

## **7.0 INDUSTRIAL AND COMMERCIAL COMPONENT**

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### **7.1 INTRODUCTION**

This Section 7.0 of this SWMP addresses the requirements of the General Industrial Permit and the appropriate sections of the Municipal Permit that the Authority has determined are relevant to the Industrial and Commercial Component. The specific sections of the General Industrial Permit addressed are: A.3-9, B.3-5, B.7, B.10, B.13, and B.14. The specific sections of the Municipal Permit addressed are Sections D.3.b and J.1.a.(3)(f).

General Industrial Permit Section A.3.a requires that the SWMP identify the individuals, and their positions, who are members of the SAN stormwater pollution prevention team. Section 2.1 and Tables 1 and 2 have been prepared to address this requirement.

General Industrial Permit Section A.4 requires that the SWMP include a site map or maps which features the following information. SWMP Figure 3 and Figures 5 through 8 have been prepared to address the requirements of Section A.4.

General Industrial Permit Section A.4.a requires the SWMP site map to include the facility boundaries; the outline of all stormwater drainage areas within the facility boundaries; portions of the drainage area impacted by run-on from surrounding areas; and direction of flow of each drainage area, onsite surface water bodies, and areas of soil erosion. The map shall also identify nearby water bodies (such as rivers, lakes, and ponds) and municipal storm drain inlets where the facility's stormwater discharges and authorized non-stormwater discharges may be received. Figure 3 and Figures 5 through 8, and Figures SC-01 and SC-09 in Appendix B have been prepared to address this requirement.

General Industrial Permit Section A.4.b requires the SWMP site map to include the location of the stormwater collection and conveyance system, associated points of discharge, direction of flow, structural control measures, authorized non-stormwater discharges, and run-on. Examples of structural control measures are catch basins, berms, detention ponds, secondary containment, oil/water separators, diversion barriers, etc. Figure 3 and Figures 5 through 8, Figure SC-01 in Appendix B, and Figures E-3, and E-22 in Appendix E have been prepared to address this requirement.

General Industrial Permit Section A.4.c requires the SWMP site map to include an outline of all impervious areas of the facility, including paved areas, buildings, covered storage areas, or other roofed structures. Figure 3 and Figures 5 through 8, and Figure SC-09 in Appendix B have been prepared to address this requirement.

General Industrial Permit Section A.4.d requires the SWMP site map to include locations where materials are directly exposed to precipitation and the locations where significant spills or leaks have occurred. Figure 3 and Figures 5 through 8, and Figure E-26 in Appendix E have been prepared to address this requirement.

General Industrial Permit Section A.4.e requires the SWMP site map to include areas of industrial activity, i.e., the locations of all storage areas and storage tanks, shipping and receiving areas, fueling areas, vehicle and equipment storage/maintenance areas, material handling and processing areas, waste treatment and disposal areas, dust or particulate generating areas, cleaning and rinsing areas, and other areas of industrial activity which are potential pollutant sources. Figure 3 and Figures 5 through 8, the Tenant and Authority figures in Appendix E, and Figures SC-02B through SC-08, SC-11, SC-18, and SR-01 in Appendix B have been prepared to address this requirement.

General Industrial Permit Section A.5 requires the SWMP to include a list of significant materials handled and stored at the site, describing the locations where the materials are stored, received, shipped, and handled, as well as the typical quantities and frequency. Section 7.2.2, Figure 3 and Figures 5 through 8, and Appendices B and E have been prepared to address this requirement.

General Industrial Permit Section A.6 requires the SWMP to include a narrative description of the facility's industrial activities, the associated potential pollutant sources, and potential pollutants that could be discharged in stormwater discharges or authorized non-stormwater discharges. At a minimum, the following items related to a facility's industrial activities should be considered: Industrial Processes, Material Handling and Storage Areas, Dust and Particulate Generating Activities, Significant Spills and Leaks, Non-Stormwater Discharges, and Soil Erosion. Sections 3 and 7.2.2 have been prepared to address this requirement.

General Industrial Permit Section A.7.a requires the SWMP to include a narrative assessment of all industrial activities and potential pollutant sources to determine:

- i. Which areas of the facility are likely sources of pollutants in stormwater discharges and authorized non-stormwater discharges, and
- ii. Which pollutants are likely to be present in stormwater discharges and authorized non stormwater discharges.

Section 7.2.2 and Table 7 have been prepared to address this requirement.

