STORMWATER POLLUTION PREVENTION PLAN

MANSFIELD MUNICIPAL AIRPORT
MANSFIELD, MASSACHUSETTS

PREPARED BY:

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PREPARED FOR:

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OCTOBER 2004

Certification by Management

I certify under penalty of law that I have read and understand the Part 2.1 eligibility requirements for coverage under the multi-sector storm water general permit including those requirements relating to the protection of endangered or threatened species or critical habitat. To the best of my knowledge, the storm water and allowable non-storm water discharges authorized by this permit (and discharge related activities), are not likely and will not likely, jeopardize endangered or threatened species or critical habitat, or are otherwise eligible for coverage under Part 1.2.3.6 of the permit. To the best of my knowledge, I further certify that such discharges and discharge related activities do not have an effect on properties listed or eligible for listing on the National Register of Historic Places under the National Historic Preservation Act, or are otherwise eligible for coverage under Part 1.2.3.7 of the permit. I understand that the continued coverage under the multi-sector storm water general permit is contingent upon maintaining eligibility as provided for in Part 1.2.

This document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further certify that I am an authorized representative of the facility, as detailed in Part 9.7 of the general permit.

Signature: _____

Name: _____

Title: _____

Date: _____

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1 Introduction

1.1 Purpose

This Stormwater Pollution Prevention Plan (SWPPP) has been prepared for the Mansfield Municipal Airport, which is owned by the Town of Mansfield and operated by the Mansfield Airport Commission in Mansfield, Massachusetts. The SWPPP was prepared by Baystate Environmental Consultants, Inc. as an update to the existing document prepared by David Dinneen, Airport Manager, and describes management practices and controls implemented at this airport to reduce pollutants in stormwater. The SWPPP has full approval of airport management in terms of commitment of necessary resources to fully implement the plan and it has been amended in accordance with the Storm Water Multi-Sector General Permit (MSGP) for Industrial Activities issued by EPA on October 30, 2000. A copy of the permit language is included as Appendix A. A copy of the NOI filed and the response letter from EPA is included as Appendix B. Lease holders and tenants of the airport have assisted in the preparation of the SWPPP and are an important part of the implementation.

The airports operations are covered under Sector S of the MSGP. This sector includes airports, flying fields, airport terminal services, and related airport and aircraft service and maintenance activities. This sector applies only to those portions of the facility, if any, where vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling and lubrication), equipment cleaning, or deicing/anti-icing activities occur. Not authorized by the MSGP are aircraft, ground vehicle, runway and equipment washwaters; and dry weather discharges of deicing chemicals. Thus, these activities are not addressed in this SWPPP.

The SWPPP will be reviewed and evaluated annually and amended accordingly within two weeks of such review to include more effective prevention and control technologies if needed. Records of such review shall be maintained with the SWPPP for the length of the permit term. In 2005, when the permit is reissued, refilling will be necessary. The head of the SWPPT will need to keep posted on changes as this date nears.

The SWPPP shall also be amended if any material release occurs on Airport property and before any change is made in airport operation and maintenance affecting the airport's potential for pollutant discharge to stormwater. Examples of changes requiring amendments of this SWPPP shall include, but not be limited to:

- Construction or demolition that alters the amount of impervious area (building and paved areas) or the storm drainage system,
- Change in handling or storage of material exposed to stormwater, and
- Change in the design, construction, operation or maintenance activities which significantly affect the discharge or the potential pollutant discharge.

An authorized Mansfield Municipal Airport Commissioner shall certify all amendments to this SWPPP.

For ease of access and amendment, all figures and tables cited in the SWPPP appear at its conclusion, either as an attachment or appendices. This will allow for continued amendments and additions to the document.

1.2 NOTICE TO STORMWATER POLLUTION PREVENTION TEAM

This Stormwater Pollution Prevention Plan is a necessary component in applying for a NPDES Storm Water Multi-Sector General Permit for Industrial Activities, which authorizes stormwater discharges from industrial facilities consistent with the terms of the permit. This document has been prepared in accordance with the NPDES MSGP as an Industrial SWPPP document. Since the SWPPP is a living document, it will require additional information for fulfilling the requirements of the MSGP, as actual site conditions and practices may change over time. This document is meant to address the general requirements of the permit and to present a framework for the Pollution Prevention Team to utilize for compliance. A copy of the general permit is included as an Appendix to this document. BEC takes no responsibility for permit compliance by the applicable parties.

2 Pollution Prevention Team

The Stormwater Pollution Prevention Team (SWPPT) is responsible for the development, implementation, maintenance, and revision of this SWPPP. Team members and their assigned responsibilities are listed in Table 1. The Pollution Prevention Team is responsible for the following:

- Implementing all permit and pollution prevention requirements,
- Defining and agreeing upon an appropriate set of goals for the airport's stormwater management program,
- Being aware of any changes that are made in the airport's operation to determine whether any modifications must be made to this plan, and
- Maintaining a clear line of communication between owners, operators, tenants, and commissioners.

3 Assessment

3.1 Facility Description

3.1.1 Location

Mansfield Municipal Airport, located at 265 Fruit Street in Mansfield, Massachusetts, is owned and operated by the Town of Mansfield and the Mansfield Airport Commission. The airport is located on a 252± acre parcel of land, of which roughly 40% is impervious. Approximately 195 acres of the airport are located in Mansfield and the remaining 57± acres are located in the bordering town of Norton, Massachusetts. The airport is accessed from Fruit Street. A general locus map is included as Figure 1.

