas, Mobile Fuelers and Records.

a. Airport Authority personnel will inspect each fuel storage area, mobile fueler and all records that are required under this program at least every three (3) months. Results of these records shall be maintained for at least 12 consecutive calendar months.

b. Airport Authority personnel shall observe tenant fueling operations on a regular basis.

c. Each tenant must provide a contact person that will be responsible for record keeping and assisting the Authority in the required inspections.

d. The Gerald R. Ford International Airport Authority will report all problems that are not corrected within the allotted time to the FAA Regional Airports Division Office in accordance with CFR Part 139.

Section 6 - Fuel Spills - Fire Safety

6.1 Classification of Fuel Spills

All fuel spills are classified as follows:

Class I Spill	A non-continuous spill less than 5 square feet that has not entered the storm system or soil.
Class II Spill	A non-continuous spill between 5 and 50 square feet that has not entered the storm system or soil.
Class III Spill	A spill that is greater than 50 square feet, continuous in nature, has entered the storm system or soil, or is a threat to persons or property.

6.2 Fire Safety for Fuel Spills

a. Class I and II spills will be immediately cleaned by the fueling agent using an appropriate absorbent material. The fueling agent will clean Class III spills under the direction of Airport Authority personnel.

b. The fueling agent will take every measure to prevent spills from reaching soil or entering the Airport storm drain system.

c. The fueling agent will immediately notify Airport Communications of all Class II and III spills. The fueling agent shall remain at the site of a Class III spill until such time as ARFF releases them.

d. All materials used to clean hazardous spills will be stored as contaminated agent in a designated area that has been approved by the Airport Authority and disposed of in accordance with Federal and State environmental law. The proper disposal of this contaminant will be the responsibility of the fueling agent.

e. Each fueling agent is required to maintain its own supply of fuel absorbent materials for Class I, II and III spills both on the mobile fuelers and in fuel storage areas. This supply is an inspection item. A list of required materials shall be provided to each fueling agent tenant.

f. Each fueling agent must complete a Fuel Spill Report for all Class II and Class III spills and deliver it to the ARFF Section within 48 hours of the spill. This report is to be completed by the fueling agent immediately following the incident.

Section 7 - Enforcement

7.1 Fines

Any tenant violation of Federal, State or Local laws which results in a fine issued to the Airport Authority will be the responsibility of the violating tenant. This shall include, but is not limited to, the requirements set forth in this program.

Noncompliance with any part of this program also subjects the tenant to fines issued by the Airport Authority as defined in the Airport Rules and Regulations.

7.2 Action

a. The Airport Authority may close and/or remove from service any portion of the affected system it deems unsafe until such time as the condition is corrected.

b. In the event that a violation (non-emergency condition) of the requirements as set forth in this program are not corrected within a time frame set forth by the Airport Authority, the Airport Authority may, at its discretion, close the facility or remove from service the equipment in violation until the non-complying conditions are corrected.

c. In the event of contamination of the environment occurs, the Airport Authority shall notify the appropriate Federal, State or Local environmental authorities at its discretion. The Gerald R. Ford International Airport Authority is the only agency to make such notification.

Gerald R. Ford International Airport Authority Fuel Farm Storage Areas

Agency:_____ Date:_____ Inspector:_____

Any questions should be directed to the Inspector noted above at 233-6079

	DATE						
	TYPE OF FUEL						
1.	FUEL LABELING/MARKING						
2.	FUEL MARKING/UNLOADING STATION						
3.	FUEL MARKING/LOADING STATIONS						
4.	NO SMOKING SIGNS						
5.	GROUNDING/BONDING CABLES						
6.	CONDITION OF HOSES						
7.	FIRE EXTINGUISHERS						
8.	EVIDENCE OF SMOKING						
9.	FENCING/GATES/LOCKS						
10.	LOADING PORT LOCKS						
11.	GROUNDED RODS AVAILABLE						
12.	FUELING PROCEDURES OBSERVED						
13.	PERSONNEL TRAINING REQUESTS						

****

ITEMS BELOW THAT ARE NOTED AS A DEFICIENCY IMMEDIATELY CLOSE THE FUEL STORAGE AREA UNTIL THESE ITEMS ARE CORRECTED.

14.	EMERGENCY CUTOFF - LOADING STATION						
15.	DEADMAN CONTROLS						
16.	FUEL LEAKS						
17.	IGNITION SOURCES						
DATE OF MOST CURRENT CONTINUITY CHECK							

REMARKS:

S - SATISFACTORY U - UNSATISFACTORY R - REMARK X - FUEL FARM CLOSED

Gerald R. Ford International Airport Authority Mobile Fuelers

Agency:_____ Date:_____ Inspector:_____

Any questions should be directed to the Inspector noted above at 233-6079

	DATE						
	TYPE OF FUEL						
	TRUCK NO.						
1.	FUEL LABELING/MARKING						
2.	NO SMOKING SIGNS						
3.	FLAMMABLE SIGNS/PLACARDS						
4.	FIRE EXTINGUISHERS (BC)						
5.	NOZZLE SCREENS						
6.	CONDITION OF HOSES						
7.	GASKETED DOME COVERS						
8.	VEHICLE EXHAUST SYSTEM						
9.	EVIDENCE OF SMOKING						
10.	FUEL VEHICLE PARKING						
**********							
A UNIT SHALL IMMEDIATELY BE TAKEN OUT OF SERVICE FOR DEFICIENCIES RELATED TO ANY ITEMS LISTED BELOW UNTIL THE DEFICIENCIES ARE CORRECTED.							
11.	EMERGENCY FUEL CUTOFF/MARKED						
12.	BONDING CABLES						
13.	EMERGENCY FUEL CUTOFF/OPERABLE						
14.	FUEL LEAKS						
15.	IGNITION SOURCES						
DATE OF MOST CURRENT CONTINUITY CHECK							
REMARKS:							
S - SATISFACTORY U - UNSATISFACTORY R - REMARK X - FUEL FARM CLOSED							

Gerald R. Ford International Airport Authority Fuel Spill Report

Date: _____ Time: _____ Location: _____

Class of Fuel Spill: _____ Gallons of Fuel Spilled: _____

Name of Fuel Operator: _____

Aircraft Type: _____Tail Number: _____ Operator: _____

Was the spill due to an equipment failure? Yes ( ) No ( )

Was the equipment failure on an aircraft or fuel truck? _____

Fueling agent's statement:

_____

_____

_____

_____

Supervisor's Statement:

_____

_____

_____

_____

Explain How the Spill was Cleaned Up and Disposed of:

_____

_____

_____

This report is due at the ARFF Building not later than 48 hours after the spill occurred. Questions please call 233-6079.

Remarks & Follow-Up: _____

_____

FUELING AGENT TRAINING CERTIFICATE

Supervisory Fuel Safety Training &
Confirmation Form

14 CFR Part 139.321(f) requires "Each certificate holder must obtain a written confirmation once every 12 consecutive calendar months from each airport tenant fueling agent that the training required by paragraph (e) of this section has been accomplished. This written confirmation must be maintained for 12 consecutive calendar months."

139.321(e)(1)

In accordance with the requirements of *14 CFR Part 139.321(e)(1)* "At least one supervisor with each fueling agent must have completed an aviation fuel training course in fire safety that is authorized by the Administrator. Such an individual must be trained prior to initial performance of duties, or enrolled in an authorized aviation fuel training course that will be completed within 90 days of initiating duties, and receive recurrent instruction at least every 24 consecutive calendar months." Approved ***supervisory*** training courses are listed in an addendum to AC 150/5230-4.

Organization: _____

Individual Fueling Agent Supervisor: _____

Supervisory Training Course Attended: _____

Current Training Course Completion Date (within last 24 months): _____

Note: Attach a copy of the supervisory training course certificate.

Previous Training Course Completion Date: _____

Hire Date Into Supervisory Position: _____

Hands-On Fire Extinguisher Training Date: _____

After attending an approved Supervisory Fuel Safety Training Course, the supervisor must obtain an initial briefing on the Airport Rules and Regulations, Section 7.03- Fueling and Defueling Operations and 7.04- Fuel Spills from the Airport Operations Department.

Date of Initial Rules and regulations Training Received: _____

Local Rules and Regulations Training Provided By: _____

Supervisor Signature: _____ Date: _____

139.321(e)(2)

In accordance with *14 CFR Part 139.321(f),* I certify that all other employees who fuel aircraft, accept fuel shipments, or otherwise handle fuel have received at least initial on-the-job training and recurrent instruction every 24 consecutive calendar months in fire safety from a supervisor trained in accordance with paragraph *139.321(e)(1).*

Supervisor Name (Print): _____

Signature: _____ Date: _____

FUELING AGENT TRAINING CERTIFICATE

14 CFR Part 139
Line Service Fuel Safety Training Form

In accordance with the requirements of *14 CFR Part 139.321(e)(2),* "All other employees who fuel aircraft, accept fuel shipments, or otherwise handle fuel must receive at least initial on-the-job training and recurrent instruction every 24 consecutive calendar months in fire safety from the supervisor trained in accordance with paragraph (e)(1) of this section." If training was completed through an FAA approved course please attach a copy of the certificate.

139.321(e)(2)
Organization:
Individual Employee Name:
On-The-Job Training (OJT) Completion Date (within last 24 months):
Training Provided By:
Previous OJT Training Completion Date:
Hire Date into Position:
Hands-On Fire Extinguisher Training Date:
Fire Extinguisher Training Provided By:

Appendix G
Current Deicing Management and Monitoring Plan

2022-2023 Deicing Runoff Management and Monitoring Program Plan

Prepared for:
Gerald R. Ford International Airport Authority

December 2022

Prein&Newhof
Engineers ▪ Surveyors ▪ Planners ▪ Environmental ▪ Laboratory

Mead & Hunt

LimnoTech
Water Environment | Scientists Engineers

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LimnoTech
Water Environment | Scientists Engineers

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www.limno.com

2022-2023 Deicing Runoff Management and Monitoring Program Plan

Prepared for:
Gerald R. Ford International Airport Authority

December 2022

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1 Introduction

To aid in complying with its National Pollutant Discharge Elimination System (NPDES) Permit number MI0055735 (effective June 1, 2021), the Gerald R Ford International Airport (GFIA) had developed its Deicing Runoff Management and Monitoring Program. The plan provides a description of the continuing efforts and actions being conducted to control stormwater discharges of aircraft deicing fluid (ADF) and airfield deicers. This plan includes the following near-term program enhancements to augment the collection of ADF impacted runoff, including:

- Improved best management practices (BMPs) in the Cargo area,
- A policy to ensure that tenant aircraft ADF operations are conducted at designated areas, and
- A policy to manage ADF impacted snow piles.

This document describes monitoring procedures that will help ensure Permit compliance and support the evaluation of BMP performance, but it does not create any legal obligations not otherwise specifically enumerated in GFIA's NPDES Permit.

1.1 Background

The Gerald R. Ford International Airport Authority (GFIAA) discharges stormwater associated with industrial activities under an individual NPDES permit for GFIA issued by the Michigan Department of Environment, Great Lakes, and Energy (EGLE). This permit authorizes discharges of stormwater runoff to unnamed tributaries to the Thornapple River and Plaster Creek and to the Thornapple River.

Compliance with the NPDES permit is based on implementation of BMPs and program enhancements to reduce the presence of ADF and airfield pavement deicers in stormwater being discharged off-site. These requirements are intended to protect the receiving streams from loadings of biochemical oxygen demand (BOD) contributed by the deicers that can provide a food source for naturally occurring stream bacteria.

For the 2022-2023 season, this Deicing Runoff Management and Monitoring Plan has been developed to aid in complying with GFIA's June 2021 NPDES permit through the continued and expanded efforts initiated during previous deicing seasons, with a focus on improving collection and control of deicing fluids and reducing their presence in stormwater discharges from GFIA. A combination of efficient aircraft and pavement deicing practices and aircraft deicing runoff collection, control, and treatment efforts are used to achieve these goals. In addition, the Plan includes procedures that will be used for monitoring deicer usage and discharge water quality. GFIA also continues to track and evaluate new techniques and practices that have the potential to contribute to future reductions in deicing-related BOD loads.

In parallel with the program described in this plan, GFIA has implemented a new stormwater/deicing management system that was the selected alternative from the Long-Term Deicing Runoff Management Program Study. The management system was implemented to help eliminate GFIA's contribution to biofilm growth conditions in an unnamed tributary to the Thornapple River (known locally as Trout Creek) and was completed prior to the 2015-2016 deicing season, in accordance with permit requirements. Elements of the management system include the consolidation of runoff from aircraft deicing operations, redirection of stormwater away from the unnamed tributary to the Thornapple River,

detention, sediment and trash removal, and a Natural Treatment System (NTS) designed to reduce BOD concentrations and loads to comply with the Final Effluent Limitations in the June 2021 permit. All stormwater formerly discharged through Outfall 001, as well as that from primary deicing areas in the Outfall 004 and Outfall 007 drainage areas, is now routed to the NTS and discharged through Outfall 011 during the deicing season. (Outfall 011 is a submerged diffuser.) As such, the majority of runoff from deicing areas goes through the treatment system.

