

PLYMOUTH AIRPORT

Storm Water Pollution Prevention Plan
9/26/96 (SWPPP)
update 10/14/14

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Kevin Thomas

The Airport Manager

Updated 10/14/14

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Letter of Transmittal

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Section 1 Introduction

1.1 Purpose

This Storm Water Pollution Prevention Plan (SWPPP) has been prepared for the Plymouth Airport owned and operated by the Town of Plymouth Massachusetts. The plan describes management practices and controls implemented at this airport to reduce pollutants in storm water. This plan has the full approval of the airport management, in terms of commitment of necessary resources to fully implement the plan.

This SWPPP has been prepared in accordance with the storm water general permit issued by EPA in 1992 (57 Fed. Reg. 44438) and as further updated.. It covers the operation of the airport.

This plan will be reviewed and evaluated annually, and will be amended accordingly within two weeks of such review, to include more effective prevention and control technologies.

This plan shall also be amended before any change is made in the airport operations and maintenance, which might affect the airport's potential for pollutant discharge to storm water. An example of changes requiring amendments to this plan 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 storm water, and

- Change in operation or activities that are exposed to storm water.

All amendments to this plan shall be certified by an authorized airport official.

Section 2
Pollution Prevention Team

2.1 Team

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

The PPT 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 storm water management program.
- Being aware of any changes that are made in the airport's operation to determine whether any changes must be made to this plan.
- Maintaining a clear line of communication.

Table 1
Pollution Prevention Team

Leader: Thomas Maher.....Airport Manager
Office Phone: (508) 746-2020
Home Phone: (781) 551-3411
Cell: (508) 802-8769

Responsibilities: Signatory authority; coordinate all stages of plan development and implementation. Keep all records and ensure reports are submitted

Members:

(1) William Burke.....Airport Commission
Home Phone: (508) 746-0347

Responsibilities: Assist team leader in developing/implementing SWPPF; spill response team.

(2) Walter Morrison.....Airport Commission
Office Phone: (508) 746-9619
Home Phone: (508) 224-8409

Responsibilities: Assist team leader in developing/implementing SWPPF; spill response team.

(3) Mike Swift.....Airport Operations
Office Phone: (508) 746-2020
Home Phone: (508) 942-6806

Responsibilities: Assist team leader in developing/implementing SWPPF; spill response team.

Section 3 Coordination With Other Plans

3.1 Environmental Plans

- * Hazardous Waste Emergency Response Plan 29 CFR 1910.120, 40 CFR 112
- * Plymouth Airport, Ground Water Management Plan, May 1992

Section 4 Assessment

4.1 Facility Description

The Plymouth Airport is a general aviation, category airport approximately 37 miles southeast of the city of Boston. The airport was built in 1935 and expanded by the U.S. Navy in 1942 and comprises approximately 728 acres.

Two runways (06/124 and 15/33) are supported by a series of taxiways and ramps. The ramp areas consist of some 33 acres of pavement, with 24 buildings.

The airport has approximately 140 based aircraft, with an annual activity level of approximately 55,000 flight operations.

A site map (See Figure 1, IA) depicts the following features:

- * Property boundary
- * Buildings and impervious areas
- * Drainage areas for each storm water discharge point
- * Storm water conveyance and discharge structures
- * Existing structural storm water controls
- * Locations of surface waters
- * Material loading and unloading areas
- * Fueling areas
- * Above ground liquid storage tanks
- * Exposed material storage and disposal areas
- * Locations of past spills and leaks

4.2 Inventory of Materials Exposed to Storm Water

An inventory of materials that may be exposed to storm water has been completed at the Plymouth Airport. Table 2 identifies each material's use, site location, and estimated quantity. Table 2-A identifies significant materials which are currently exposed, or have been exposed, to storm water.