3.1.2 Activities

The facility covered by this SWPPP is a general aviation airport. The airport serves small engine, private and commercial aircraft, a flight school, and maintenance shop. Airport facilities include an FBO (Fixed Base Operation) (KING Aviation-Mansfield, Inc.), a concrete maintenance building, two (2) tin bay nested "T" hangars, one large aircraft storage hangar, an aircraft parking and fueling apron, and associated paved runway, turf runway, and taxiways.

Activities at the airport include aircraft fueling and maintenance, aircraft washing (activity not covered under this permit), fuel storage and transfer, and aircraft/vehicle storage. Miscellaneous activities include grounds maintenance and deicing of walkways and the main parking lot.

3.1.3 Receiving Waters and Wetlands

Grassy areas, woodlands and wetlands surround the single asphalt runway, adjacent taxiways and apron. Surface water runoff from the impervious areas involved in industrial activities is collected and transported to Back Bay Brook by a network of catch basins and storm drain pipes. The pervious areas along runways and taxiways drain via grassy swales to nearby wetlands. One major wetland system is located along the centerline of the airport, running north –south with an open watercourse which is piped under the paved runway and taxiways. The only discharge points to this system are from infield and runway drainage, which is not included as one of the qualifying industrial activities under this permit. No maintenance, material storage or handling is completed in the area tributary to this system. The same applies to the small wetland areas at the 32 end of Runway 14-32, which also receives drainage only from runway areas. Grassed areas and swales would provide for pollutant removals in this system. The Back Bay Brook system runs north to south along the western boundary of the airport property. Discharges from areas associated with industrial activities at the facility have outfalls to this system.

3.1.4 Site Map

Figure 2 is a site map showing the following features:

- Property boundary,
- Buildings and impervious areas,
- Directions of stormwater flow,
- Locations of outfalls and tributary drainage areas,
- Stormwater conveyance and discharge structures,
- Existing structural stormwater controls,
- Locations of surface waters,
- Locations of past spills and leaks (not applicable),
- Location and description of non-stormwater discharges,
- Locations of any significant run-on to the facility, and
- Locations of potential pollutant sources such as storage and activity areas, namely:
    - Materials loading and unloading areas,
    - Fueling areas,
    - Vehicle and equipment maintenance and/or cleaning areas,
    - Above ground liquid storage tanks, and
    - Exposed materials storage and disposal areas.

3.2 Summary of Potential Pollutant Sources

An inventory of materials that may be exposed to stormwater has been completed at the Mansfield Municipal Airport. Table 2 identifies each material's use, site location, potential for exposure to stormwater, and estimated quantity. The individual areas where industrial materials and/or activities are located on the airport and potential pollutant pathways are described in the following sections. All of the areas containing activities covered under the MSGP would have Outfall A to Back Bay Brook as an ultimate discharge point. The limited remaining outfalls on the Airport would received drainage only from areas which do not have any of the Sector S listed activities, as activity in these areas is limited to runway and taxiway access drainage.

3.2.1 Maintenance Hangar and Aircraft Hangar

Both of these structures are completely enclosed. The only potential for stormwater to contact materials or come in contact with industrial activities in these structures would be in the event of a significant release of materials from inside the structure which extended outside of the structure before being cleaned up or contained. Only in this event would materials have the potential to contact surface runoff/stormwater by reaching the catch basins on the aircraft apron. In such an event, discharge would be to Back Bay Brook. Regardless of this, a description of the activities and materials within these structures is included below.

Activities

Activities occurring within these two structures include material and aircraft/vehicle storage, aircraft/vehicle maintenance and repairs, fuel transfer incidental to repairs, and cleaning.

Materials/Pollutants

Motor oil, waste oil, and small quantities of hydraulic fluid, solvents, and spray paint are stored inside the concrete maintenance hangar and airport maintenance hangar. Airport grounds maintenance chemicals (misc. herbicides, pesticides) are stored in 5-gallon pails inside the airport maintenance hangar. Small quantities of detergent are also stored in these facilities. A 275-gallon waste oil/fuel drum is also stored inside the maintenance hangar and a 275-gallon tank in the aircraft storage hangar houses diesel fuel. Pollutants associated with these materials include BTEX compounds and polynuclear aromatic hydrocarbons (PAHs), as well as typical pesticide compounds. A spill onto the paved area surrounding the waste oil drum or fuel tank would have the potential to discharge to Back Bay Brook, if the spill extended outside of the hangar, as discussed above. Waste oil is removed from the site by a private contractor as needed.

3.2.2 T-Hangar Areas

The airport has two multi-bay T-hangars used to store tenant aircraft. All activities would be under cover, protected from precipitation.

Activities

The only activities in these structures are aircraft storage and minor maintenance (adding of oil, etc.).