1.2 Purpose

The purpose of this document is to describe all aspects of GFIA's program to manage runoff from deicing activities during the 2022-2023 deicing season to assist the airport to comply with all NPDES permit requirements.

1.3 Overview of the Deicing Management Program

The Deicing Runoff Management Program is administered by a team of individuals representing the airport, consultants, and tenants who are responsible for supervising and operating the system of controls and practices. The organizational structure of this team and the system of controls are described in the following subsections.

1.3.1 Organization

The roles and responsibilities of each organizational element within the Deicing Management Program are presented in Figure 1-1.

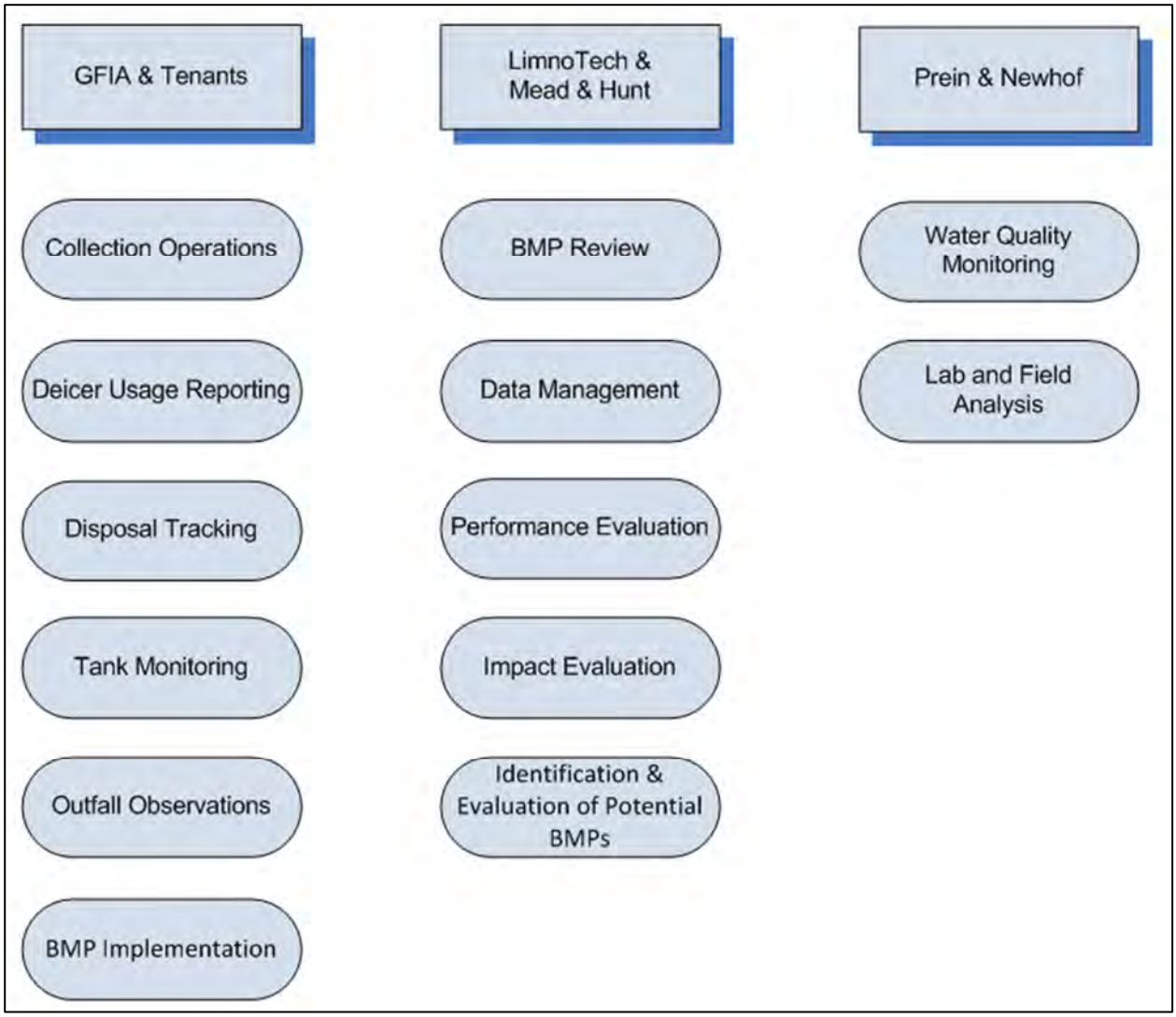

Figure 1-1. Organizational responsibilities of the GFIA Deicing Management Program team members.

1.3.2 Control Program Components

The elements of the GFIA Deicing Management Plan fall into several categories that help reduce pollutant loading of stormwater discharges as summarized in Table 1-1.

Table 1-1. Major Elements and Expected Benefits of the Deicing Management Program.

BMP Category	Management Practice/Activity	Expected Benefit(s)
General	Deicing materials storage Deicing materials spill management education Education and training of employees, contractors, and tenants ADF-impacted snow management	Reduced stormwater BOD loading
Landside Pavement Deicing	Mineral salt-based deicer	Reduced stormwater BOD and ammonia loading
Airfield Pavement Deicing	Urea ban Availability of sodium formate to tenants from GFIA Heated sand Proactive anti-icing Plowing/Brooming Pavement deicing materials selection Pavement deicing application Pavement deicing application area Materials management Materials use tracking	Reduced stormwater BOD and ammonia loading
Aircraft Deicing	Aircraft deicing mixtures blended to temperature Aircraft deicing equipment Heating aircraft deicing mixtures Application technique for aircraft deicing mixtures Proactive aircraft anti-icing Two-step aircraft application method Isolation and collection of aircraft deicing runoff Location of aircraft deicing in contained areas Physical removal of accumulations Materials management Materials use tracking	Reduced stormwater BOD loading
Deicing Runoff Storage and Disposal	Tankage and transfer Off-site disposal Investigation of alternative disposal options	Reduced stormwater BOD loading
Long-Term Stormwater/Deicing Management System	Detention basin and trash screens Natural treatment system (NTS)	Reduced stormwater BOD loading; sediment and trash removal
Training and Awareness	Training programs Awareness building Tenant Inspections	Reduced stormwater BOD and ammonia loading
Monitoring	Performance of controls Stormwater discharges to receiving waters	Evaluation of BMP performance
New Technology	Information exchange with other airports Tracking new technology Annual review of new controls	Ensure that GFIA and tenants are aware of new opportunities for reducing stormwater BOD loading
Annual Program Evaluation and Refinement	Performance measures Annual Report	Evaluation of overall Program performance and identification of improvements if necessary

2 General Best Management Practices

The GFIA Deicing Management Program consists of a suite of BMPs that help reduce the environmental impacts from both aircraft and pavement deicing activities. General BMPs are the first-tier management approaches that will continue to be implemented to minimize or prevent the exposure of stormwater runoff to deicing materials, as necessary and appropriate. Each General BMP is described below.

2.1 Deicing Materials Storage

Deicing materials will be stored and maintained in accordance with manufacturer guidance, as well as the preventive measures and structural source control BMPs described in GFIA's Stormwater Pollution Prevention Plan.

2.2 Deicing Materials Spill Management Education

A continuing program of employee, contractor and tenant orientation and education is maintained to help ensure awareness of the necessity of good facility control and quick and proper action in the event of a spill, accident, or equipment failure.

2.3 Education and Training of Employees, Contractors and Tenants

Because the control of deicing impacts on stormwater generally is dependent on the conscientious efforts of airlines, fixed base operators (FBOs), Service Operators, GFIA Operations, and others, specific efforts will be undertaken to help ensure that all individuals who are involved in the aircraft and pavement deicing processes are aware of both the environmental issues surrounding these activities and the Airport's program for controlling their impacts.

The following subsections refer to education and awareness raising activities that are planned at GFIA.

2.3.1 Airlines and FBOs

A major component of the Deicing Management Program is the active participation of airlines, freight carriers, service providers, and FBO representatives in the development of deicing runoff control strategies and procedures. The airlines and FBOs operating at GFIA conduct annual training programs that include the following topics:

- Aircraft deicing and anti-icing procedures
- Approved aircraft deicing and anti-icing locations
- Materials handling and management

These annual training programs are conducted by each airline, freight carrier, service provider, and FBO to ensure awareness of how tenant deicing operations relate to the overall GFIA Deicing Management Program.

2.3.2 GFIA Employees and Tenants

GFIA conducts employee, contractor, and tenant education to inform and train personnel directly involved in deicing operations or deicing materials collection, treatment, and discharge. This program focuses on the environmental effects of deicing materials and material handling techniques that help minimize the amount of deicing materials entering the stormwater system.

As part of the Deicing Management Program, GFIA Field Maintenance staff receives annual training in the following areas:

- Operation of the V-Quip mobile collection units (MCUs)
- Definition of glycol use areas
- Location and operational use of manhole inserts, covers, and containment devices
- Instruction on collection methods
- Instruction on collection efficiency
- Direction on storage of recovered product
- Handling and use of pavement anti-icing product
- Glycol-impacted snow management

Training sessions are generally conducted during October and November of each year. Additional training sessions are conducted throughout the season on an as-needed basis when new equipment or materials are received. All new employees are trained as part of program involvement.

3
Pavement Deicing Best Management Practices

Pavement deicing activities are separated into airside and landside practices. In both instances, control efforts rely principally on the use of the most environmentally friendly deicing materials that meet Federal Aviation Administration (FAA) and safety requirements. In addition, the Airport employs application practices to maximize safety and effectiveness.

3.1 Airside Pavement Deicing

Airside pavement deicing practices at GFIA employ deicing chemicals selected to minimize environmental impact, and application techniques designed to help maximize safety and effectiveness while minimizing over-application and waste. These practices are described in the following subsections.

3.1.1 Heated Sand

The primary material used at GFIA for improving airfield pavement traction is heated sand, pre-wetted with liquid deicer when conditions require. GFIA Field Maintenance uses a dedicated storage facility that has a heated floor and ceiling-mounted infrared heating units. By continuing to use this facility for the storage and heating of sand, GFIA will continue to receive benefits of this technology (e.g., reduced pavement deicing chemical usage).

3.1.2 Pavement Deicing Materials Selection

GFIA discontinued the use of urea for airfield pavement deicing during the 2000-2001 deicing season because of concerns over elevated ammonia concentrations in runoff from pavement treated with urea.

For the 2022-2023 deicing season, potassium acetate and sodium formate will again be used as the primary airfield pavement deicing products. Potassium acetate, which is a liquid product, has a lower BOD content than ethylene glycol, which had historically been used in conjunction with urea. Sodium formate is a granular product that has replaced urea because of negative environmental impacts associated with urea use and its virtual ban by USEPA.

3.1.3 Airside Pavement Deicing Application

Strategies for improving the efficiency of pavement deicer application while maintaining safe operating conditions in aircraft operating areas, focus principally on proactive anti-icing and plowing prior to chemical application.

Proactive Anti-icing. Proactive anti-icing involves application of deicers prior to the onset of a snow or ice event to act as a bond inhibitor at the pavement surface so that mechanical means (plows and brooms) can be used for removal of snow and ice once the event has begun. Proactive anti-icing is important because it has been estimated that it may take 5 to 10 times as much deicing chemical to break the ice-pavement bond than to prevent it. Airport operations also benefit from proactive anti-icing. By being proactive, the chemical applications can usually be timed to minimize runway closures and consequent impacts on traffic flow. Additionally, the duration of closures is minimized because it takes less time to apply less chemical and there is little or no time wasted waiting for friction readings to recover.

Plowing/Brooming Prior to Chemical Application. When appropriate, plowing and brooming will be conducted prior to chemical application to minimize waste and avoid the contamination of plowed snow.

3.1.4 Airfield Deicing Application Area

As appropriate under the right circumstances, GFIA will continue to minimize the application area for airside pavement deicing to reduce the volume of materials necessary.

3.2 Landside Pavement Deicing

The use of a mineral salt product that has no BOD has effectively eliminated BOD-loading from landside pavement deicing activities, which are covered under GFIA's MS4 permit but help with overall airport environmental protection.

Awareness training will again be conducted for all personnel involved in pavement deicing activities at GFIA to ensure that mineral salts are not applied on the aircraft operating area (AOA) or in areas where they might be tracked onto the AOA.

3.3 Tenant Pavement Deicing Materials

Since 2001, the GFIA Maintenance Department has offered sodium formate at its cost to the tenants at the airport. The purpose of this program is to ensure that the tenants have a source for an appropriate environmentally friendly airside pavement deicing chemical for use at their facilities. For the 2022-2023 season, the GFIA Maintenance Department will again make sodium formate available for purchase at its cost by any tenants needing an approved airside pavement deicing material.