General Industrial Permit Section A.7.b requires the Authority to summarize the areas of the facility that are likely sources of pollutants and the corresponding pollutants that are likely to be present in stormwater discharges and authorized non-stormwater discharges, and to develop and implement additional BMPs as appropriate and necessary to prevent or reduce pollutants associated with each pollutant source. Sections 7.2.2 and 7.2.3, and Table 7 have been prepared to address this requirement.

General Industrial Permit Section A.8 requires the SWMP to include a narrative description of the non-structural and structural stormwater BMPs to be developed and implemented at the facility for each potential pollutant and its source identified in the site assessment phase to reduce or prevent pollutants in stormwater discharges and authorized non-stormwater

discharges. Sections 6.2 and 7.2.3 and Appendices B and E have been prepared to address this requirement.

General Industrial Permit Section A.9 requires that the Authority conduct one comprehensive site compliance evaluation (evaluation) in each reporting period (July 1-June 30) to include the following:

- 1 A review of all visual observation records, inspection records, and sampling and analysis results.
- 2 A visual inspection of all potential pollutant sources for evidence of, or the potential for, pollutants entering the drainage system.
- 3 A review and evaluation of all BMPs (both structural and non-structural) to determine whether the BMPs are adequate, properly implemented and maintained, or whether additional BMPs are needed. A visual inspection of equipment needed to implement the SWMP, such as spill response equipment, shall be included.
- 4 An evaluation report.

Section 7.2.4.3 has been prepared to address this requirement.

General Industrial Permit Section B.3 requires the Authority to perform non-stormwater discharge visual observations. Section 7.2.4 has been prepared to address this requirement.

General Industrial Permit Section B.4 requires the Authority to perform stormwater discharge visual observations. Section 7.2.4 has been prepared to address this requirement.

General Industrial Permit Section B.5 requires the Authority to conduct appropriate stormwater sampling and analysis. Sections 7.2.4 and 9.4 and Appendix D have been prepared to address this requirement

General Industrial Permit Section B.7 requires the Authority to visually observe and collect samples of stormwater discharge from all drainage areas that represent the quality and quantity of the facility's storm discharges from the storm event. Sections 7.2.4 and 9.4 and Appendix D have been prepared to address this requirement.

General Industrial Permit Section B.13 requires that the Authority retains records of all stormwater monitoring information and copies of all reports (including the Annual Reports) for a period of at least five years. Section 7.2.4 has been prepared to address this requirement.

General Industrial Permit Section B.14 requires that the Authority submits an Annual Report by July 1 of each year to the Executive Officer of the Regional Water Board responsible for the

area in which the facility is located and to the local agency (if requested). Section 7.2.4 has been prepared to address this requirement.

Municipal Permit Sections D.3.b.(1) and J.1.a.(3)(f)i require that the Authority annually update a watershed-based inventory of all industrial and commercial sites/sources within its jurisdiction (regardless of ownership) that could contribute a significant pollutant load to the MS4. Sections 7.2.1 and 7.2.2, Figure 3 and Figures 5 through 8, and Appendix E have been prepared to address this requirement.

Municipal Permit Sections D.3.b.(2) and J.1.a.(3)(f)ii require that the Authority designate, describe and implement pollution prevention methods and a minimum set of BMPs for all industrial and commercial sites/sources. The designated BMPs shall be specific to facility types and pollutant generating activities, as appropriate. Section 7.2.3, and Appendix B, and Appendix E have been prepared to address this requirement.

Municipal Permit Sections D.3.b.(3) and J.1.a.(3)(f)iii-viii require that the Authority describe, conduct and track industrial and commercial site inspections for compliance with its ordinances, permits, and the Municipal Permit. Sections 7.2.1 and 7.2.4 have been prepared to address this requirement. Follow-up actions and enforcement required by Sections D.3.b.(3)(e) and J.1.a.(3)(f)x of the Municipal Permit are addressed in Sections 7.2.4 and 2.4 of this SWMP.

Municipal Permit Sections D.3.b.(4) and J.1.a.(3)(f)ix require that the Authority develop and implement a program to reduce the discharge of pollutants from mobile businesses to the MEP, including a listing of mobile businesses known to operate within its jurisdiction. Section 7.3 has been prepared to address this requirement.

Municipal Permit Sections D.3.b.(5) and J.1.a.(3)(f)x require that the Authority shall enforce its stormwater ordinance for all industrial and commercial sites/sources as necessary to maintain compliance with this Order. Section 2.4 has been prepared to address this requirement.

Municipal Permit Sections D.3.b.(6) and J.1.a.(3)(f)xi require that the Authority annually report a list of industrial sites, including the name, address, and SIC code, that may require coverage under the General Industrial Permit for which a NOI has not been filed. Section 7.2.4 has been prepared to address this requirement.