Materials/Pollutants

In these hangars, minor quantities of materials related to aircraft operation (e.g. motor oil, etc.) may be stored. All materials are housed under cover. The only potential for materials to contact stormwater is in the event of a release/spill that leaves the structure. A staff member at the facility also indicated that surface runoff along the pavement in this area goes under the bay doors, through the structure, and out the other side during significant rainfall events. Thus, any spills/leaks/drips on the pavement within the structure could contact stormwater. However, due to the small quantities of materials stored and the presence of drip pans under some of the aircraft, this potential is minor. Stormwater leaving the structure in this manner would discharge via sheet flow to grassed areas adjacent to the apron or, in an extreme case, to one of the apron catch basins.

3.2.3 Aircraft Fueling Area

The Airport maintains a single fueling area, located adjacent to the terminal building. All fueling and fuel delivery is completed here, on a paved surface.

Activities

Aircraft fueling takes place in this designated area only. The only other fueling/fuel transfer on the property would occur in the maintenance building during repair work, in which case, the work would be under a roof, unexposed to stormwater, as described in Section 3.2.1. Aircraft are fueled in-place by one stationary 8,000-gallon fuel tank. Mounted next to the fuel tank are two (2) fuel dispensers.

Materials/Pollutants

AvGas (100LL) is stored in a single 8,000 gallon aboveground storage tank (AST). As such, PAHs or hydrocarbons would be the primary contaminants from the fuel. Drips or leaks that occur during refueling may flow to nearby storm catch basins, which discharge to Back Bay Brook.

3.2.4 Aircraft Apron Areas

Some aircraft and ground vehicles are stored outdoors on apron areas, which are primarily paved. Any leaks from these vehicles could potentially contact precipitation and reach Back Bay Brook via the stormwater system. Likewise, a rare vehicle accident could also release materials in these areas.

Activities

Aircraft and ground vehicle storage, as well as pre-flight checks, are the only main activities on the apron.

Materials/Pollutants

Vehicle fluids (e.g. aviation gasoline, oil, hydraulic and brake fluid, etc.) are the primary materials which could contact stormwater, in the event of a leak from the craft. These materials, in the event of a release, could reach the catch basins, and subsequently, Back Bay Brook.

3.2.5 Snow Removal/Deicing

Activities

No aircraft or runway/taxiway deicing occurs at the Mansfield Municipal Airport. Limited deicing of walkways is performed, as is deicing of the small main parking lot (done by Town DPW staff).

Materials/Pollutants

Deicing of the parking lot is completed with a sand/salt mixture by the Town DPW. No materials are stored onsite for this practice. A commercial calcium chloride deicer, which is stored onsite in small quantities, is applied in limited amounts to walkways by the Airport. These materials would be exposed to precipitation after their application to the paved surfaces. Runoff from these areas would either flow via sheet flow off of the paved surfaces or in limited areas, into the catch basin system which discharges to Back Bay Brook. It is not expected that the quantities used would have a significant impact on the brook.

3.2.6 Grounds Maintenance

The Airport maintains the grassed areas along the parking lots and terminal, as well as the mowed areas along the airfield. Limited quantities of herbicides/pesticides may be applied to the landscaped public areas of the airport, however the majority of the airfield is maintained solely by mowing/cutting.

Activities

Grounds maintenance activities include the application of pesticides/herbicides on a limited basis.

Materials/Pollutants

Pesticides/herbicides could potentially be exposed to stormwater after application in limited areas. These materials could be carried by stormwater runoff to Back Bay Brook. To reduce potential impacts, manufacturer's instructions are followed and use is limited.

3.2.7 Waste Disposal

Trash at the Airport is properly disposed of and kept in a covered dumpster on the premises. Waste is picked up weekly. Hazardous/waste materials requiring special handling are disposed of through Safety Kleen, a private contractor.

3.3 Significant Spills and Leaks

There have been no significant spills or leaks during the last three years. Should such an event occur, appropriate reporting and cleanup procedures will be followed and the listing in the SWPPP will be updated through an attachment to this document. If such a significant release occurs, the SWPPP will be reviewed and any necessary changes made.

Locations of materials with a potential to impact stormwater are discussed throughout this report and ultimate discharge points indicated. Actions to be taken to prevent spills or leaks are discussed throughout Section 4 of this report.

In the event of a significant spill or leak, records will be made including the following information, as appropriate:

- Date and time of the incident,
- Location,
- Material released,
- Quantity released,
- Weather conditions,
- Duration,
- Cause,
- Environmental problems,
- Response procedures,
- Parties notified, and
- Recommended revisions to the BMP program, operating procedures, and/or equipment needed to prevent recurrence.

A formal written report will be prepared for all spill/leak occurrences. All reports will be documented to the Massachusetts Department of Environment Protection in the event of a reportable quantity discharge.

3.4 Non-Stormwater Discharges

The U.S. EPA Multi-Sector General Permit for Storm Water from Industrial Activities requires that if non-stormwater discharges exist in stormwater drainage system(s), they must be eliminated prior to implementation of the SWPPP. Potential non-stormwater discharges include, but are not limited to aircraft, ground vehicle, runway and equipment washwaters; and dry weather discharges of deicing chemicals. In order to determine if non-stormwater discharges are occurring at Mansfield Municipal Airport, the following tests and evaluations were conducted in the past:

- Storm drain lines and outfalls were visually inspected for non-stormwater connections or flow during dry weather.

- Activities taking place on-site were observed for discharge of non-stormwater to the drainage system.