Table 2
Materials, Use, Location and Quantity

MATERIAL	USE	LOCATION (LOC)	QUANTITY
100LL AvGas	Fuel for gasoline-powered a/c	1	24,000 gallons
Jet A	Fuel for turbine-powered a/c	1	12,500 gallons
Mo Gas	Fuel for a/c and Airport vehicles	1	9,000 gallons
Engine Oils	Lubricant: ground vehicles and aircraft	1,2,3,4,5,6	<30 gallons
Other	Various maintenance shops	1,2,3,4,5,6	<30 gallons

Location Description

LOC 1 Airport Fuel Farm/ Hangar	Two 12,000-gallon tanks, IOOLL One 12,500-gallon tank, Jet A One 9,000- gallon tank, MoGas
LOC 2 Yankee Air Services	Storage and use of oils and other materials
LOC 3 Alpha One Aircraft Maintenance	Storage and use of oils and other materials
LOC 4 Medflight Helicopter	Storage and use of oils and other materials
LOC 5 Bendrix, C3, F1 complex	Storage and use of oils and other materials
LOC 6 Civil Air Patrol	Storage and use of oils and other materials
LOC 7 Paragon Air	Storage and use of oils and other materials
LOC 8 Pro-Pilots	Storage of oils and other materials

Table 2-A

100 LL AvGas	In one above-ground tank at LOC 1; three below-ground tanks at LOC 1; three 1 0,000-gallon fuel trucks; and in aircraft operating on the Plymouth Airport
Jet A	In one above-ground tank at LOC 1; three below-ground tanks at LOC 1; two 1,000-gallon fuel trucks; and in aircraft operating on the Plymouth Airport
Engine Oils	In aircraft operating on the Plymouth Airport
Other Materials	Incidental to the operation of aircraft (i.e., grease, paint) on the Plymouth Airport

4.3 Significant Spills and Leaks

An investigation has been made into identifying past spills and leaks. Table 3 identifies significant spills and leaks which have occurred at Plymouth Airport in the past four years.

Table 3

<u>DATE</u>	<u>SIGNIFICANT SPILLS/LEAKS</u>
None	No known significant spill/leaks

4.4 Non- Storm Water Discharges

The U.S. EPA General Storm Water Permit requires that if non-storm water discharges exist in the storm water drainage system(s), they must be eliminated prior to implementation of the SWPPP. In order to determine if non-storm water is discharging into the storm drainage system at the Plymouth Airport, the following tests and evaluations were conducted:

- An inspection of existing as-builts, of structures on the Plymouth Airport, and a visual inspection on 8/20/96 of the actual structures was conducted. It was therefore determined, to the best of the airport management's knowledge, that no non-storm water discharges presently exist on the Plymouth Airport.

4.5 Storm Water Monitoring Data

The Plymouth Airport did conduct storm water monitoring as part of the initial Storm Water permitting application in 1992. The results of that testing is on file at the Plymouth Airport. The results of that testing indicated no significant non-storm water discharges. At the present time, there is no additional storm water monitoring data available.

4.6 Site Evaluation

The SWPPP will incorporate controls for the following materials and activities:

- * Aviation fuels....involving the storage and fueling of aircraft and equipment
- * Oils.....involving the storage and servicing of aircraft and equipment
- * Other materials... such as cleaning materials, greases and other material incidental to aviation

Section 5

Best Management Practices Selection

5.1 General

Section 4.0 described the identification and assessment of potential and existing sources of pollution to storm water. This section describes the selection of proper measures, or best management practices (BMPs), which are designed to eliminate or significantly reduce pollution from storm water discharges sourced at the airport.

The BMPs are broken down into two categories: *baseline* and *activity-specific*.

5.2 Baseline Best Management Practices

The plan incorporates the following eight baseline BMPs:

- * Good housekeeping
- * Preventive maintenance
- * Visual inspections
- * Spill prevention and response
- * Traditional storm water management practices
- * Employee training
- * Recordkeeping
- * Reporting

Each of the baseline BMPs is described in detail in the following section, followed by the activity-specific BMPs.

5.2.1 Good Housekeeping

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

- * Machinery and processes are operated and maintained
- * Careful material storage practices are implemented
- * Up-to-date material inventory is maintained
- * Employees are trained in good housekeeping practices

The following sub-sections 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 airports good housekeeping program include:

- Ground surfaces are maintained by using brooms and shovels
- Garbage and waste materials are regularly picked up
- Equipment is checked for proper operation
- Routine inspection is conducted for leaks or conditions that could lead to a) a discharge of chemicals b) contact of storm water with raw materials or waste materials (See Visual Inspection BMP, below)
- Spill cleanup procedures are understood by employees (*See Spill Prevention and Response BMP, below*)

Material Storage Practices

Proper storage techniques used at the Plymouth Airport include:

- Adequate space provided to facilitate material transfer and easy access for inspections.
- Containers, drums, and bags stored away from direct traffic routes to prevent accidental spills (See Spill Prevention and Response BMP, below).
- Containers (ie. .oils) stacked according to manufacturers! instructions to avoid damaging the containers from improper weight distribution.
- Containers stored on pallets, or similar devices, to prevent corrosion of the containers which can result when containers come in contact with moisture on the ground.