3.4 Materials Handling and Management

To prevent the contamination of stormwater by spills or leaks of any deicing/anti-icing materials, GFIA utilizes appropriate spill response techniques, per the Airport's Spill Prevention Control and Countermeasures (SPCC), Pollution Incident Prevention Plan (PIPP), and Stormwater Pollution Prevention Plans (SWPPP). Any spilled material will be contained, cleaned up, and disposed properly.

3.5 Record-Keeping and Reporting

Daily GFIA airside pavement deicer usage is tracked by GFIA Maintenance. This information helps provide estimates of total amounts of airside deicers used during the season.

4
Aircraft Deicing Best Management Practices

Aircraft deicing/anti-icing is first and foremost an issue of flight safety. The FAA strictly regulates deicing/anti-icing procedures and materials. Pertinent FAA regulations provide:

> "…no person may takeoff an aircraft when frost, ice or snow is adhering to the wings, control surfaces, propellers, engine inlets or other critical surfaces of the aircraft."
>
> "…no person may dispatch, release or takeoff an aircraft anytime conditions are such that frost, ice or snow may reasonably be expected to adhere to the aircraft, unless the certificate holder has an approved ground De/Anti-icing program in its operations specifications and unless the dispatch, release, and takeoff complies with that program."
> (FAR 121.629)

Each airline at GFIA has an FAA approved deicing/anti-icing program and is required to comply with that program. However, in carrying out their general safety obligations, GFIA will continue to promote conservation practices to the air carriers, as appropriate.

Controls on the impacts of aircraft deicing activities are focused on protecting flight safety while helping to minimize the use of deicing/anti-icing fluids through maximizing application efficiency, and on containment of runoff at the locations where aircraft are deiced.

4.1 Aircraft Deicing Practices

Air carriers and operators are responsible for all aircraft deicing operations at GFIA. GFIA staff and contractors are responsible for the collection, handling, and disposal of the resulting deicing runoff. The responsibilities associated with aircraft deicing BMPs are consistent with these roles.

The following subsections provide details on the aircraft deicing controls and discharge reduction efforts that will be implemented at GFIA during the 2022-2023 deicing season.

4.1.1 Forced Air/Fluid Deicing Vehicle

This deicing technology combines warm air at near sonic speed with traditional deicing mixtures dispensed at relatively low flow rates. The goal is to deice effectively while reducing the amount of glycol used. A carrier at GFIA has used Tempest® forced air/fluid deicing vehicles since the 2003-2004 season. A series of side-by-side comparisons between the forced air/fluid and traditional deicing vehicles conducted during past seasons indicated that glycol usage can be reduced by approximately 49%. GFIA continues to promote the use of forced air/fluid deicing vehicles by its tenants.

4.1.2 Aircraft Deicing Equipment

Consistent with FAA regulations, standards, and requirements, GFIA will continue to encourage each carrier to use, and have available for use, deicing fluids and associated equipment which facilitate the use of efficient deicing mixtures, or otherwise reduce the total amount of glycol required to deice aircraft.

4.1.3 Heating Aircraft Deicing Mixtures

GFIA encourages each carrier to heat deicing mixtures to a minimum temperature of 140°F prior to application to ensure maximum fluid effectiveness.

4.1.4 Application Technique for Aircraft Deicing Mixtures

Consistent with their FAA-approved deicing plans, each carrier is encouraged to apply deicing mixtures to aircraft surfaces in a manner and with equipment that maximizes the effectiveness of the deicing mixture, while not significantly overusing the amount of mixture necessary to ensure safe aircraft operations.

4.1.5 Aircraft Anti-icing

Because only glycol-based ADFs and aircraft anti-icing fluids (AAFs) are approved for use on aircraft, source reduction strategies necessarily focus on improving the efficiency of application techniques. Type IV AAFs provide much longer protection from ice and snow accumulation after application (i.e., hold-over times) than Type I fluids. As a result, aircraft can be treated with a Type IV AAF upon arrival, when the aircraft is assumed to be clean, and in many cases remain effectively protected from snow and ice accumulation until takeoff. Thus, the need for conventional deicing prior to departure can often be significantly reduced. In addition, because Type IV fluids are thicker and cling to the aircraft, they tend to be applied more efficiently, with reduced losses due to overspray and drippage.

Each carrier at GFIA during the 2022-2023 deicing season is encouraged to apply Type IV AAF to aircraft in order to reduce BOD loading and in a manner consistent with FAA approved deicing plans when the use of AAFs will retard or prevent the formation of ice or frost on aircraft. Application of Type IV AAFs will be promoted for remaining overnight (RON) aircraft when snowfall is predicted during the overnight period.

4.1.6 Two-Step Aircraft Application Method

Consistent with FAA regulations, standards, and requirements, each carrier is encouraged to utilize a "two-step" method of deicing and anti-icing whereby Type IV anti-icing solution is applied to an aircraft after deicing is complete for the purpose of reducing the total volume of deicing and anti-icing materials that otherwise may be required.

4.1.7 Aircraft Deicing Mixtures

Each carrier is encouraged to apply an efficient deicing mixture that complies with FAA regulations and requirements, and the particular airline's FAA-approved deicing plan. "Efficient" in this context generally means the ratio of deicing fluid to water (the ratio is determined by freeze-point depression tables for the fluid, allowing for the FAA required temperature buffer) that provides effective deicing performance in the current and reasonably anticipated weather and operation conditions while minimizing BOD loading.

Airlines at GFIA have typically used a 50/50 mixture of glycol/water for deicing purposes. The FAA requirements for ADF application mixtures to achieve a "clean aircraft" are based on the difference in temperature between the outside air temperature and the freeze point temperature of the deicing mixture. For instance, a typical 50/50 mixture of a standard Type I ADF has a freeze point of -18 °F and therefore can be used when the outside air temperature is as low as 0 °F. Under typical GFIA winter conditions, more moderate temperatures accompany conditions that require deicing/anti-icing. Under these moderate temperatures, a mixture with as little as 20% glycol may be effective. Hence, appropriate "blend to temperature" practices are strongly encouraged.

4.1.8 Physical Removal of Accumulations

Certain carriers at GFIA have removed large accumulations of snow from aircraft with brooms prior to ADF application to reduce the amount of deicing fluid necessary to achieve a clean aircraft condition. GFIA will continue to promote this practice to its tenants as appropriate.

4.1.9 Voluntary Use of Propylene Glycol Based Products

Since 2002, all carriers and FBOs have used propylene glycol-based products exclusively, which helps to facilitate recycling of glycol from collected runoff. GFIA's tenants will continue their voluntary use of propylene glycol-based products during the 2022-2023 season.

4.2 Isolation and Collection of Aircraft Deicing Runoff

GFIA generally collects aircraft deicing runoff from the areas where aircraft deicing is conducted, this is accomplished either by direct removal of fluid utilizing Mobile Collection Units (MCUs) or by allowing it to drain into a stormwater collection system that directs flow to the NTS. The airport accomplishes a high collection volume by utilizing NexGen (formerly V-Quip) tow-behind MCUs in conjunction with catch basin inserts installed in the aircraft deicing areas. The airport uses three MCUs (one T750 and two T1800s) for the collection of spent deicing fluid from pavement surfaces. Collection activities will generally be conducted whenever aircraft deicing operations are underway and collection is necessary and appropriate. Coordination and communications between carriers and FBOs and the GFIA deicing program staff will be used to facilitate collection of deicing runoff as it occurs. Note that in limited instances, defrosting activities will require tenants to use deicing materials that pose no environmental threat that also do not require collection or treatment.

Appendix B presents the details of the MCU operations plan.

4.2.1 Location of Aircraft Deicing

Even though the majority of runoff from deicing areas is now routed to the NTS for treatment prior to discharge, GFIA requires each carrier generally to deice aircraft in areas equipped to facilitate the retention and collection of deicing runoff. Figure 4-1 shows the designated aircraft deicing and anti-icing areas for the 2022-2023 season.

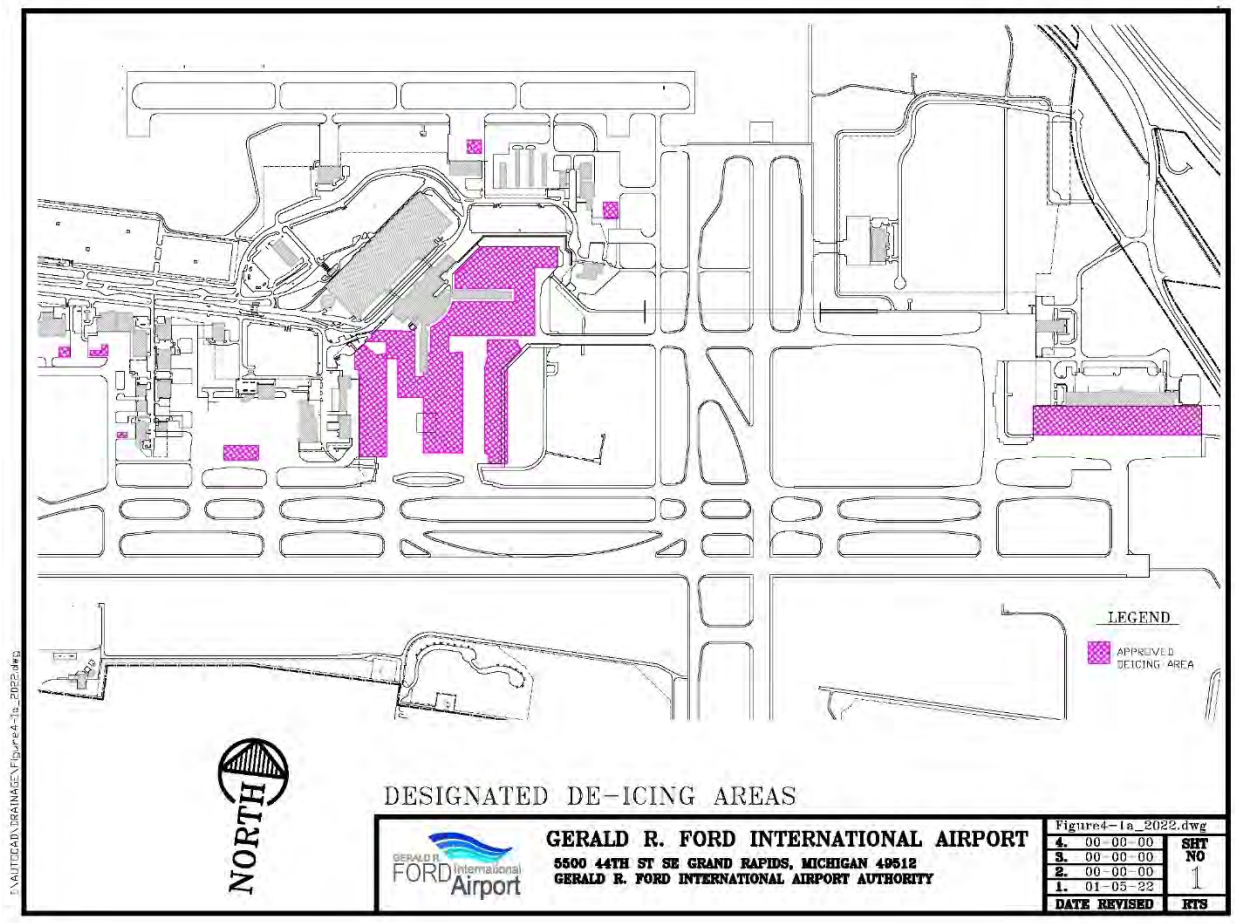

Figure 4-1. Approved Locations for Aircraft Deicing/Anti-icing.

In the interest of continuing to promote the efficient use of aircraft deicing fluids and increase the recovery of those fluids, GFIA requests that airlines and FBOs perform deicing operations on pavement areas adjacent to their gates that have been plowed. GFIA also requests that aircraft deicing be conducted as close to departure time as possible. The goal of these requests is to minimize both the area where deicing fluids are applied and the time elapsed between deicing and when the MCUs can move in and collect the runoff, thereby facilitating the collection of spent deicing fluid from pavement surfaces.

4.2.2 Catch Basin Inserts and Apron Collection Systems

GFIA uses catch basin inserts to prevent spent ADF from entering the storm sewer system and facilitate the collection of high concentration runoff by the MCUs that is suitable for recycling. The inserts have valves that are closed when deicing activity begins, thus impounding runoff for collection by an MCU. The current configuration of inserts ensures that runoff in the primary apron deicing areas is contained. GFIA has identified “Preferred Deicing Areas” at the Terminal Apron to further facilitate collection operations. GFIA continually evaluates candidate locations for additional catch basin inserts. Inserts may be added during the deicing season if additional opportunities are identified.