## **7.2 STATIONARY SOURCES ELEMENT**

### **7.2.1 BACKGROUND**

The Authority and a number of airport tenants conduct industrial activities that are subject to the General Industrial Permit (General Permit) and Section D.3.b of the Municipal Permit. There are 30 tenants conducting industrial or commercial activities, plus the ARFF Facility and the Authority itself as operator of the airport, for a total of 32 entities conducting

industrial or commercial activities that could contribute a significant pollutant load to the storm drain system. These 32 entities and the type of industrial activity into which they have been categorized are listed in Table 4 (overview) and Table 5 (Inventory). The location of these 32 entities on the airport is shown in Figure 3 and Figures 5 through 8.

The site maps shown in Figure 3, and 5 through 8 depict the facility boundaries; the outline of all stormwater drainage areas within the facility boundaries; portions of the drainage areas impacted by run-on from surrounding areas; and direction of flow of each drainage area, onsite surface water bodies, and areas of soil erosion. The site maps identify San Diego Bay as the receiving water into which stormwater from the airport discharges. The site maps show: the location of the stormwater drainage system at the airport, associated points of discharge, and direction of flow, include any structural control measures (for example, oil water separators); an outline of all impervious areas of the facility, including paved areas, buildings, covered storage areas, and other roofed structures; locations where materials are directly exposed to precipitation and the locations where significant spills or leaks have occurred. Finally, the site maps show: areas of industrial/commercial activity, including the locations of all storage areas and storage tanks, shipping and receiving areas, fueling areas, vehicle and equipment storage/maintenance areas, material handling and processing areas, waste treatment and disposal areas, dust or particulate generating areas, cleaning and rinsing areas, and other areas of industrial/commercial activity which are potential pollutant sources.

The Municipal Permit requires that Copermitees prioritize their inventories of industrial and commercial sites/sources based on threat to water quality. The Municipal Permit also requires that the prioritization be updated annually. The process implemented by the Authority for determining the potential threat of those operations conducting industrial and commercial activities is described Section 7.2.2 below.

All other airport tenants are either a) subtenants to and/or operate as integral parts of the 30 industrial/commercial tenants listed in Table 4 or b) not considered to be sources of significant pollutant loads to the storm drain system. In general, those entities operating as subtenants or integral parts of the 30 industrial/commercial tenants are evaluated and inspected for compliance with the Municipal Stormwater Permit, the General Industrial Permit, and this SWMP as part of the tenant's own operation. However, there may be industrial/commercial tenants/subtenants that, although they are integral to airline and/or airport operations, are identified as individual operations in Table 4 for reasons detailed in Section 7.2.2 below. Those airport tenants and subtenants that are not considered to be sources of significant pollutant loads to the storm drain system are named in the SWMP, but are nonetheless addressed in the Illicit Discharge Detection and Elimination, Education and Outreach, Public Participation, and enforcement elements of the SWMP.

## **7.2.2 SOURCE CHARACTERIZATION**

The Authority first modified its stormwater management program in 2003 to address the Municipal Permit as an additional element to a program that the Port of San Diego already put in place in 1992, to address the General Industrial Permit. Under the General Industrial

Permit, commercial passenger air carriers, cargo air carriers, FBOs (of which there is only one at SAN), fuel vendors, aircraft refuelers, aircraft and airport service and maintenance providers, and all airfield/airport related activities (including aircraft rescue and fire fighting - ARFF Facilities) are defined as industrial operations. There is now a record of more than 15 years of site visits and annual inspections that include information regarding significant materials (potential pollutants sources) handled and stored at the airport, as well as descriptions of those industrial activities that are potential sources of pollutants. This information is presented below.

It is the record of site visits and annual inspections that is used to determine the need to list certain tenants/subtenants as individual industrial/commercial operations, even though they could be considered as integral to the operations of other industrial/commercial tenants and managed as a subset of larger operation. Reasons to support such a determination might be the number of larger operations to which tenant/subtenant is an integral part, the scope and/or extent of the operation across the airport, or the compliance history of the operation.