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 at the Plymouth Airport to complete the material inventory:

- All chemical substances present in the workplace are identified (See Section 4.2).

- All containers are labeled to show the name and type of substance, stock number, expiration date, health hazard, handling suggestions, and first aid information.

Employee Participation

Methods for involving employees in good housekeeping practices include:

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

5.2.2 Preventive Maintenance

The preventive maintenance program includes the following:

- Inspection and maintenance of storm water management devices (i.e., cleaning oil/water separators, and catch basins)
- Inspection and testing of airport equipment and systems
- 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 fuel farms, fuel trucks and aircraft.

Preventive maintenance inspections are conducted at Plymouth as part of regular visual inspections.

Equipment Cleaning, Repair or Replacement

Defective equipment found during inspection and testing is promptly repaired. Spare parts for equipment requiring frequent repair are available. An adequate supply of Speedy Dri is kept on hand and is readily available as well.

Records on Preventive Maintenance

Records of tests and inspections are made. Test results are recorded and corrective action identified. Records are complete and detailed. These records are kept with other visual inspection records in the back of the SWPPP.

5.2.3 Visual Inspections

The steps for a visual inspection program are as follows:

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

The following airport areas are included in the visual inspection:

- * AvGas and Jet A fuel farm (1); fuel trucks; plus ramp cheeks of aircraft

Implementation of a Visual Inspection Plan

Employees are assigned the responsibility for carrying out the inspections per Section 2.0. The employees carrying out the visual inspection program are properly trained, familiar with the storm water pollution prevention program, and knowledgeable about proper recordkeeping and reporting procedures. The frequency of visual inspections is 1 per month.

Records of Inspection

All inspections are to be documented. Inspection records note when inspections were done, who conducted the inspection, which areas were inspected, what problems were uncovered, and the steps -S taken to correct any problems, including who was notified. These records are kept with the plan.

5.2.4 Spill Prevention and Response

The airport does currently have a Spill Prevention and Response Plan (dated xxx) in place. The plan's major components include:

- * Identifying areas where spills have or can occur
- * Addressing material handling procedures, storage requirements, and the use of equipment
- * Identifying procedures used for cleaning up spills and inform personnel about these procedures
- * Listing appropriate spill cleanup equipment for applicable personnel

Potential Spill Areas

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

- 1) *Fueling Areas*--involving the loading of tanks and trucks and the fueling of aircraft
- 2) *Aircraft and Equipment Maintenance Areas*--involving the servicing and storage of aircraft and equipment

Material Handling Procedures and Storage Requirements

The following is a list of activities or alternatives that reduce spill potential and its attendant impact on storm water quality:

- Installing leak detection devices, overflow controls, and diversion berms (fuel farm was updated in April 1996 to include leak detection, overflow alarm on Jet A tank and containment.)
- Disconnecting all floor drains in buildings that lead to the storm sewer
- Using filling procedures for tanks and other equipment that minimize spills
- Using material transfer procedures that reduce the chance of leaks or spills

Spill Response Procedures and Equipment

The spill response plan is as follows:

See Hazardous Waste Emergency Response Plan

5.2.5 Management of Runoff

As existing ramps are reconstructed, or, if new ramp areas are constructed, the Plymouth Airport Commission has required the installation of oil/water separators. It is anticipated that the environmental requirements for oil/water separators will continue to be required by the appropriate federal/state agencies in the future.

5.2.6 Employee Training

Refer to Section 6.3 for employee training.

5.2.7 Record keeping and Reporting

Refer to Section 7.3 for recordkeeping and reporting.

5.3 Activity-Specific Best Management Practices

Specific BMPs for common airport activities can be a source of pollution in storm water discharges. These include the following:

- **Aircraft, Vehicle & Equipment Maintenance**
- **Aircraft and Vehicle Fueling**
- **Aircraft and Vehicle Painting/Stripping**

- **Aircraft and Vehicle Washing**
- **Aircraft and Pavement De-Icing**
- **Chemical and Fuel Storage**
- Building and Grounds Maintenance
- Fire Fighting

An appropriate implementation of these activity-specific BMPs, as they apply to the individual operator, is described below.