As part of apron reconstruction activities in 2018 and 2019, GFIA installed runoff collection systems on the west and east sides of the air carrier apron. The systems monitor glycol concentrations by measuring total organic carbon (TOC) content and route runoff to storage when concentrations suitable for recycling are present. The concentration used to determine if runoff is collected is currently set at 2.0%. The collection concentration is periodically re-evaluated as operational experience is generated. Uncollected runoff in this drainage area will continue to be routed to the NTS for treatment prior to discharge.

Collected runoff not suitable for recycling will be routed back to the storm sewer system for treatment by the NTS. Duration curves have been developed for each of the permit seasons to ensure 011A stormwater discharges remain within permit limits. Routing of stormwater back to the 011 storm sewer system will be conducted only during non-deicing event periods and the duration curves were created using conservative assumptions including no uptake in the NTS and limiting the total daily load to 60% of the permit limit. The duration curves are shown in Appendix D.

Figure 4-2 shows the current locations of the catch basin inserts, the Preferred Deicing Areas, and the apron collection systems (western-and eastern-most Preferred Deicing Areas on the Terminal Apron).

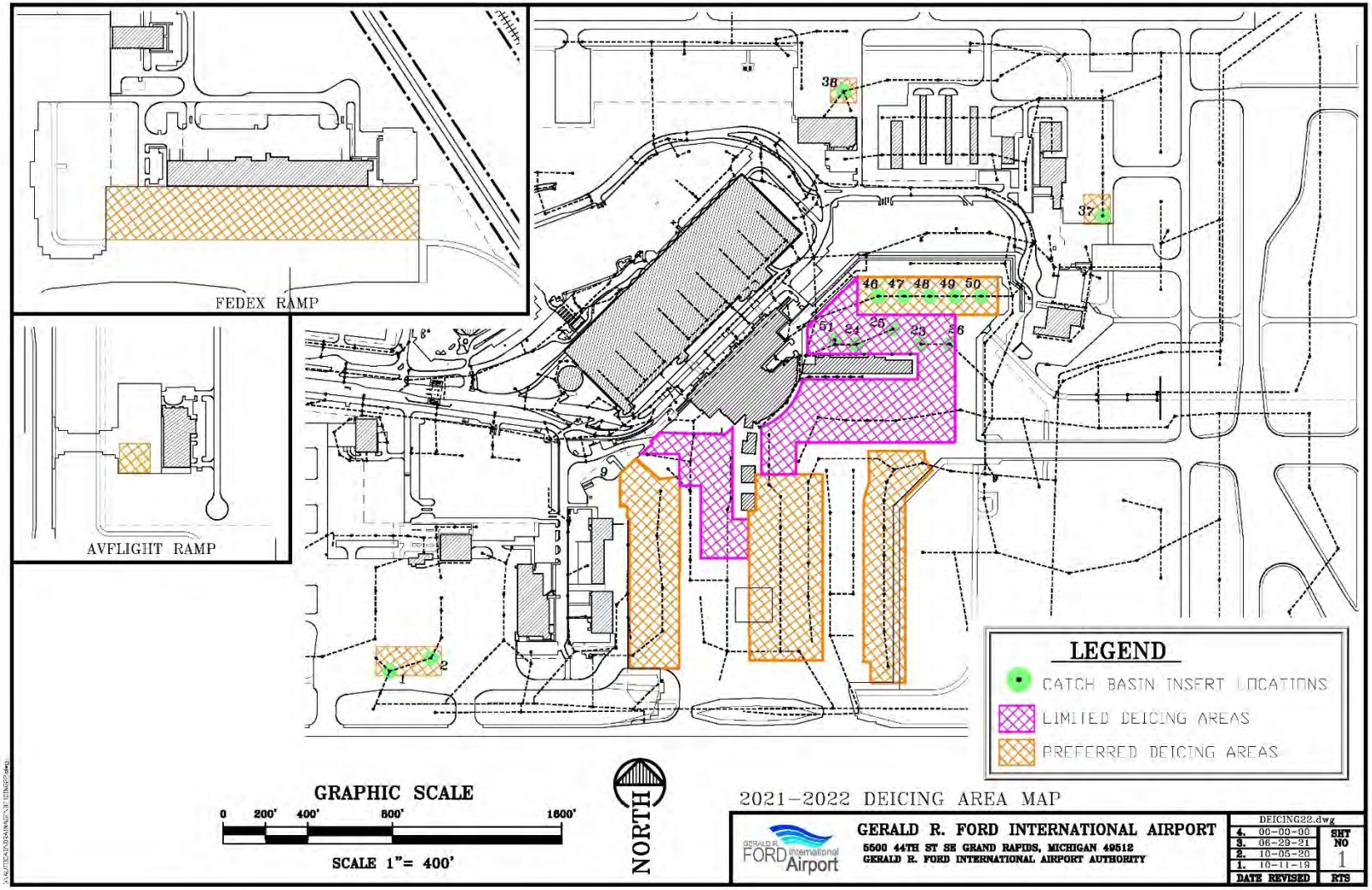

Figure 4-2. Apron Catch Basin Insert Locations, Preferred Deicing Areas, and Apron Collection Systems.

4.2.3 Management of ADF Impacted Snow

GFIA has developed and implemented a policy to manage ADF impacted snow piles. The goal of the policy is to enhance existing controls associated with ADF and keep impacted snow in the 011 drainage area if possible. By attempting to keep plowed snow within the 011 drainage area, GFIA tries to ensure that snowmelt is routed through the NTS for treatment prior to discharge. GFIA's ability to contain runoff from ADF impacted snow is significantly constrained by space limitations near the terminal apron. Nevertheless, GFIA is committed to using the available space, infrastructure, and equipment to enhance the control of ADF discharges. Snow will be removed to infield areas, as appropriate. GFIA is also evaluating the use of snow melters to alleviate snow storage concerns around the terminal apron on an as-needed basis. Melter operations will be integrated into the existing runoff management procedures.

Alternative plowing practices are used to minimize the amount of spent ADF removed from the terminal apron surface during snow removal operations. Snow will be removed from the apron travel lanes prior to the departure of the first bank of morning flights, allowing aircraft to push-back from the gates and conduct deicing operations on pavement that is relatively free of snow. This will help facilitate collection of spent ADF by the MCUs.

GFIA will continue to evaluate additional strategies and practices for managing glycol impacted snow in the context of its current operational environment.

4.2.4 Cargo Ramp Runoff

Currently, it is impracticable for GFIA to collect deicing runoff with propylene glycol (PG) concentrations below one percent (1%) due to the lack of available disposal/recycling options for these lower concentrations. Collected runoff must contain PG at concentrations above 1% to warrant possible collection and shipment to US Ecology (formerly the Environmental Quality Company (EQ)) in Romulus, Michigan for recycling. Monitoring and collection activities conducted at the cargo ramp during previous seasons resulted in the collection of nominal volumes of ADF. With completion of the long-term stormwater/deicing management system, runoff from the cargo ramp is now routed to the NTS for treatment prior to discharge through Outfall 011.

4.2.5 Pavement Maintenance

To help minimize the amount of spent fluid entering into the drainage system, GFIA Maintenance applies a sealant around the perimeter of each catch basin insert. GFIA also continues to monitor pavement conditions and seal pavement joints and cracks, as appropriate, as part of its pavement management program.

4.3 Materials Handling and Management

To help minimize the contamination of stormwater, airlines and FBOs are required to utilize appropriate spill response techniques, per their company spill response plan, for spills or leaks of any deicing/anti-icing materials. Any spilled material will be contained, cleaned up, and disposed pursuant to such plans. Oversprays and drips in the course of applying ADFs and AAFs are not spills or leaks.

4.4 Disposal of Collected Runoff

GFIA will dispose all collected deicing runoff in compliance with its Permit. At the present time, the primary disposal alternative continues to be off-site over-the-road transport to US Ecology's Romulus, Michigan facility for recycling of PG. On-site provisions will be established to store collected runoff prior to hauling and take maximum advantage of US Ecology's available transport and processing capacity.

For each load of runoff hauled off site, volume and percent glycol will be recorded to provide an estimate of total glycol and BOD exported from the facility.

All off-site disposal will be documented under bills of lading and handled in compliance with all applicable laws and regulations regarding non-hazardous materials.

5 Monitoring Program

As in previous years, a variety of monitoring efforts will be conducted as part of the 2022-2023 Program.

The Monitoring Plan contained in this section describes the locations, methods, and frequencies of monitoring deicer usage, BMP performance, and stormwater discharges that are planned for the 2022-2023 deicing season. Stormwater discharge monitoring activities will be conducted in accordance with the requirements of the NPDES permit. The discharge monitoring requirements are described in Section 5.5.

5.1 Organization

The Monitoring Program is organized according to the types of data and information to be collected. The following sections describe these monitoring elements. Figure 5-1 provides an overview of the elements of the program.

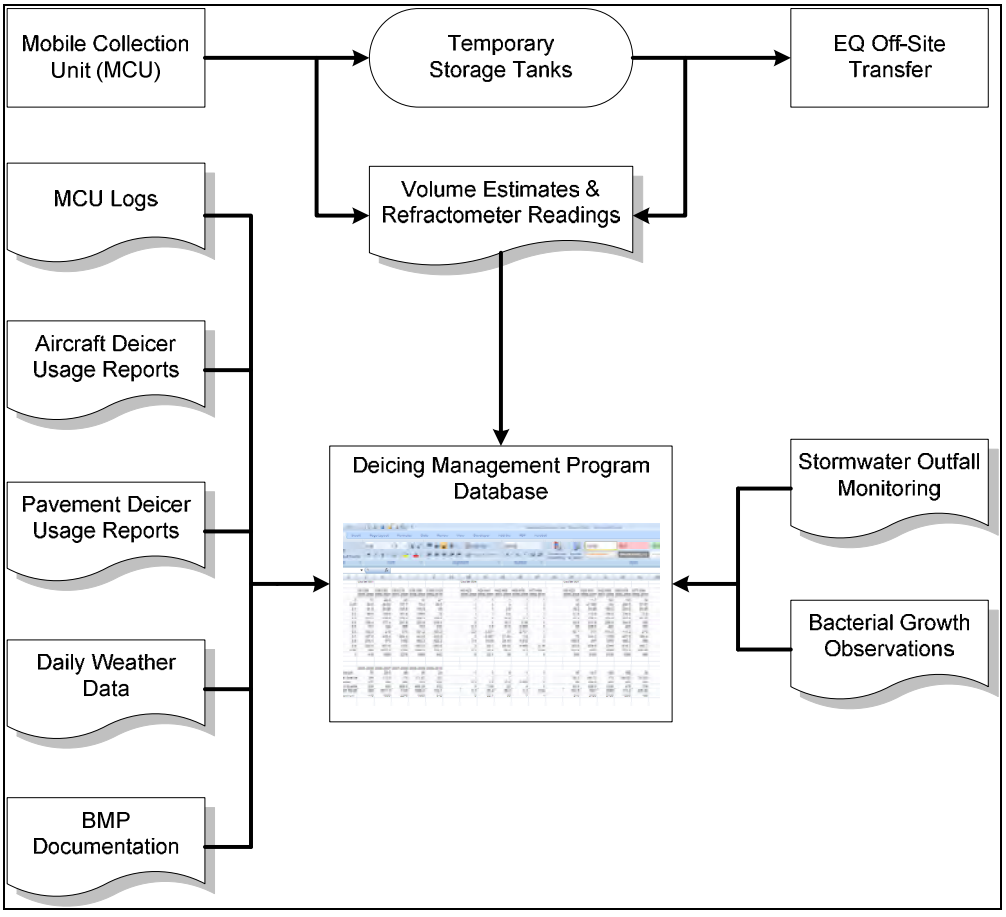

Figure 5-1. Overview of the Monitoring Program Elements.

5.2 Weather

Daily meteorological data will be obtained by LimnoTech staff from the National Weather Service to support analyses of deicing activities and associated stormwater discharges. Data will include the following parameters:

- Minimum, maximum, and average temperature
- Total precipitation
- Snowfall
- Freezing precipitation

5.3 Deicer Usage

Aircraft and pavement deicer usage is required to be reported by all entities (i.e., aircraft operators, FBOs, and GFIA Maintenance Department) that conduct deicing at GFIA to serve as the basis for mass balance calculations related to BMP performance and stormwater discharge water quality.

5.3.1 Pavement Deicer Usage

Pavement deicer usage will be reported by the GFIA Maintenance Department. Locations and amounts of each type of pavement deicer applied daily will be recorded using the GFIA Maintenance Pavement Deicer Usage Log (Appendix A).

5.3.2 Aircraft Deicer Usage

Each airline, freight carrier, service provider, and FBO is responsible for accurately tracking and reporting the types and volumes of ADF used. Usage should be recorded by each user by gate, ramp, or other location on a daily basis.