Using the information on hand, the Authority has determined that all the activities listed above should be considered high priority threats to water quality. As such, 29 of the 32 industrial/commercial sites/sources at SAN are considered high threat to water quality. The 3 remaining commercial operations, which could be significant sources of pollutants to the storm drain system (namely, the airport paid/non-paid parking lot operator, the master-lease concessionaire/food service provider, and the airport janitorial services provider), have been determined to be high priority threats to water quality based on the types of activities each conducts, as well as the location of the operation, the exposure of the operation to stormwater or precipitation, the materials used by each, the wastes generated by each, the pollutant discharge potential, the history of non-stormwater discharges by each, and past performance as reflected in site visits and annual airport-wide inspections. In short, all 32 entities conducting industrial or commercial activities that could contribute a significant pollutant load to the storm drain system have been determined by the Authority to be high priority threats to water quality, as noted in Table 4.

The Municipal Permit requires the Authority to maintain an inventory of industrial and commercial sites/sources and to develop the prioritization of these sites/sources annually. The results of the current prioritization for industrial and commercial activities are included in Tables 4 and 5. Some of the entities conduct multiple industrial activities and, therefore, may be listed more than once in Table 4. Table 5 provides the more detailed minimum information required by the Municipal Permit for each industrial and commercial site/source, specifically: name; address; pollutants potentially generated by the site/source (and identification of whether the site/source is tributary to a Clean Water Act section 303(d) water body segment and generates pollutants for which the water body segment is impaired); and a narrative description including SIC codes which best reflects the principal products or services provided by each site/source/facility.

### Significant Materials as Potential Pollutant Sources

A variety of industrial activities conducted at SAN by both the Authority and tenants have the potential to impact water quality. Information gathered as part of site visits, annual inspections, and stormwater monitoring, indicates that the significant materials associated with these industrial activities which could be potential pollutants consist primarily of petroleum products, solvents, soap/cleaning fluids, and trash. Lesser amounts of other potential pollutants also present at the airport include, from generally most to least prevalent: lavatory chemicals and waste, paints, used batteries and battery acid, anti-freeze, hazardous wastes, metals, deicing chemicals, herbicides and pesticides, adhesives, rust preventers, aqueous film-forming foam (AFFF) and other fire suppression chemicals, and sealants (see list below for more details). These pollutants can be transported to the stormwater system either as direct spills, from contact with rainfall runoff, or from surface area wash downs that may mobilize residual contaminants

Commercial activities conducted at SAN, with the potential to contribute a significant pollutant load to the storm drain system, are parking lots and vehicle storage, food-service, and janitorial services. The significant materials associated with these commercial activities which could be potential pollutants consist primarily of vehicle maintenance fluids, food preparation oils, and various maintenance and cleaning chemicals. In general, the significant materials that at SAN include the following:

Acetic acid	Hydraulic fluids
Acetone	Hydraulic fluid (Skydrol)
Adhesives	Jet fuel
Antifreeze	Lavatory chemicals
Asphalt debris	Landscape waste
Battery acid	Lavatory wastes
Brake cleaners	Lubricants
Brake fluid	Metals
Bulk auto gas and diesel	Oil and grease
Carburetor cleaner	Paints
Caulking	Pesticides
Cleaning solutions	Purple K
Coolant	Radio active goods
Deicing/anti-icing fluids	Recyclable paper/cardboard
Degreasers (citrus based)	Rubber particulates
Diesel	Rust preventer
Dumpster wastes	Sealant
Fertilizers	Sediment
Fire fighting foam (AFFF)	Solvents
Fuel	Sump fuel
Fuel hydraulic fluids	Transmission fluid
Galvanizing compound	Trash
Herbicides	Turpentine

**Industrial/Commercial Activities as Potential Pollutant Sources**

The industrial activities, in and of themselves, conducted by both the Authority and tenants have the potential to impact water quality. Information gathered as part of site visits, annual inspections, and stormwater monitoring, indicates that the potential pollutant generating activities/operations consist primarily of specific airport-industry processes, material handling and storage, and spills and leaks. To a lesser extent, pollutants may also potential result from dust and particulate generating activities, soil erosion, non-stormwater discharges, as well as the commercial activities of parking lots management and vehicle storage, food-service, and janitorial service.

**Aircraft Deicing/Anti-icing**

Deicing and anti-icing chemicals are generally used on aircraft to eliminate or minimize the ice buildup on the wings and fuselage of aircraft. Although these activities are fairly uncommon at SAN, they can occur anytime of year. Deicing can be performed using deicing chemicals (typically, ethylene glycol and/or propylene glycol), water, or air. The deicing chemicals are typically stored in drums or large plastic containers. Deicing fluid is generally applied by spraying the aircraft with a mixture of (hot) water and a glycol-based fluid. The spray drains from the aircraft onto the ramp area and could have the potential to result in an illicit discharge or transport other surface contaminants and thereby impact stormwater quality. Airlines typically use scrubbers, vacuums, or absorbents to cleanup and properly dispose of residual chemicals.