Aircraft, Vehicle & Equipment Maintenance

Storm water runoff from aircraft, vehicles and equipment maintenance areas can become polluted by a variety of materials, such as solvents and degreasing products. Activities that can contaminate storm water are as follows:

- Engine repair, parts cleanup, shop cleanup, spilled oil and splatter
- Outdoor vehicle parking and equipment storage with dripping engines/fluids
- Material disposal and process wastes that can include greasy rags, oil filters, batteries

Summary of Aircraft, Vehicle and Equipment Maintenance BMPs

- * Check for leaking oil and fluids
- * Use non-toxic or low-toxicity materials
- * Drain oil filters before disposal or recycling
- * Recycle degreasers, batteries and engine fluids
- * Separate wastes for easier recycling
- * Do not wash or pour materials down the drain

Aircraft and Vehicle Fueling

When storm water mixes with fuel that has been spilled onto the ground, the storm water becomes polluted with chemicals, these BMPs are applicable to outdoor fueling operations, or, when fueling occurs in areas where leaks or spills might ultimately pollute the storm water. They include:

- Spills and leaks that occur during fueling or oil delivery
- Spills caused by “topping off fuel tanks

- Hosing or washing down the fuel area
- Leaking storage tanks

Summary of Aircraft and Vehicle Fueling BMPs

- * Install spill and overflow protection
- * Control petroleum spills in adherence to the *Plymouth Airport Hazardous Spill Prevention Plan*
- * Reduce exposure of the fuel area to storm water
- * Install oil/water separators or oil/grease traps
- * Use absorbent, dry clean-up methods (i.e. Speedy-Dri) for fuel area
- * Do not clean fueling area by hosing/washing down
- * Use grades, berms, or curb to prevent the "run-on" of storm water to the fueling area

Aircraft and Vehicle Painting/Stripping

Storm water run-off from painting operation areas can be polluted by a variety of pollutants, such as solvents and dusts from sanding and grinding that contain toxic metals. Painting activities that can contaminate storm water include:

- * Painting and paint removal
- * Sanding or paint stripping
- * Spilled paint or paint thinner
- * Improper disposal of paints and thinners

Summary of Aircraft and Vehicle Painting/Stripping BMPs

- * Inspect parts prior to painting
- * Contain sanding wastes
- * Prevent paint waste from contacting storm water
- * Provide proper interim storage of waste paint, solvents, etc.
- * Evaluate the efficiency of equipment to ensure that it delivers more paint to the target and less overspray
- * Recycle paints
- * Separate wastes

Aircraft and Vehicle Washings

Washing aircraft and vehicles outdoors, or, in areas where wash water flows on to the ground can resultingly pollute storm water. Wash waters can contain high concentrations of oil and grease, phosphates, and suspended solid loads. The current storm water National Pollutant Discharge Elimination System (NPDES) permit does not allow for the discharge of wash water. Hence, aircraft and vehicle wash water discharges to the storm drain system are not permitted in any undesignated areas.

Summary of Aircraft and Vehicle Washing BMPs

- * Use designated washing/cleaning areas in the ProAir Hangers, which are bermed to direct wash water to an underground storage tank that is pumped on an as needed basis.
- * Use a dry wash system that does not require rinsing.

Aircraft and Pavement De-Icing

At the present time there is no Aircraft and pavement De-icing being performed on the Plymouth Airport. Aircraft and runway de-icing can carry pollutants from surfaces such as snow, ice melts, and run-off. If used in sufficient quantities, de-icing agents such as propylene glycol, ethylene glycol and urea could potentially reduce dissolved oxygen concentrations in nearby receiving waters. If, at some time in the future, Aircraft and or pavement De-icing is deemed needed the following BMPs will be used.