The following data elements are required to be reported by the air carriers for each aircraft deicing:

- Date, time, and flight number
- Gallons of ADF mixture applied
- Location of application (i.e., gate number or apron area)
- Glycol base (i.e., ethylene or propylene glycol)
- Society of Automotive Engineers (SAE) Type (i.e., Type I or IV)
- Mixture strength applied (ratio of glycol/water)

A copy of the form that is used for recording aircraft deicing activities is provided in Appendix A.

Airlines and FBOs are required to submit these reports to GFIA on a monthly basis. They are then compiled in the program database.

5.3.3 Annual Deicing/Anti-Icing Materials Reconciliation

An annual reconciliation form will be distributed to the airlines, freight carriers, service providers, and FBOs at GFIA to provide information on total seasonal inventories of deicing fluids. The following data will be required to be reported from the carriers and FBOs:

- Amounts of Type I and Type IV fluid on hand at the beginning of the season
- Amounts of Type I and Type IV fluid on hand at the end of the season
- Amounts of Type I and Type IV fluid received during the season
- Type of equipment used for deicing operations
- Estimated percent of fluid usage applied by each piece of equipment

The reconciliation forms will be requested to be submitted to the GFIA Environmental Manager by Tuesday May 31, 2023. A copy of the annual reconciliation form is provided in Appendix A.

5.4 BMP Performance

Monitoring of the performance of implemented BMPs generally is accomplished in several different ways, depending on the nature of the practice being evaluated.

- BMPs that involve source reduction are evaluated by estimating the volumes of deicing fluids that would have been used prior to BMP implementation and comparing that to the volumes used with implementation.
- The performance of runoff collection efforts is monitored by measuring the glycol concentrations in all collected runoff and comparing the mass of captured glycol to that reported by carriers as being applied to aircraft during the collection period.
- The benefits of certain BMPs, such as heating sand for pavement deicing, cannot be readily quantified and can only be evaluated based on qualitative observations.

5.4.1 Runoff Collection

The performance of the MCUs in collecting deicing runoff is monitored in terms of machinery operations and volumes of glycol collected. Collection performance data is tracked through machine operation logs and volumes and PG concentrations of collected runoff. Examples of the MCU logs are presented in Appendix A. MCU log data includes the following information:

- Gate or slot location
- Start and stop time
- Volume of runoff collected

The following information is recorded on the MCU Operations Log:

- Time
- Weather conditions
- Transfer location
- Total load volume

5.4.2 Source Reduction Efforts and Other BMPs

Source reduction efforts instituted by the carriers and GFIA Maintenance generally is described and documented to support the estimation of volumes of deicing fluids and materials that would have been used prior to BMP implementation, so that they may be compared to the actual amounts used with implementation. The benefits of certain BMPs, such as heating sand for pavement deicing, cannot be readily quantified, and can only be evaluated based on qualitative observations. The implementation of this class of BMPs will be documented.

5.5 Discharge Water Quality

Stormwater discharge monitoring activities will be conducted in accordance with the following requirements of the NPDES permit:

- Daily flow monitoring at Outfall 011 during the period October 1 through May 31,
- Visual Outfall Observation at Outfall 011 throughout the calendar year,
- Monthly flow monitoring at Outfalls 011 and 001 (if flow has been routed to 001) during the period June 1 through September 30,

- Twice weekly monitoring at Outfall 011 during October 1 through May 31, and
- Twice monthly "deicing discharge event" monitoring at Outfall 011 during the period October 1 through May 31, and
- Weekly sampling for acetate at Outfall 011.

Sampling locations, frequency, and analyses are specified in accordance with the Permit as described below.

5.5.1 Monitoring Locations

Stormwater discharges will be monitored at Outfall 011because it serves the drainage area where the majority of aircraft deicing activities are conducted. The location of the monitoring station is shown in Figure 5-2. Outfall 011 monitoring will be conducted at the 011A monitoring location on the 48-inch storm sewer along the Outfall 011 access service drive east of M-6 adjacent to the Thornapple Pointe Golf Course. This outlet conveys flow from the NTS to the Thornapple River.

5.5.2 Monitoring Frequency

Different types of monitoring will be conducted at different frequencies, as described in the following subsections.

Flow Measurement

In accordance with the permit, daily flow measurements will be collected at the 011 location from October through May during the 2022-2023 season. Measurements will be collected using the same equipment and methodology as for the deicing event runoff monitoring effort, as described in Section 5.5.3. The logged data will be downloaded on a regular basis and entered into the project database. Continuing efforts will be made to maintain the flow monitoring equipment in good operating condition to maximize data collection. As during past seasons, it is expected that transient obstructions and/or interferences will occur during the season necessitating the need to calculate estimated flow rates for periods of varying length. These events should be described in the ADF Discharge Minimization Progress Tracking Report.

Water Quality Sampling

Deicing Runoff Event Monitoring

Deicing runoff event monitoring will be conducted during the period October 1, 2022 through May 31, 2023. In accordance with the requirements of the permit, deicing discharge events will be monitored twice per month at Outfall 011 as weather conditions allow.

The Deicing Management Team should identify a potential deicing event by monitoring the weather forecast for prediction of a qualifying storm event which is defined as "a storm event predicted to cause greater than 0.1 inch of rainfall or at least 1.0 inch snowfall" that occurs once deicing activity has commenced at the airport. Declaration of a deicing event to initiate monitoring activities is a collaborative effort between the GFIA Environmental Manager and Prein&Newhof, with input from the GFIA Field Maintenance Department. This process helps to ensure that monitoring activities are initiated when stormwater discharge is imminent. Monitoring will begin immediately following the declaration of a deicing event and continue for a duration of five days with the goal of capturing peak runoff concentrations or loading rates.

A 24-hour composite sample should be collected for each day of the event using an autosampler. Flow-pacing will be used whenever possible. Time paced sampling may be utilized when flow pacing is not possible. The samples will be retrieved once a day and delivered to Prein&Newhof's laboratory for

analysis. Stormwater flow rates will be measured and automatically recorded every five minutes throughout the monitoring period. This data will also be downloaded daily whenever possible.

Sampling Methods and Water Quality Parameters

The outfall monitoring program design is based on continuous monitoring of flow coupled with composite water quality samples. Samples are analyzed for parameters required by the NPDES Permit.

In addition to the deicing event monitoring described above, the permit also requires twice weekly (on Tuesdays and Thursdays) monitoring at Outfall 011 for a select suite of parameters from October 1 through May 31.

Stormwater discharge rates will be measured at each location using an ISCO 750 Area Velocity Flow Module device. The instrument consists of a module and Doppler sensor that provides direct measurement of average water column depth and velocity. The instrument is connected to, and operated in concert with, the autosampler. The sensor is normally installed at the invert of the sewer and connected to the module. After the sensor is installed in the sewer, the instrument is manually calibrated following the manufacturer's guidance. The instrument will be programmed to collect flow measurements every five minutes. The measurements are stored electronically in the flow module and downloaded at daily intervals whenever possible. The data collected provides a near continuous record of discharge rates for the deicing event.

Water quality samples are collected at each location using an ISCO 6700 Series autosampler. The autosamplers are placed with a suction line installed into the storm sewer structure or outlet. The tubing is secured along the sewer invert to aid in the collection of samples during low flow conditions. The autosampler is programmed to purge the sampling tubing by drawing a volume of water equal to the tubing and then discharging it. After the tubing has been purged, a sample aliquot is collected at equal flow intervals (to be uniquely determined depending on current and expected conditions) and stored in a composite container inside the autosampler. Samples are retrieved daily from the sampler and labeled prior to delivery to the laboratory. The autosampler is refilled with an empty composite container and restarted. Efforts are made to protect the sampling equipment from extreme environmental conditions (i.e. freezing) though the use of heaters and heat traces. Power is supplied by solar panel arrays. Extreme weather conditions that result in data or sample loss will be documented as part of the field record.

In accordance with the permit, water quality samples will be analyzed for Acetate, carbonaceous 5-day BOD ($CBOD_5$), Chemical Oxygen Demand (COD), ammonia nitrogen (NH_3-N), and total phosphorus (TP) as summarized in Table 5-1.

Table 5-1. Summary of GFIA Water Quality Sampling and Analytical Methods.

Parameter	Location(s) / Frequency	Method	Practical Quantitation Limit
$CBOD_5$	011 / Daily During Monitoring Events	SM5210B*	2 mg/L
COD	011 / Daily During Monitoring Events	SM5220D	5 mg/L
NH_3-N	011 / Daily During Monitoring Events	SM4500-NH3 D*	0.03 mg/L
TP	011 / Daily During Monitoring Events	SM4500-P-E	0.005 mg/L
Acetate	011 / Weekly During October thru May	USEPA 300.0	2 mg/L

*Standard Methods (20^{th}) for the Examination of Water & Wastewater, 2017, APHA-AWWA-WEF.

In-situ measurements of water temperature, dissolved oxygen, and pH will be collected at each location during daily event sample collection/data download/maintenance visits.

In accordance with the permit, daily visual outfall observation should also be recorded during monitoring events using the inspection form in Appendix C.

5.5.3 QA/QC

This section outlines GFIA's quality assurance/quality control measures.

Sample Handling and Custody

Field Sampling Custody

The objective of field sample custody is to assure that samples are traceable and have not been compromised between sample collection and receipt by the analytical laboratory. A person has custody of a sample when the samples are:

- In their physical possession;
- In their view after being in their possession;
- In their personal possession and secured to prevent tampering; and,
- In a restricted area accessible only to authorized personnel and the person is one of the authorized personnel.

Field custody documentation will consist of both field log books and chain of custody forms.

Field Log Books

Field log books serve as a daily record of events, observations, and measurements during field activities. All information pertinent to monitoring activities is recorded in the log books, including:

- Name and title of author
- Name(s) of field crew personnel
- Name of site and project code
- Description of sample location
- Number and volume of samples taken
- Date and time of collection
- Sample identification numbers
- Sampling method
- Preservatives used
- Field measurements (temp., pH)
- Field observations (weather conditions, flow appearance, etc.)

Chain-of-Custody Forms

Completed chain-of-custody forms are required for all samples to be analyzed. Chain-of-custody forms will be prepared by the field sampling crew during the daily sample collection events. The chain-of-custody form contains the following information:

- Unique sample identification number
- Sample date and time
- Sample description
- Sample type
- Sample preservation
- Analyses required

The original chain-of-custody form should accompany the samples to the laboratory. The chain-of-custody forms remain with the samples at all times and are signed by a representative of the laboratory upon receipt of the samples.

Quality Control Requirements

Field Measurements

The accuracy of field measurements is maintained through the calibration of the field instruments according to manufacturer's specifications.

Field Duplicates

Field duplicates (splits) should be collected and analyzed to check the precision or reproducibility of sampling and analytical procedures. Field duplicates are defined as two separate samples collected at a single location and time, labeled with separate identification codes so the laboratory cannot identify the samples as duplicates. Duplicate samples are collected at the rate of one per analytical batch (i.e. one duplicate for each batch of samples collected and submitted to the laboratory). The duplicate samples are handled and analyzed by the laboratory in exactly the same manner as all other samples.

Field Blanks

Field blanks should be analyzed to check for chemical constituent infiltration and sample bottle contamination originating from sample transport and storage. A field blank consists of analyte-free water poured into a sample bottle at the sample site and preserved according to the parameters to be analyzed. Field blanks should be collected at the rate of one per analytical batch.

5.6 Receiving Water Response

Receiving waters should be monitored by way of monthly inspections. Monthly visual observations of the occurrence of attached bacterial growth will be recorded at the inspection locations identified in Figure 5-2. As noted in Section 5.5.3, visual observations are also be recorded during monitoring events. Evidence of other visually detectible impairments should also be noted. The monthly inspection form is presented in Appendix C.

5.7 Biofilm Monitoring and Investigation

GFIA will collect monthly visual assessments for biofilm in the unnamed tributary at Thornapple River Drive and in the vicinity of Outfall 011 in the Thornapple River as required by the permit.

A summary of the monthly biofilm observations will be provided in the ADF Discharge Minimization Progress Tracking Report.