Table 3 identifies tests and evaluations performed at the airport for identifying potential non-stormwater discharges. These findings indicate that the Mansfield Municipal Airport does not have any non-stormwater discharge connections to the local drainage system. Table 3 includes a certification that all discharges (outfalls) have been tested or evaluated for the presence of non-stormwater.

3.4.1 Allowable Non-Stormwater Discharges

Under the General Permit, certain non-stormwater discharges are allowed, provided that the SWPPP includes the following:

- Identification of each allowable non-stormwater discharge source,
- Location where it is likely to be discharged, and
- Description of appropriate BMPs for each source.

Flows from fire fighting activities are excluded from these requirements.

Allowable non-stormwater discharges under the General Permit are as follows:

- Discharges from fire fighting activities,
- Fire hydrant flushing,
- Potable water, including water line flushing,
- Uncontaminated air conditioning or compressor condensate,
- Irrigation drainage,
- Landscape watering provided all pesticides, herbicides, and fertilizer have been applied according to manufacturer's instructions,
- Pavement washwaters where no detergents are used and no spills/leaks have occurred (unless all spilled materials have been removed),
- Routine external building washdown which does not use detergents,
- Foundation or footing drains where flows are not contaminated with materials, and
- Incidental windblown mist from cooling towers (not applicable).

Table 3 summarizes allowable non-stormwater discharges with a potential to occur at the Mansfield Municipal Airport. At the time of this writing, the only allowable non-stormwater discharge with a potential to occur at the Airport is landscape watering in the areas in front of the terminal. As a BMP, manufacturer's instructions are followed for chemical application and quantities applied are limited. This area is also far removed from the drainage system and runoff from these areas would not reach catch basins.

3.5 Stormwater Monitoring Data

To date, no stormwater discharge sampling has been performed at Mansfield Municipal Airport. No aircraft deicing takes place at the airport. Therefore, the airport, under the General Permit, is not subject to benchmark monitoring requirements.

However, the facility is subject to quarterly visual monitoring, as are all facilities under the MSGP. As such, quarterly documentation of a stormwater discharge from each outfall associated with industrial activity will be conducted. Outfalls "A" and "B", as marked on the site map, are the outfalls on the site in areas which are associated with industrial activity or are in adjacent areas. Only Outfall A is directly within the drainage area of the listed activity areas. Thus, only Outfall A is subject to monitoring.

The visual examination of Outfall A shall be made during daylight hours. The visual examination must be made on a sample collected during the first 30 minutes of when runoff or snowmelt begins discharging from the facility. The sample must be collected from a storm event that is greater than 0.1 inches in magnitude and is preceded by at least 72 hours of dry weather (less than 0.1 inches in 24 hours). Specific requirements for the sampling process are given in the MSGP and will be reviewed prior to each sampling event. The monitoring year is from October 1 to September 30, therefore a quarterly sample needs to be taken and documented during the following periods for each permit year:

- ☐ October-December
- ☐ January-March
- ☐ April-June
- ☐ July-September

No analytical testing is required, but observations must be made regarding the color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, or other obvious indicators of stormwater pollution in the sample. Report records of the visual examination must be filled out completely, signed and certified, and maintained with the SWPPP onsite. A report form template for use in this process is included as Appendix C.

4 Best Management Practices Selection

Section 3 describes the identification and assessment of potential and existing sources of pollution to stormwater. This section describes the selection of the proper Best Management Practices (BMPs) that eliminate or reduce pollution in stormwater discharges from the airport.

BMPs are broken down into general structural and non-structural BMPs and activity specific BMPs. This section describes each BMP. Table 4 presents a summary of this section as well.

4.1 Structural Best Management Practices

4.1.1 Sediment and Erosion Control

All areas of the airport are currently stabilized. Any new construction project will likely fall subject to NPDES Construction Permits for Stormwater, which require erosion and sedimentation controls. All required controls will be implemented at such a time. However, there is no need for any present remedial actions to prevent sediment erosion at the site.

4.1.2 Management of Runoff

Management of runoff at the airport is currently achieved through limited catch basins with connected piping to outfalls and grassed swales, and sheet flow from paved areas over grassed areas to infiltration. Wide expanses of open grassed land surround the runways and taxiways, allowing for infiltration after sheet flow. This allows for filtering of pollutants by vegetation. Similarly, vegetative swales are located along the runway, which act to manage runoff and to reduce pollutants in stormwater discharges. Future proposed construction at the airport may incorporate a detention or retention basin, as well as updates to the piped system with additional controls such as oil/water separators or deep sumps.

4.2 Nonstructural Best Management Practices

The plan incorporates the following "baseline" BMPs:

- Good housekeeping,
- Preventive maintenance,
- Visual inspections,
- Spill prevention and response,
- Traditional stormwater management practices,
- Employee training, and
- Recordkeeping and reporting.

Each of the baseline BMPs listed above is described in detail in the following sections. This is followed by activity specific BMPs. The activity specific BMPs also relate to these categories, although they are not specifically separated into such sections.

4.2.1 Good Housekeeping

The following are procedures that the airport incorporates into its effective good housekeeping program:

- Machinery and processes are operated and maintained properly,
- Careful material storage/disposal practices are implemented,
- Up-to-date material inventories are maintained, and
- Employees are trained in good housekeeping practices.

The following subsections provide descriptions of good housekeeping procedures.