Summary of Aircraft and Pavement De-Icing BMPs

- * Use less toxic de-icers
- * Do not over apply
- * Train employees in proper application techniques
- * Consider designated de-icing areas
- * When possible, keep aircraft in hangars or under cover

Chemical and Fuel Storage

Accidental releases of chemicals can contaminate storm water with many different pollutants. From above-ground, liquid storage tanks, the most common causes of unintentional releases include:

- External corrosion and structural failure

- Installation problems
- Spills and overflows due to operator error
- Failure of piping systems (pipes, pumps, flanges, couplings, hoses, and valves)
- Leaks or spills during pumping of liquids from trucks to a storage facility or vice versa

Summary of Chemical and Fuel Storage BMPs

- * Comply with applicable state and federal laws regarding the storage of hazardous materials and oil.
- * Properly train employees to reduce human errors that lead to releases or spills
- * Install safeguards against accidental releases (i.e., overflow protection devices)
- * Routinely inspect tanks and equipment
- * Install secondary containment: berms, dikes, liners, vaults and/or double-walled tanks (scheduled to be installed in 2016).

Building and Grounds Maintenance

Activities commonly based around facility upkeep and maintenance have the potential to release pollutants into the storm drains. For instance, some waste management activities or areas that can contaminate storm water include:

- * Waste dumpsters
 - Wastewater and solid waste treatment and disposal

Summary of Building/Grounds BMPs

- * Reduce waste whenever possible
- * Contain waste areas, i.e., by closing dumpster lids to prevent rain from washing waste out of holes or cracks in the dumpster bottom. Other measures might include covering the area with a temporary or permanent roof
- * Limit exposure of material to rainfall. This can include

covering the loading/unloading areas, such as building overhangs, thereby reducing the exposure of materials, vehicles, and equipment to rain

- * Prevent storm water run-on. Other than grading or berming, other practices might include: positioning roof spouts so that storm water is directed away from loading sites

Fire Fighting

Fire-fighting activities can release pollutants to the storm drain system via fire-controlling agents.

See Hazardous Spill Prevention Plan.

Section 6 Implementation

6.1 Implement Controls

The Plymouth Airport will have on file and begin to implement the SWPPP by September 30, 1996. Thomas Maher, the Airport Manager, is assigned the responsibility for implementing the plan, via the PPT, with the cooperation of the applicable fixed base operators on the airport.

A periodic review, on an annual basis, will be initiated to assess progress.

6.2 Employee Training

Employee training is essential to the SWPPP's effective implementation. Training specifically addresses components of the plan, including how and why tasks are to be implemented.

The employee training program includes the following topics:

1. **Spill Prevention and Response**

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

- Potential spill areas and drainage routes are identified, including information on past spills and causes
- Potential spills are reported to the appropriate individuals/agencies, without penalty
- Material handling procedures and storage requirements are specified
- Spill response procedures are implemented

2. **Good Housekeeping**

Airport 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
- Signs reminding employees of the importance as well as the procedures for good housekeeping are prominently displayed
- Instruction is provided on securing drums and containers, while frequently checking for leaks and spills

3. **Materials Management Practices**

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

Tools for a Training Program

The training program includes the following tools:

- Routine (and recorded) employee meetings
- The use of bulletin boards to disseminate information on BMPs

Schedule for Training

Formal employee training occurs once per year. Training updates on the bulletin board(s) 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 communicated properly.

Section 7

Evaluation and Monitoring

7.1 General

The SWPPP is evaluated annually for its effectiveness, while being updated when changes occur at the Plymouth Airport. The incorporation of changes into the plan include:

- When site evaluations are conducted
- When the site plan is revised
- Plus an ongoing record of all inspections and reports

7.2 Annual Site Compliance Evaluation

Annual site compliance evaluations are comprehensive inspections performed by individuals designated as Plymouth Airport PPT, specifically tasked with the responsibility for conducting such inspections.

These personnel conduct site compliance evaluations once annually. As part of the compliance evaluations, the following are performed:

- Storm water drainage areas are inspected for evidence of pollutants entering the drainage system.
- The effectiveness of measures to reduce pollution are evaluated and a determination made on whether additional measures are needed.
- Structural measures, sediment controls, and other storm water BMPs are observed to ensure proper operation.
- Equipment needed to implement the plan, such as spill response equipment, is inspected.

- The plan is revised, as needed, within four weeks of inspection.
- Any necessary changes are implemented in a timely manner, but at least within 12 weeks of the inspection, where possible.
- A report is prepared, summarizing inspection results and follow-up actions. This includes the date of inspection and the personnel who conducted the inspection.