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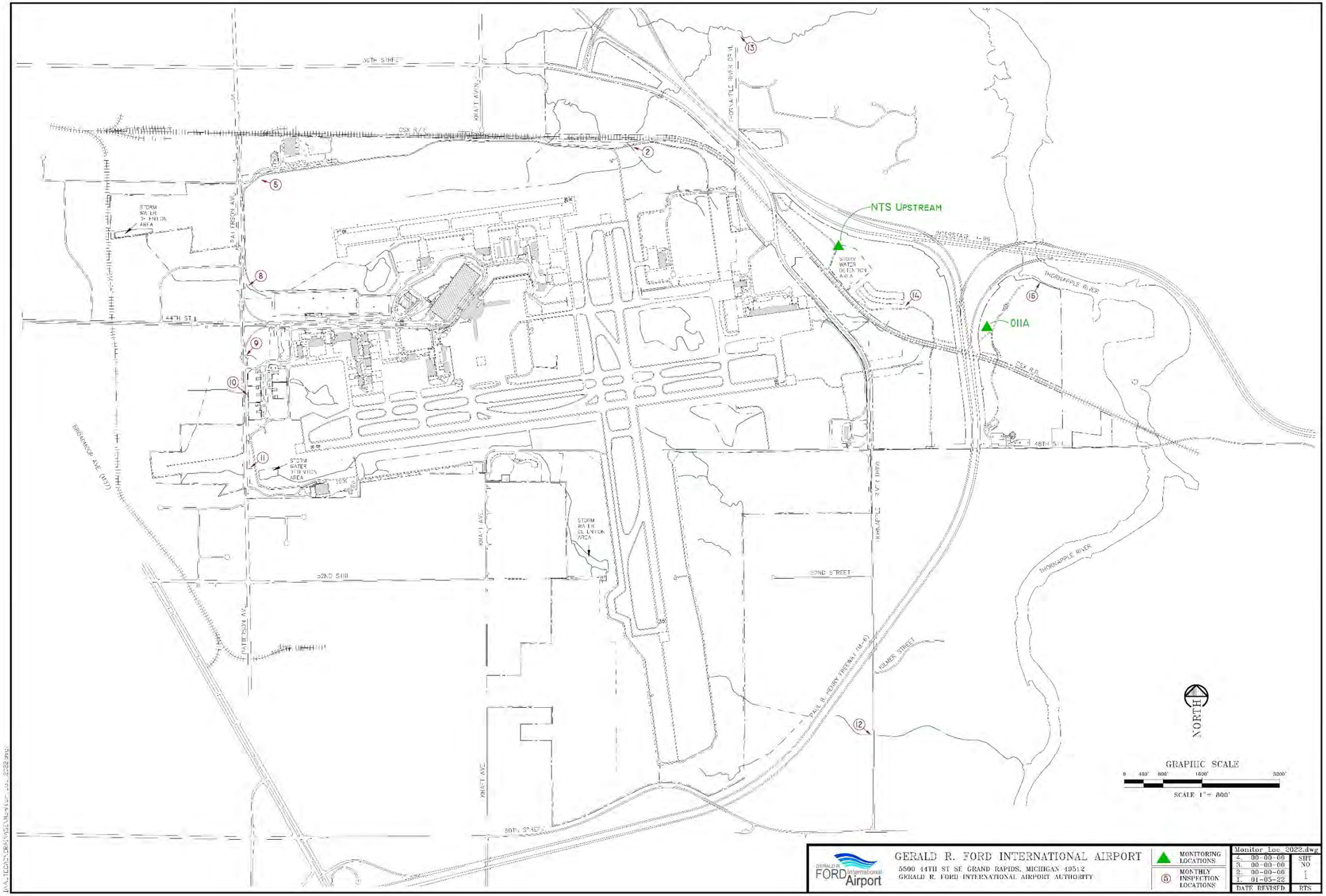

Figure 5-2. GFIA Stormwater Monitoring Locations.

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5.8 Data Types and Responsibilities

Table 5-2 summarizes the types of data that should be generated during the 2022-2023 deicing season, and identifies the principal parties responsible for data collection.

Table 5-2. Summary of data and information, and the entity responsible for their collection.

Type of Data/Information	Responsible Entity
Meteorological conditions (air temperature, precipitation)	LimnoTech
ADF usage by type and location	Airlines, freight carriers, service providers, FBOs, and Corporate tenants
Pavement deicing chemicals usage by type and location	GFIA Field Maintenance
MCU operating records	GFIA Field Maintenance
Apron collection systems record	GFIA Field Maintenance
Flight operations information	GFIA Operations
Volumes and concentrations of collected aircraft deicing runoff	GFIA Field Maintenance and US Ecology
Volumes and concentrations of aircraft deicing runoff hauled off-site	US Ecology
Stormwater discharge flows and water quality	Prein&Newhof

These data will be collected by the individual program team members responsible for each information collection activity and then consolidated into a Deicing Management Program database by LimnoTech for subsequent analysis and evaluation.

5.9 Project Database

A project database will be established and maintained, using an electronic database package, such as Microsoft Access or Excel.

5.10 Reporting

As required by the permit, stormwater discharge monitoring data (flow, water quality, in-situ measurements, and observation) will be submitted each month using the EGLE electronic reporting system (MiWaters).

At the conclusion of the 2022-2023 deicing season, GFIA will prepare and submit to EGLE an ADF Discharge Minimization Progress Tracking Report, as required by the permit. The report summarizes GFIA's ADF BMPs, including information, measures, and data to demonstrate the extent to which the BMPs are believed to be reducing ADF discharges. The report will also include the following information or estimates:

- An evaluation of the performance of the treatment system,
- Total gallons of Type I and IV ADF used,
- Total gallons of ADF recycled, and
- Percent of total gallons of ADF that was collected and prevented from being discharged to the environment.

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6 Long-Term Deicing Runoff Management Program Study and Continuing Program Enhancement

6.1 Long-Term Deicing Runoff Management Program

As noted above, GFIA completed a Long-Term Deicing Runoff Management Program Study to identify system modifications necessary to eliminate GFIA's contribution to nuisance biofilms. The study was conducted in parallel with this program and employed standard industry methodology to define required system performance characteristics, evaluate potential alternative management practices and strategies, and develop a conceptual design and implementation plan. The Deicing Runoff Management Program Study Report was completed in September 2011 and submitted to Michigan Department of Environmental Quality (MDEQ) for approval. System design activities were initiated in 2012 and the final design was completed in mid-2013. Construction activities commenced in October 2013 and the system was completed prior to the 2015-2016 deicing season.

6.2 Investigations into Alternative Aircraft Deicing BMPs

As the long-term program has been implemented, GFIA has continued to review the evolving science and technology used for controlling the environmental impacts of airport deicing activities. Information on the performance of implemented controls at other facilities and the development of new techniques is helpful to ensuring that GFIA's deicing control strategies represent the current state-of-the-science. To that end, GFIA's Deicing Runoff Management and Monitoring Program includes specific activities to track new technological developments. These activities may include attending regional and national airport environmental and deicing conferences, monitoring articles and publications in trade journals, and engaging consultants who are experts in this technical area. New technologies that appear to be especially promising are evaluated for potential applicability to the airport.

APPENDIX A
DEICING MANAGEMENT PROGRAM RECORDING FORMS

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GERALD R. FORD INTERNATIONAL AIRPORT
AIRCRAFT DEICING/ANTI-ICING MATERIAL USAGE LOG[1]
(INDIVIDUAL AIRCRAFT DEICING EVENTS)

Company:_____

Month and Year:_____

Date	Time	Carrier/ Flight Number	Deicing Location	SAE Type (I, IV)	Mixture Ratio (glycol/water)	Gallons Applied	Weather Conditions/ Comments[2]

[1]In accordance with recycling requirements, all ADF and AAF products used at GFIA are assumed to be **propylene glycol**-based. If this is not true for the product you are using, please contact Michelle Baker immediately.

[2]Appropriate abbreviations for weather conditions/comments: **+** for heavy, **-** for light, "**no sign**" for moderate; **RA** for rain, **SN** for snow, **FZRA** for freezing rain, **PL** for ice pellets/sleet. For example, light snow can be reported as –SN, heavy freezing rain can be reported as +FZRA. Appropriate abbreviations for other comments may include **LEI** for leading edge icing, **DEF** for defrost. Please provide explanation if other abbreviations used.

Signature:_____Date:_____

Submit to: Michelle Baker, Environmental Manager
Phone: (616) 233-6022
Fax: (616) 233-6025
Email: Deice@grr.org

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GERALD R. FORD INTERNATIONAL AIRPORT
AIRCRAFT DEICING/ANTI-ICING MATERIAL
ANNUAL RECONCILIATION LOG

Company: _____

Due Date: **May 31, 2023**

Amounts On-Hand at Beginning of the Season (October 1, 2022):

Type I _____ gallons (undiluted glycol)

Type IV _____ gallons (undiluted glycol)

Amounts Received During the Season:

Type I _____ gallons (undiluted glycol)

Type IV _____ gallons (undiluted glycol)

Amounts On-Hand at the End of the Season (May 1, 2023):

Type I _____ gallons (undiluted glycol)

Type IV _____ gallons (undiluted glycol)

Signature:_____Date:_____

Submit to: Michelle Baker, Environmental Manager
Phone: (616) 233-6022
Fax: (616) 233-6025
Email: Deice@grr.org

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GERALD R. FORD INTERNATIONAL AIRPORT

Deicing Management Program

Frac-Tank Tracking Form

Date_____

Tank No.	Tank Volume (Start)	Tank Additions	Tank Withdrawals	Tank Volume (End)	Refractometer Reading	Tank Volume (End)

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GERALD R. FORD INTERNATIONAL AIRPORT

Deicing Management Program
Mobile Collection Unit Operating Log

MCU No.:_____
Operator:_____ **Date:** _____

Load No.	Areas Collected from	Start time	Stop Time	Gallons Off-loaded	Refractometer Reading	Comments

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APPENDIX B
MOBILE COLLECTION UNIT OPERATIONS PLAN

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Mobile Collection Units

GFIA owns three V-Quip tow behind Mobile Collection Units (MCU): a T750 and two T1800s. All three pieces of equipment are expected to be used during the 2022-2023 deicing season to collect spent ADF in the aircraft deicing locations. The MCUs are operated with an emphasis on collecting high-strength ADF runoff.

MCU Team

The MCU Team consists of machine operators and a coordinator. Each MCU is operated by a single driver, and more than one shift may be operated on a given day. The GFIA Deicing Coordinator (Field Maintenance Supervisor and/or Operations Supervisor) typically directs the operations of the MCUs if/as necessary. Figure B-1 illustrates the organizational responsibilities and flow of information among the MCU operators, the Coordinator, and outside entities. GFIA is committed to providing the manpower and equipment to collect contained ADF in runoff as quickly as possible following aircraft deicing activities.

MCU Operators are responsible for safely conducting ADF runoff collection activities on the airfield aprons, transfer of collected runoff to portable tanks or other temporary storage devices, and recording of operating data on the field data sheets. Under deicing event conditions, an important aspect of the Operator's responsibilities is to serve as the front-line eyes and ears for the Coordinator, to ensure that the Coordinator is directing operations with the best and most accurate information regarding ramp conditions and aircraft activities.

Catch Basin Insert Operations

Catch basin inserts are operated (i.e., opened and closed) by the GFIA Maintenance and/or Operations Departments. The operating philosophy is to keep the inserts in the closed position whenever possible during the deicing season, opening them only when necessary to prevent flooding of the ramp, when runoff is very dilute or un-impacted by deicing operations, or when vacuuming is not a practical option.

The date and time of each opening or closing action is normally transmitted by GFIA Maintenance and/or Operations to GFIA Dispatch for entry into a catch basin operations log.

MCU Operational Modes

The MCUs are operated under two distinct modes: non-deicing event and deicing event. The details of these two modes are described in the following subsections. It is the responsibility of the Deicing Coordinator to determine if MCU operations are to be conducted and to notify the operators as to which mode of operation is to be implemented.

Non-event Deicing Mode. Non-deicing event conditions are characterized by relatively low-intensity aircraft deicing, typically for defrosting of aircraft in the morning "push" or aircraft that are subject to wing frosting from cold-soaked fuel tanks (i.e., MD-80s).