Operation and Maintenance

These practices ensure that processes and equipment are working well. Basic operation and maintenance BMPs that are incorporated in the good housekeeping program include:

- Ground surfaces are maintained by using brooms and shovels,
- Garbage and waste material are regularly picked up,
- Equipment is checked regularly for proper operation,
- Routine inspections for leaks or conditions that could lead to discharges of chemicals or contact of stormwater with raw materials or waste materials (see Routine Inspection BMP below) are conducted, and
- Employees (see Spill Prevention and Response BMP below) understand spill cleanup procedures.

Material Storage Practices

Proper storage techniques that are used at this airport include:

- Adequate space is provided to facilitate material transfer and easy access for inspections,
- Where possible, materials are stored under cover, inside structures, to prevent the potential for contact with stormwater,
- Absorbent pads are placed around the waste oil tank, to collect any drips during transfers,
- Containers, drums, and bags are stored away from direct traffic routes to prevent accidental spills (see Spill Prevention and Response BMP below),
- Containers are stacked according to manufacturers' instructions to avoid damaging the containers from improper weight distribution,

- Containers are stored on pallets or similar devices to prevent corrosion of the containers, which can results when containers come in contact with moisture on the ground, and
- Containers are stored above the ground surface if possible to prevent contact with any runoff on the structure floor.

Material Inventory Procedures

An up-to-date inventory of all materials present on the site is kept. The following instructions explain the basic steps taken to complete the material inventory:

- All chemical substances present in the workplace are identified, and
- All containers are labeled to show the name and type of substances, stock number, expiration date, health hazard, suggestions for handling, and first aid information.

Employee Participation

Methods for involving employees in good housekeeping practices include:

- Information sessions on good housekeeping practices are incorporated into the airport's employee training program,
- Good housekeeping items are discussed at employee meetings,
- Pollution prevention concepts are publicized through posters, and
- Bulletin boards are posted with updated good housekeeping procedures, tips and reminders.

4.2.2 Minimizing Exposure

The airport has minimized exposure to the extent possible through the following actions:

- All materials are stored inside, under cover, with the exception of the bulk aviation gasoline fuel tank, and
- Maintenance/repair activities are conducted inside, with limited exceptions.

4.2.3 Preventive Maintenance

The preventive maintenance program includes the following:

- Inspection and maintenance of stormwater management devices (i.e., cleaning catch basins) on at least a semi-annual basis,
- Inspection and testing of airport equipment and systems (including all tanks), and
- Proper maintenance of airport equipment and systems.

Routine Preventive Maintenance Inspections

Routine inspections include examinations for leaks, corrosion, support or foundation failure, or other forms of deterioration of the catch basins and fuel tanks. Preventive maintenance inspections are conducted as part of regular visual inspections.

Equipment Cleaning, Repair or Replacement

Equipment found inadequate during inspection and testing is promptly repaired. Spare parts for equipment requiring frequent repair are available. Catch basins that are filled with sediments are cleaned and the sediments properly disposed of.

Records of Preventive Maintenance

Records of tests and inspections are maintained. Test results are recorded and corrective actions identified. Records are to be complete and detailed. These records are kept with other visual inspection records in the back of this SWPPP.

4.2.4 Spill Prevention and Response Procedures

The airport does not currently have a Spill Prevention and Response Plan in place. A draft plan is in progress. In the interim, the following constitutes the spill plan.

- Areas where spills have occurred or can occur are identified,
- Material handling procedures, storage requirements, and use of equipment are specified,
- Procedures used for cleaning up spills are identified and personnel are informed about these procedures, and
- The appropriate spill cleanup equipment is provided to personnel.

Potential Spill Areas

The activities and areas where spills are likely to occur are listed as follows:

- Loading and unloading areas - maintenance hangar and shed and fuel tankers,
- Storage areas - Waste oil stored in maintenance hangar,
- Fueling activities - Fuel tank area,
- Maintenance areas – Maintenance and aircraft hangar, and
- Waste storage activities - Dumpster adjacent to maintenance hangar.

Material Handling Procedures and Storage Requirements

Following is a list of activities that reduce spill potential:

- Leak detection devices, overflow controls, and diversion berms are installed on tanks as per state and federal regulations,
- Filling procedures for aircraft and other equipment are used to minimize spills (e.g. prohibiting walking away during fueling, wedging components into the pump handle, etc. to prevent overfills),
- Material transfer procedures are used to reduce the chance of leaks or spills, and
- Proper material storage is encouraged through training and the SWPPP.

The interim spill response plan is as follows:

- A spill response "team" (currently the pollution prevention team) is responsible for implementing the spill response plan.
- Spill response activities focus on stopping the flow of the spill, isolating the spill from any drainage and watercourses, applying spill control methods (absorbent pads, booms, etc.), and properly cleaning up the spill. First priority is always for personal health and safety and proper emergency reporting.
- Spill response equipment is available onsite including:
    - Safety equipment: respirators, eye guards, protective clothing, fire extinguisher, and two-way radios, and
    - Cleanup equipment: brooms, barriers, sweeps, absorbents, and containers, etc.

Following any spill, an evaluation is conducted on the success of the prevention plan and any necessary improvements. This section will be replaced by the formal SPCCP once completed and implemented.