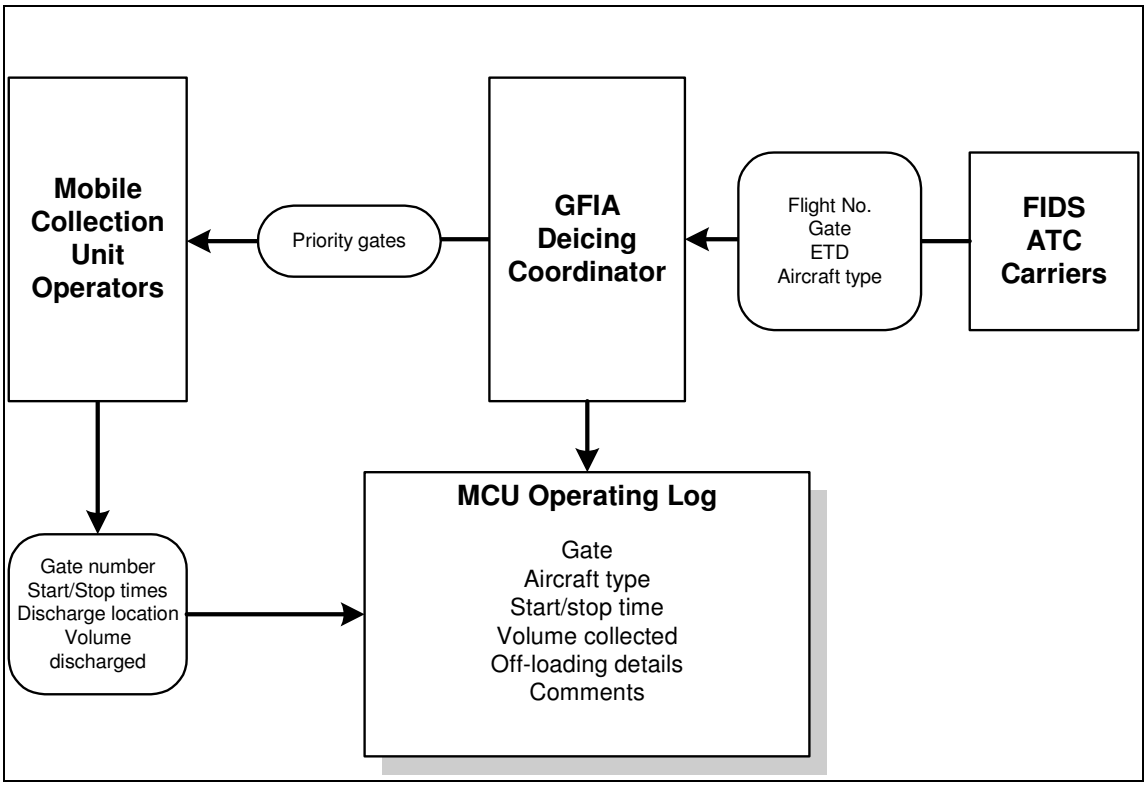

Figure B-1. Organization and information flow within the MCU operations team.

Under non-deicing event conditions, which are the norm at GFIA, at least one MCU is operated in a roaming mode, with opportunistic collection of ADF runoff at gates and ramp slots that have been vacated by departing aircraft. Runoff collection from defrosting focuses on those gates and ramp areas where the largest volumes of ADF are being used which is expected to be the air carrier apron. Main terminal operations are completed at the conclusion of a full 8-hour work shift for the MCU(s). Freight and FBO ramp glycol collection under the non-event mode consist of a full pass of all freight and FBO corporate tenant operation approved deicing areas that were used for aircraft deicing during the day.

Deicing Event Mode. During significant deicing events, the MCUs are operated on an extended schedule, determined by aircraft deicing activities. The Deicing Coordinator is responsible for calling an event for the purposes of the MCU operations.

MCU operations under an event mode are directed by the Deicing Coordinator in close coordination with the Airport Operations Supervisor. Under these conditions, the early-morning emphasis is on collecting runoff associated with deicing of the first passenger flights of the day at the main terminal complex.

MCU operations at the air carrier apron are generally distributed among the gates to maximize the collection of high-concentration deicing runoff. There are two general areas of high priority for MCU operations:

- Main Terminal Gates
- Off-gate apron parking area

MCU operations at the freight ramps focus on maximizing the volume of runoff collected during the peak periods of deicing in the morning and evening.

The actual collection strategy at any point during a deicing event is determined by the Deicing Coordinator.

Off-loading of the MCUs

Runoff collected by the MCUs is transferred directly to portable tanks located at the Field Maintenance Shop.

Operational Constraints and Considerations

A number of factors act as practical constraints on the operation of the MCUs, principally related to airfield safety and traffic control. The principal factors are summarized in the following paragraphs.

- MCU operations must be integrated into day-to-day ground movement operations. Regardless of the type of event occurring on the airfield (normal operations or significant deicing event), the on-duty Airport Operations Supervisor must be kept apprised of both vehicular airfield access and areas of significant vehicular activity.
- The rate at which the MCUs are able to collect deicing runoff is influenced by many factors. Based on the capacity and location of temporary storage tanks into which the units discharge collected material, time spent in transit and time spent discharging material could easily exceed time spent collecting runoff. An extreme ice/snow event could limit MCU material discharging operations due to tanker trucks being delayed in transferring material from the temporary storage tanks. An extreme ice/snow event could also create poor surface conditions for the MCU, resulting in slower operating speeds and longer times for each collect/transport/discharge cycle.
- The on-duty Airport Operations Supervisor determines when airfield conditions warrant reducing, modifying, or curtailing MCU operations. Situations that may affect MCU operations include:
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  - Airfield emergencies may require the cessation of MCU operations.
  - Construction activities may impair or require modifications in MCU operations.
  - Reduced visibility conditions that impair and slow MCU operations.
  - Snow/ice removal operations that require that MCUs stay out of the active working areas.

Where encountered, constraints on MCU operations are documented as part of the data collection process to ensure that the limitations are understood and anticipated in evaluating and planning future MCU operations at GFIA.

MCU Monitoring

Performance data is collected to quantitatively assess the efficiency of the MCUs. These data consist of machine operation logs and water quality samples analyzed for glycol concentration. Machine operation log data consists of the following information:

- Gate or slot location
- Start and stop time
- Volume of runoff collected

The following information is recorded for each full load discharged to a storage tank:

- Time
- Weather conditions
- Transfer location
- Total load volume

MCU Operating Log data is entered into an electronic MCU operations database.

APPENDIX C
MONTHLY OUTFALL INSPECTION FORM

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STORM WATER POLLUTION PREVENTION PLAN
MONTHLY OUTFALL INSPECTION FORM

Completed by:

Date: _____ Time: _____ a.m. _____ p.m.

Time since last precipitation: Type of precipitation:

Hours Days ☐ Rain ☐ Snow ☐ Sleet ☐ Hail

Quantity of precipitation: _____ Inches

Flow observed: ☐ Yes ☐ No

CONTINUE IF FLOW IS OBSERVED. Visual Inspection:

COLOR	ODOR	FOREIGN MATERIAL	OIL SHEEN
☐ Clear	☐ Not Present	☐ Not Present	☐ Not Present
☐ Cloudy	☐ Present	☐ Present	☐ Present
☐ NA	☐ NA	☐ NA	☐ NA

Outfall location (i.e., sewer manhole/drainage ditch location):
O

Temperature (use descriptors such as hot or cold if thermometer is not available:

Volume (gallons/minute):

☐ None ☐ Low ☐ Moderate ☐ High

Review of structural controls:

☐ Road Culvert ☐ Drainage Ditch ☐ Detention Basin Other:

Suspected potential sources of storm water contamination and comments:

General comments:

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APPENDIX D
DURATION CURVES FOR ROUTING APRON COLLECTION SYSTEM RUNOFF BACK TO 011 STORM SEWER