4.2.5 Routine Facility Inspections

The steps for a routine facility inspection program are as follows:

- Airport personnel are identified who inspect airport equipment and areas,
- Results of inspections are recorded to ensure that appropriate actions are taken, and
- Records of all inspections are kept in the SWPPP.

These inspections must include an evaluation of the existing stormwater BMPs and must cover all areas of the facility where industrial materials/equipment/activities are exposed to stormwater. The following list identifies the types of equipment and airport areas included in the visual inspection:

- Areas around equipment, tanks, work areas,
- Areas where spills and leaks have occurred in the past (not applicable),
- Material/equipment/vehicle storage areas,
- Material handling areas (e.g., loading, unloading, and transfer),
- Waste storage areas,
- Fueling areas,
- Maintenance/repair areas, and
- Deicing areas (not applicable).

Implementation of a Facility Inspection Plan

Employees are assigned the responsibility for carrying out the inspections as per the SWPPT roster. The employees carrying out the visual inspection program are properly trained, familiar with the stormwater pollution prevention program, and knowledgeable about proper record keeping and reporting procedures. The frequency of visual inspections is twice a year.

Records of Inspection

All inspections are documented. Inspection records note when inspections were done, who conducted the inspection, which areas were inspected, what problems were found, and steps taken to correct any problems, including who has been notified. Any deficiencies in the plan must be corrected as soon as possible, but not later than 14 days after the inspection. All records are kept with the plan.

4.2.6 Employee Training

Employee training of tenants and airport personnel is essential to effective implementation of the Stormwater Pollution Prevention Plan for the airport. The employee-training program includes the following topics and will be conducted in the winter each year. Training dates will be documented and maintained with the SWPPP.

Spill Prevention and Response

Spill prevention and response procedures are described earlier. Specifically, all employees involved in maintenance activities at the airport are trained about the following measures:

- Potential spill areas and drainage routes are identified, including information on past spills and causes (not applicable to date),
- Employees are told that spills must be reported to appropriate individuals, and that this shall be done without penalty,
- Material handling procedures and storage requirements are specified, and

- Spill response procedures are discussed (e.g. use of absorbents, safety equipment and procedures, etc.).

Outside contractors, tenants, and temporary personnel are also informed of the airport operations in order to help prevent accidental discharges or spills from occurring.

Good Housekeeping

Airport and tenant personnel are also taught how to maintain a clean and orderly work environment. The following points in the good housekeeping portion of the training are emphasized:

- Sweeping is performed regularly,
- Spilled materials are cleaned up promptly using appropriate methods,
- Signs reminding employees of the importance and procedures of good housekeeping are displayed, and
- Instruction is provided on securing drums and containers and frequently checking for leaks and spills.

Materials Management Practices

- Materials for storage are organized,
- All toxic and hazardous substances stored or handled onsite are identified, and
- Handling procedures for these materials are discussed.

Tools for a Training Program

The training program includes the following tools:

- Routine employee meetings, and
- Bulletin boards.

Schedule for Training

Formal employee training occurs once per year. All employees involved in materials handling and activities where materials may be exposed to stormwater undergo this training. Training updates on the bulletin board occur more frequently, two times per year. Also, the effectiveness of the training program is evaluated by discussing goals with the employees to determine if the information has been effectively communicated.

4.3 Activity/Area Specific Best Management Practices

BMPs for each of the following activities are implemented and made a part of the Stormwater Pollution Prevention Plan. The following sections identify the location of these activities at the airport and describe the required BMPs.

- Aircraft, Vehicle and Equipment Maintenance Areas,
- T-Hangar Areas,
- Aircraft Fueling Areas,
- Apron Areas,
- Snow Removal/Deicing,
- Grounds Maintenance, and
- Aircraft and Vehicle Washing.

4.3.1 Aircraft, Vehicle and Equipment Maintenance Areas

The following BMPs are implemented in the Airport maintenance hangar, portions of the apron and Blue cement maintenance hangar where routine maintenance and pre-flight checks take place.

Nontoxic or less toxic cleaners are used

The number or amount of hazardous materials and waste are eliminated or reduced to the extent practical by substituting non-hazardous or less hazardous materials. For example:

- Non-caustic detergents are used instead of caustic cleaning agents for parts cleaning.
- Detergent-based or water-based cleaning systems are used instead of organic solvent degreaser.
- The lists of active ingredients in cleaning fluids are checked to see whether they contain chlorinated solvents. Chlorinated organic solvents (1,1,1-trichloroethane, methylene chloride, etc.) are replaced where possible with nonchlorinated solvents.
- Cleaning agents are used that can be recycled, where possible.

Work areas and spills are not washed or hosed down with water

The following BMPs are observed:

- Hosing down work areas is avoided.
- Visible and known leaking or dripping fluids are collected in drip pans or containers.
- Drip pans are kept under aircrafts and vehicles that might leak while work is being performed to keep splatters or drips off the shop floor.

- Used fluids are properly transferred to the proper waste or recycling drums. Full drip pans or other open containers are not left lying around.
- Waste and recycling drums are located in properly controlled areas of the airport.

Materials are not washed or poured down the drain

Liquid wastes are not poured into floor drains, sinks, outdoor storm drain inlets, or other storm drains or sewer connections. Signs are posted at sinks to remind employees.

Oil filters are completely drained before recycling or disposal

Oil filters are drained in a funnel, over the waste oil recycling/disposal collection tank, before disposal.

Incoming aircraft are checked for leaking oil and fluids

Aircraft are generally parked indoors while undergoing repair or maintenance so stormwater does not contact the area. Aircraft parked outdoors are watched closely for leaks. Pans are placed under leaks to collect fluids for proper recycling or disposal.

A special area is designated to drain and replace motor oil, coolant, and other fluids; where there are no connections to the storm drain or the sanitary sewer, and drips and spills can be easily cleaned up.

Materials are recycled as much as possible

The following materials are recycled:

- Degreasers,
- Used oil or oil filters,
- Cleaning solutions,
- Batteries, and
- Hydraulic fluid.

Waste is separated

Hazardous and non-hazardous wastes are kept separate, used oil and solvents are not mixed, and chlorinated solvents (like 1,1,1-trichloroethane) are kept separate from non-chlorinated solvents (like kerosene and mineral spirits). All wastes and materials are properly labeled.

4.3.2 T-Hangar Areas

The T-Hangar areas are used for aircraft storage. Minor quantities of materials such as motor oil may also be stored on shelves in the individual bays in the hangars. Individual planes may have drip pans to prevent drips from reaching the ground. All storage and any incidental maintenance is completed under cover. Releases are controlled quickly with absorbents. Employees look for signs of releases from the hangars and also for any issues with individual tenants.

4.3.3 Aircraft Fueling Area

King Aviation - Mansfield offers aircraft fueling services to their customers. One 8,000-gallon fuel tank is available to fuel aircraft. The following BMPs are observed during fueling operations.

Aircraft fueling area is designated

Fueling area is designed to minimize spills, leaks, and incidental losses of fuel from coming into contact with rainwater. Absorbent booms are available to place around catch basins to contain any spill or release.

The fueling areas are not cleaned by hosing or washing

The fueling area is not cleaned with running water since wash water will pick up fuel, oil and grease. A sweeper is used to clean the pavement and spills or drips are addressed with absorbents.

Petroleum spills are controlled

Spills are controlled immediately. Small spills are contained to the extent possible using sorbent material such as dryzit, kitty litter, straw, or sawdust. Petroleum spills are not washed into the storm drain or sanitary sewer.

Employees are trained to reduce contamination of stormwater at fueling area

Employees are informed about ways to eliminate or reduce stormwater contamination, as discussed in the training session. Topics include material handling (loading/unloading), good housekeeping, response measures, and proper fueling procedures.

4.3.4 Aircraft Apron Areas

Aircraft are parked on the apron areas. Pre-flight checks also occur in this area.

Employees review the area for signs of problems

Employees regularly review the apron areas to look for signs of leaks or maintenance issues with aircraft. Aircraft owners are informed of issues and remedial action is taken as soon as possible. Drip pans may be placed below aircraft or absorbents used as needed. Absorbent booms may be placed around catch basins as needed.

4.3.5 Aircraft and Vehicle Washing Areas

Prior to the General Permit, aircraft were washed in-place on the apron and under the open-ended shade hangar with a non-biogradable detergent.

The General Permit does not allow the discharge of washwater to the storm drain system without additional permitting. Now, aircraft are washed on the east ramp and in front of the maintenance building which is unconnected to the stormwater drainage system. Runoff travels via sheet flow and then over vegetation before infiltrating.

4.3.6 Snow Removal/Deicing

Snow is not piled near maintenance activities

Snow is piled in a designated area that will not contact maintenance areas or be released to the stormwater system.

Paved surfaces are swept

Paved surfaces are swept to remove sand, salt, and other debris. Weather permitting, sweeping is done occasionally during winter months to prevent a winter melt from washing the pollutants to the storm drain system.

No aircraft or runway deicing is allowed

The airport does not deice aircraft, runways, or taxiways. Sidewalks are deiced for safety using calcium chloride. The Town deices the parking lot with a sand/salt mix.

4.3.7 Grounds Maintenance

Mansfield Municipal Airport currently uses herbicides and pesticides to prevent vegetative growth on paved areas and enhance natural green areas. The following BMPs are observed to reduce the pollutants in stormwater:

- Only the required amount of chemical is applied and manufacturer's directions are followed regarding application rates and methods, and
- Chemicals and applicator equipment are stored inside the maintenance shed.

4.4 Recordkeeping and Reporting Procedures for Maintenance Activities

A log of all maintenance activities is kept to evaluate the effectiveness of the BMP program, equipment, and operation.

The following are included, as appropriate:

- Field notebooks,
- Inspection forms, miscellaneous documentation,
- Timed and dated photographs, and
- Drawings and maps.

5 Miscellaneous Documentation

5.1 Permit Eligibility Related to Endangered Species

The listing of Federally endangered species was reviewed. None of the species listed for the State would occur or have habitat on the Airport. The listing is included in Appendix D. The Massachusetts Natural Heritage and Endangered Species (MNHESP) was contacted for a list of State- listed species potentially on Mansfield Airport. These potential species included the spotted turtle on the airport and the eastern box turtle in the general vicinity. Neither of these species are Federally listed, nor are they expected to be impacted by stormwater discharges from the airport, provided that BMPs are maintained and no changes in drainage outlets occur. The sensitive habitat areas are located at the opposite end of the airport (RW 32 end) from the industrial activity portion of the property. In addition, the General Permit covered areas drain to a different watercourse (Back Bay Brook). As such, there is no likelihood of impact from discharges covered by activities under this permit. Correspondence with MNHESP for recent improvements is included in Appendix D. In addition, the Airport has a management plan in place for the State listed species, dated October 2004.