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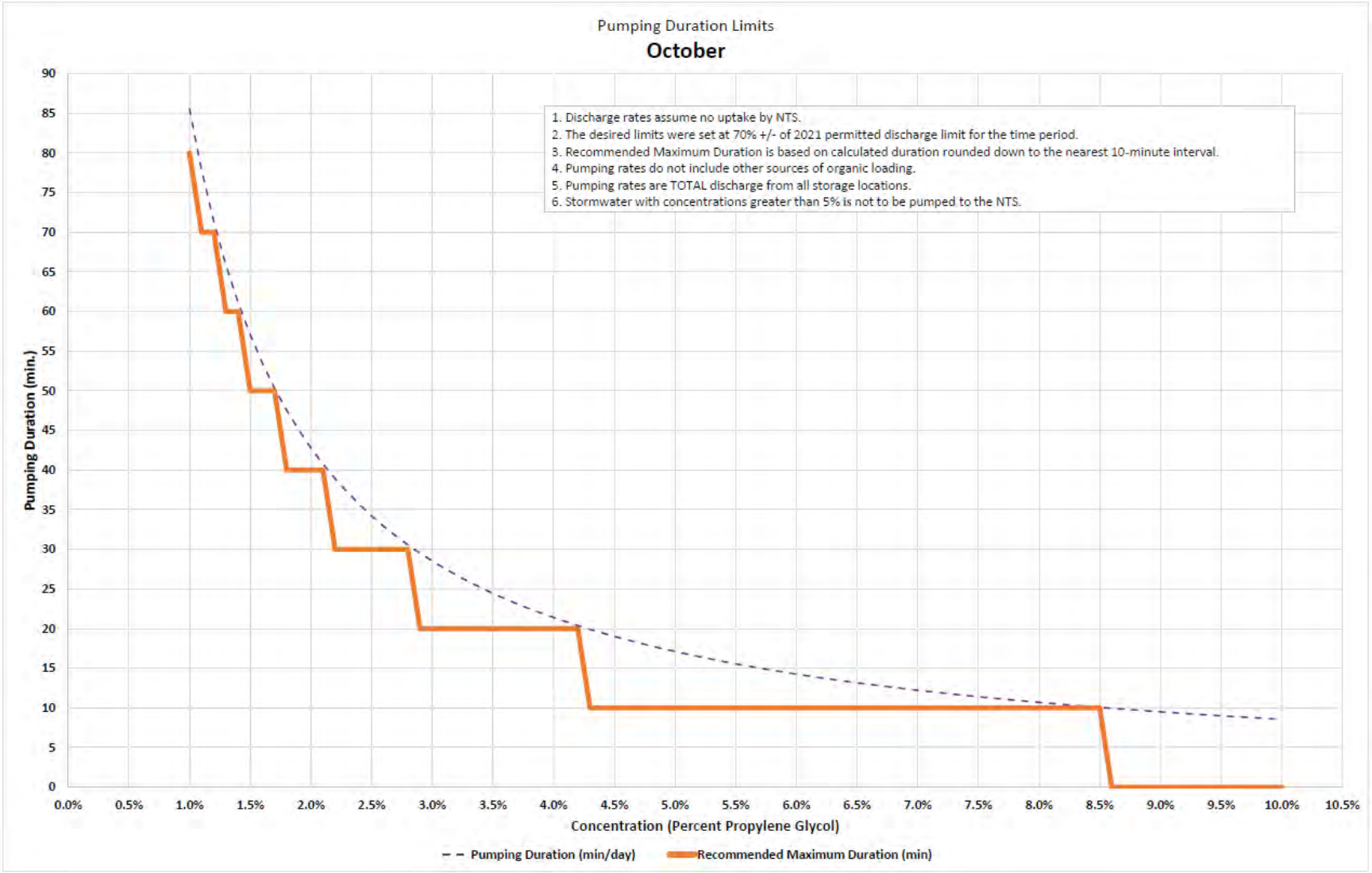
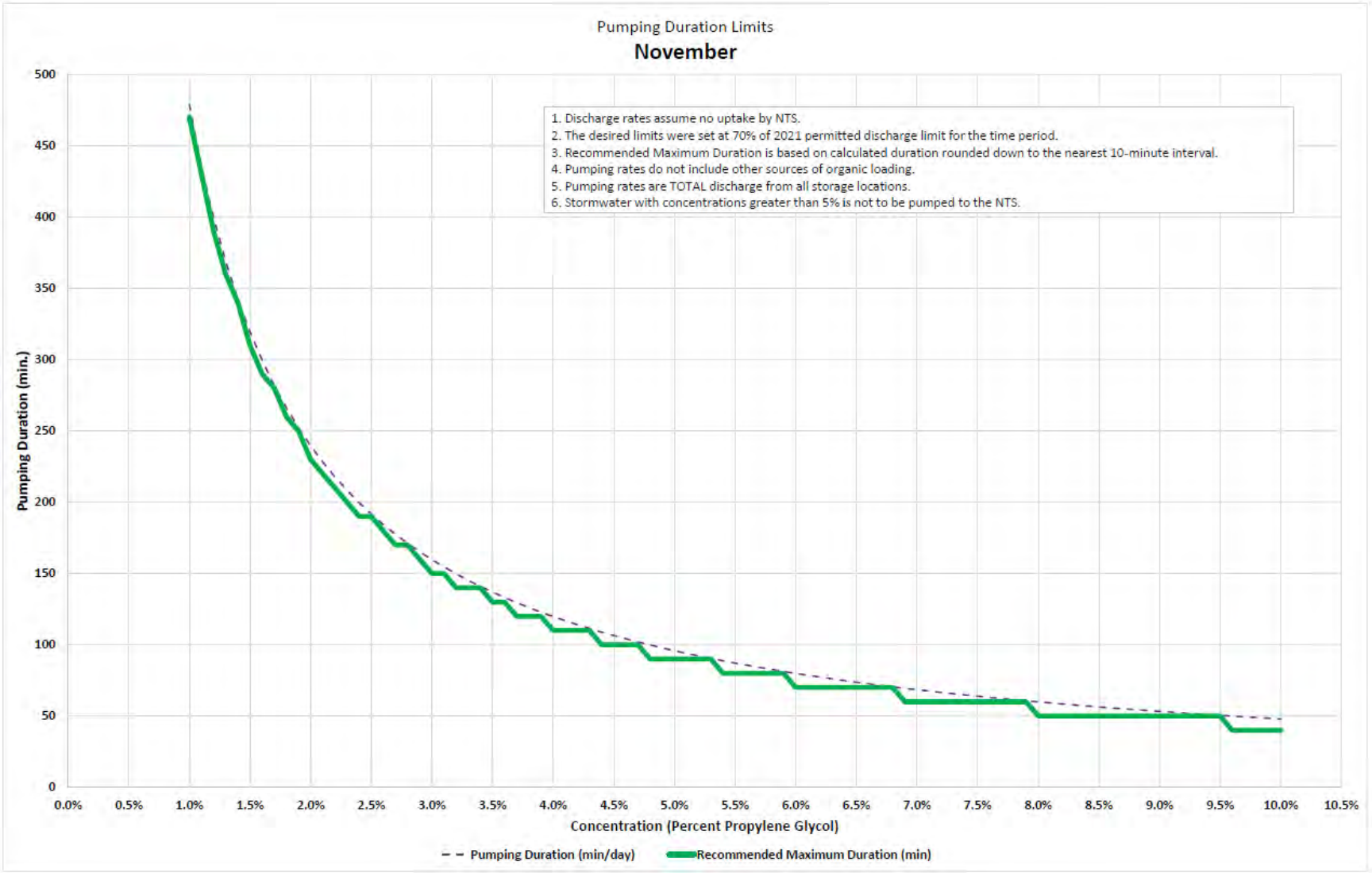
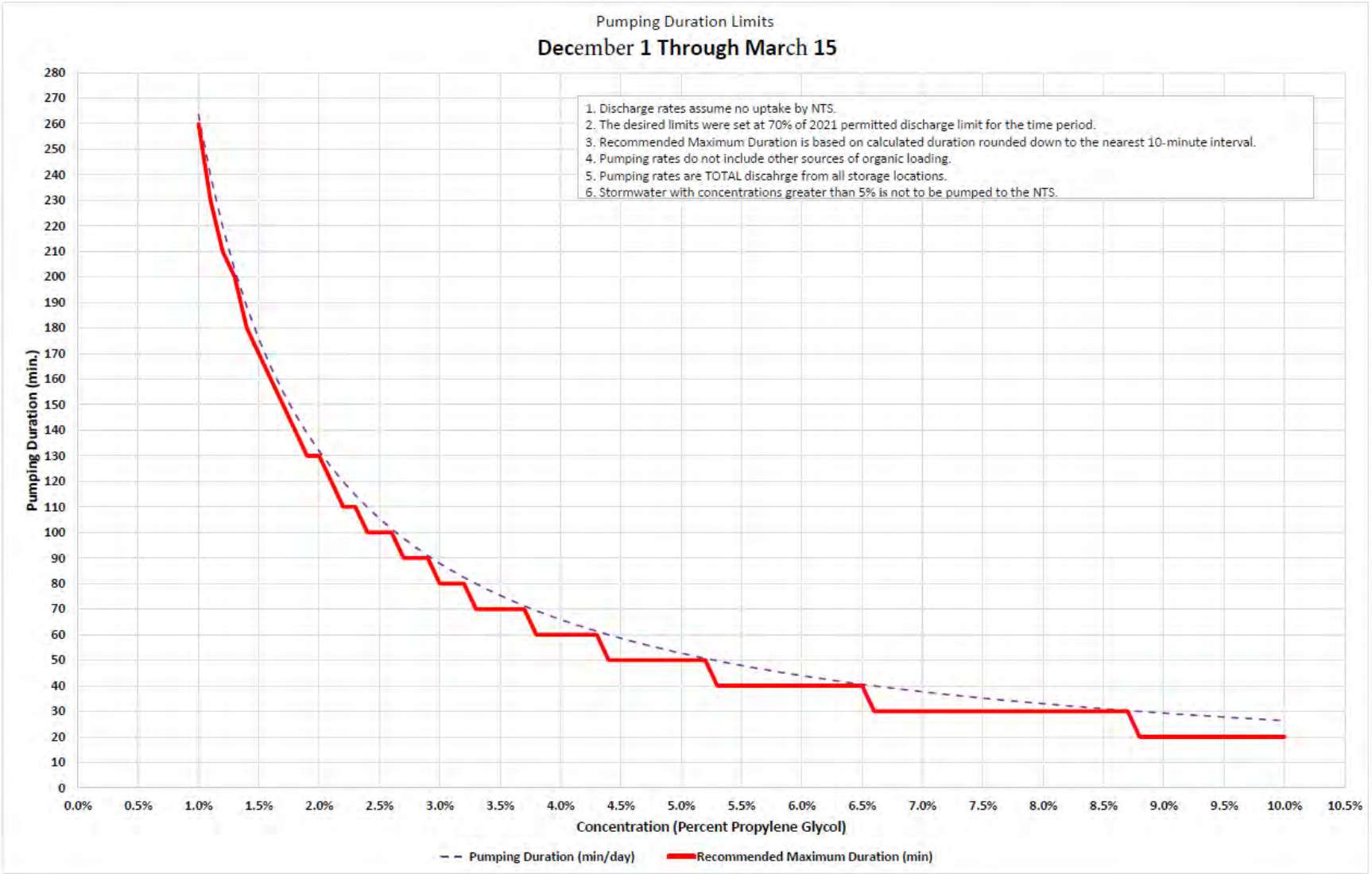
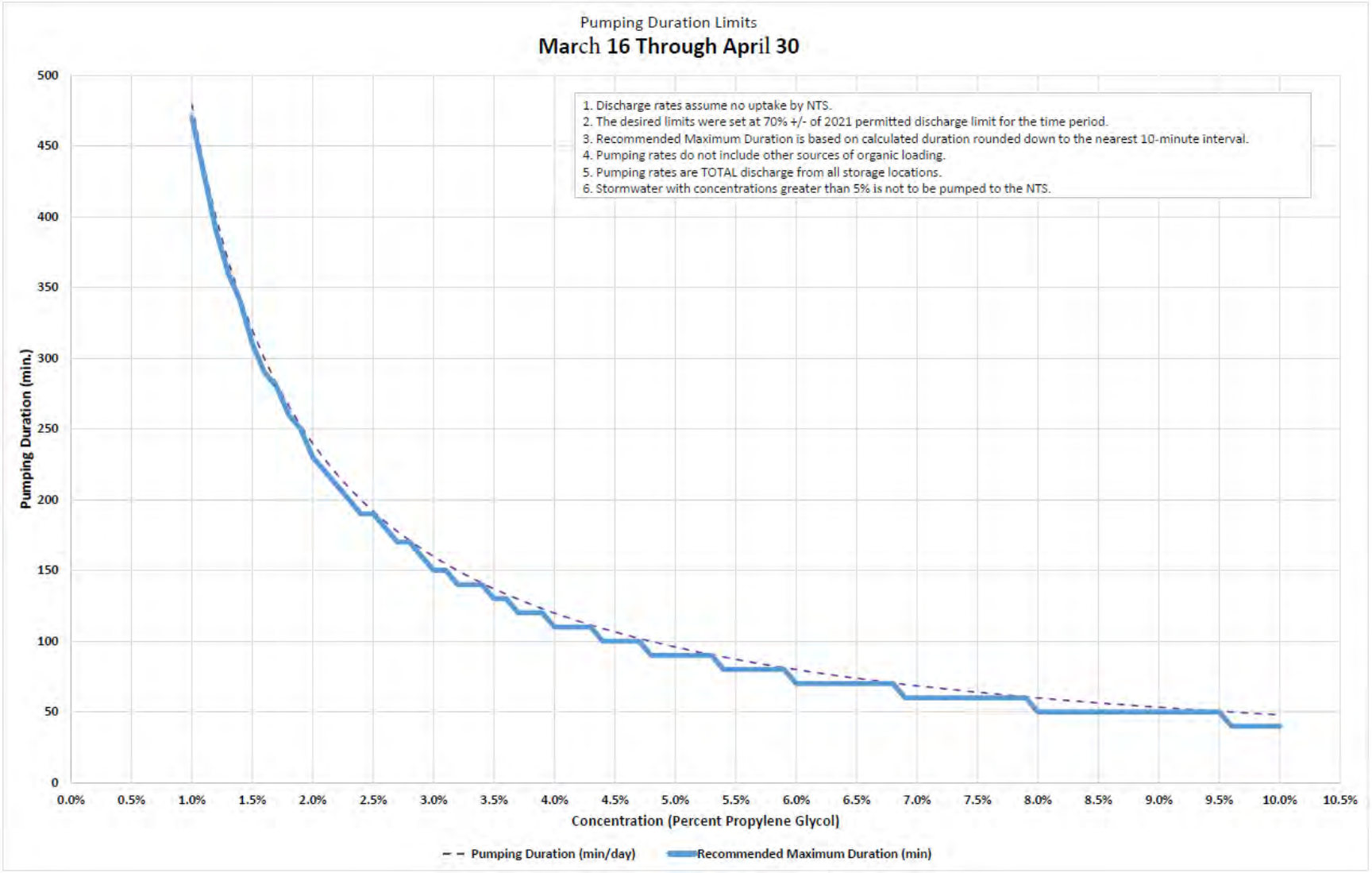

Pumping Duration Limits
October
1. Discharge rates assume no uptake by NTS.
2. The desired limits were set at 70% +/- of 2021 permitted discharge limit for the time period.
3. Recommended Maximum Duration is based on calculated duration rounded down to the nearest 10-minute interval.
4. Pumping rates do not include other sources of organic loading.
5. Pumping rates are TOTAL discharge from all storage locations.
6. Stormwater with concentrations greater than 5% is not to be pumped to the NTS.
Pumping Duration (min.)
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
0.0%
0.5%
1.0%
1.5%
2.0%
2.5%
3.0%
3.5%
4.0%
4.5%
5.0%
5.5%
6.0%
6.5%
7.0%
7.5%
8.0%
8.5%
9.0%
9.5%
10.0%
10.5%
Concentration (Percent Propylene Glycol)
Pumping Duration (min/day)
Recommended Maximum Duration (min)


Pumping Duration Limits
November
1. Discharge rates assume no uptake by NTS.
2. The desired limits were set at 70% of 2021 permitted discharge limit for the time period.
3. Recommended Maximum Duration is based on calculated duration rounded down to the nearest 10-minute interval.
4. Pumping rates do not include other sources of organic loading.
5. Pumping rates are TOTAL discharge from all storage locations.
6. Stormwater with concentrations greater than 5% is not to be pumped to the NTS.
Pumping Duration (min.)
500
450
400
350
300
250
200
150
100
50
0
0.0% 0.5% 1.0% 1.5% 2.0% 2.5% 3.0% 3.5% 4.0% 4.5% 5.0% 5.5% 6.0% 6.5% 7.0% 7.5% 8.0% 8.5% 9.0% 9.5% 10.0% 10.5%
Concentration (Percent Propylene Glycol)
Pumping Duration (min/day)
Recommended Maximum Duration (min)


Pumping Duration Limits
December 1 Through March 15
1. Discharge rates assume no uptake by NTS.
2. The desired limits were set at 70% of 2021 permitted discharge limit for the time period.
3. Recommended Maximum Duration is based on calculated duration rounded down to the nearest 10-minute interval.
4. Pumping rates do not include other sources of organic loading.
5. Pumping rates are TOTAL discahrge from all storage locations.
6. Stormwater with concentrations greater than 5% is not to be pumped to the NTS.
Pumping Duration (min.)
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
200
210
220
230
240
250
260
270
280
0.0%
0.5%
1.0%
1.5%
2.0%
2.5%
3.0%
3.5%
4.0%
4.5%
5.0%
5.5%
6.0%
6.5%
7.0%
7.5%
8.0%
8.5%
9.0%
9.5%
10.0%
10.5%
Concentration (Percent Propylene Glycol)
Pumping Duration (min/day)
Recommended Maximum Duration (min)


Pumping Duration Limits
March 16 Through April 30
1. Discharge rates assume no uptake by NTS.
2. The desired limits were set at 70% +/- of 2021 permitted discharge limit for the time period.
3. Recommended Maximum Duration is based on calculated duration rounded down to the nearest 10-minute interval.
4. Pumping rates do not include other sources of organic loading.
5. Pumping rates are TOTAL discharge from all storage locations.
6. Stormwater with concentrations greater than 5% is not to be pumped to the NTS.
Pumping Duration (min.)
0
50
100
150
200
250
300
350
400
450
500
0.0%
0.5%
1.0%
1.5%
2.0%
2.5%
3.0%
3.5%
4.0%
4.5%
5.0%
5.5%
6.0%
6.5%
7.0%
7.5%
8.0%
8.5%
9.0%
9.5%
10.0%
10.5%
Concentration (Percent Propylene Glycol)
Pumping Duration (min/day)
Recommended Maximum Duration (min)