5.2 Permit Eligibility Related to Historic Places

The National Register of Historic Places website was reviewed for listings for Bristol County. Two sites on the National Register are located in the Town of Mansfield. No sites were listed for the airport or vicinity. The airport's discharges do not have the potential to impact the two listed properties for the Town. A copy of the listings is included in Appendix E.

5.3 Permit Eligibility Related to Water Quality Impaired or Limited Receiving Waters

Mansfield Municipal Airport is within the Narragansett Bay Watershed. Back Bay Brook, the receiving water for discharges from areas associated with industrial activities at the facility, is not included on the Massachusetts Section 303(d) list and does not have a Total Maximum Daily Load (TMDL). Therefore, these discharges are eligible for coverage under the MSGP in regards to Water Quality – Impaired or Water Quality – Limited Receiving Waters.

5.4 Copy of Permit Requirements

A complete copy of the permit and its fact sheet (from the Federal Register on October 30, 2000) is included at the rear of this report (Appendix A) as required by the permit terms.

5.5 Compliance with Applicable State, Tribal, Local Plans

This SWPPP is to be consistent and will be updated as needed to remain consistent with all applicable state, tribal, and local policies (especially those related to stormwater and wastewater). All future development at the airport will be designed consistent with the Massachusetts Stormwater Management Policy and all other applicable regulations.

6 Comprehensive Site Compliance Evaluation

Annually, the SWPPP is evaluated for effectiveness and updated with changes occurring at the airport. This includes:

- Site evaluations,
- Records of all inspections and reports, and
- Revised site plans.

6.1 Annual Comprehensive Site Compliance Evaluation

Qualified personnel conduct site compliance evaluations once a year. Annual site compliance evaluations are comprehensive inspections performed by the individuals designated in the Pollution Prevention Team as having responsibility for conducting such inspections. These individuals must be qualified to assess existing conditions and the BMPs at the site for their effectiveness in controlling stormwater discharge quality.

6.1.1 Scope of the Compliance Evaluation

The annual inspection must include all areas where industrial materials and activities are exposed to stormwater, as discussed in this SWPPP, as well as locations of past spills that were recorded as described in Section 3.3. In particular, the investigation should look for:

- Industrial materials, trash, or residue on the ground that could contaminate or be washed away in stormwater,
- Leaks or spills from industrial equipment, drums, barrels, tanks, or similar containers,
- Offsite tracking of industrial materials or sediment where vehicles enter or exit the site (not likely to be applicable for the airport's operations, but required under the permit),
- Tracking or blowing of raw, final, or waste materials from areas of no exposure to areas of exposure (particularly hangar entrances, bay doors, etc.), and
- Evidence of or the potential for pollutants entering the drainage system.

Additionally, the following should be considered:

- Results of the quarterly visual monitoring must be reviewed and evaluated,
- Storm water drainage areas and BMPs identified in the SWPPP must be inspected for evidence of pollutants entering the drainage system as well as proper operation/maintenance,
- The effectiveness of measures to reduce pollution must be evaluated and a determination made on whether additional measures are needed,
- Discharge points must be evaluated to determine if pollutants are reaching receiving waters and impacting water quality, and

- Equipment needed to implement the plan, such as spill response equipment, must be inspected.

6.1.2 Follow-up actions

Based on the results of the inspection, the SWPPP will be modified as needed, within 14 days of the inspection. If BMP modifications are needed, they must be completed before the next storm event if possible, but in all cases not more than 12 weeks after the annual evaluation.

6.1.3 Compliance Evaluation Report

A report must be prepared summarizing the inspection scope, results, and follow-up actions. This includes the date of inspection and personnel who conducted the inspection; and a summary of the major observations related to the SWPPP implementation and any incidents of noncompliance (or certification that the airport is in compliance with the plan and no changes are needed). This report, including records of remedial actions taken, will be completed and maintained as part of the SWPPP for at least three years from the date permit coverage expires or is terminated.

Major observations must include:

- Location(s) of discharges of pollutants from the site,
- Location(s) of BMPs that need to be maintained,
- Location(s) of BMPs that failed to operate as designed or proved inadequate for a particular location, and
- Location(s) of additional BMPs that were not in place at the time of the inspection.

All incidents of noncompliance are documented in the inspection report. Where there are no incidents of noncompliance, the inspection report contains a certification that the airport is in compliance with the plan. The report is signed and kept with the plan.

Mansfield Municipal Airport
Stormwater Pollution Prevention Plan
Tables and Figures

List of Tables

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Appendix A: Copy of Permit

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Appendix B: NOI and EPA Response to NOI

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Appendix C: Quarterly Visual Stormwater Monitoring Form

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Appendix D: Massachusetts Natural Heritage and Endangered Species Program Correspondence

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Appendix E: National Register of Historic Places

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Appendix F: Documentation Records (Inspections, etc.)