Since deicing is fairly uncommon at SAN, the activity is not considered a significant non-stormwater threat to water quality. The Authority does require the use of BMPs to address deicing activities. Deicing activities are authorized on the paved ramp in areas that are: 1) sufficiently far enough from the nearest storm drains to allow for capture and cleanup of the residual deicing fluids whenever chemical deicers are used; or 2) sufficiently far enough from the nearest storm drains to allow for the liquid to be captured and cleaned up to prevent the transport of surface contaminants, whenever air or water are used as deicing agents; or 3) sufficiently far enough from the nearest storm drains to allow for the water to evaporate prior to reaching the storm drain system, whenever air or water are used as deicing agents. These areas are depicted in the figure attached to the Aircraft Deicing/Anti-icing BMP (SC05) description in Appendix B. In general, BMP SC05 can be implemented effectively at the gates, although pushing an aircraft back away from the terminal on the ramp area around Terminal 1 allows for the more distance between the deicing activity and the storm drain system. Tenants are responsible for properly implementing BMP SC05 at all times, including inclement weather.

**Aircraft, Vehicle, and Equipment Fueling Areas**

Fueling activities occur on a daily basis. Aircraft fueling activities are conducted on paved surfaces such as concrete ramps or at the gates. Approximately 450,000 gallons of jet fuel is brought to the Terminals 1 and 2 ramp areas daily by tanker and loaded by positive lock hose into aircraft. Vehicle and GSE fueling is conducted at the gates or in maintenance areas. For the Authority, fueling activities also occur at all generators, light towers, and at the truck



bays in the ARFF facility. The significant materials or potential pollutants involved in these activities are jet fuel, diesel, and gasoline. Fuel trucks are refilled at the RFF or FSF. There is a sloped spill containment area leading to a 12,000-gallon wastewater sump at the RFF and a 12,000-gallon oil water separator plus an 8,000-gallon holding tank at the FSF. The FBO refueling trucks take on fuel at the filling station area next to Hangar 4. Most tenants vehicles or equipment are fueled onsite, although some perform vehicle or equipment fueling offsite. Fuel spills are contained by absorbent materials, inflatable pools, or facility-specific spill containment areas/oil water separators/tanks (for the RFF and FSF). The concrete pad at the loading islands in the RFF is steam cleaned periodically and the discharge enters the wastewater holding tank.

#### Aircraft, Vehicle, and Equipment Maintenance

The majority of industrial tenants at SAN maintain aircraft, equipment, and/or vehicles, although no major maintenance of aircraft is performed. Maintenance activities are performed both indoors and outdoors. Based on the nature of maintenance activities at airports, materials such as lubricating oils, hydraulic oils, degreasers, and other cleaning products are commonly used during maintenance activities. Waste oils, lubricants, oil filters, antifreeze, transmission fluids, and used absorbent materials are stored at tenant and Authority waste accumulation areas prior to transport to recycling or waste disposal facilities. Small leaks or spills of some of these fluids can occur during maintenance activities. Tenants respond to these leaks and spills by using absorbent socks, dry absorbent materials, rags and mops, and a service request for the Authority's portable truck-mounted vacuum. Many tenants use drip pans during maintenance activities in areas where the use of a drip pan is unlikely to become FOD ("foreign object debris"). Maintenance activities occur on a daily basis, but tend to involve minor maintenance and significant materials in small quantities. Hence, maintenance activities generally represent a low potential for significant pollutant discharge.

Some tenants have floor drains located in maintenance areas. At some of these facilities, the runoff entering the floor drain is conveyed to an oil water separator before entering the sanitary sewer system. At a few facilities, the runoff that discharges through the floor drains discharges directly to the sanitary sewer. Tenants are required to confirm that there are no illicit connections from these drains to the storm drain system at their leasehold.

#### Aircraft, Vehicle, and Equipment Washing Areas

Several tenants at SAN conduct aircraft, vehicle, and equipment washing, with some using dry methods for cleaning the aircraft and others using water. In all but one instance, all aircraft, vehicles, and equipment washing activity conducted at SAN must be authorized in writing by the Authority Environmental Affairs Department. To obtain approval, the Environmental Affairs Department requires the submittal of a wash plan that identifies: the tenant contact details; where washing is performed; location of storm drains; equipment to be used and where it will be stored; quantity of wastewater to be generated; frequency of washing activities; water collection/retrieval/reclamation processes; water disposal/elimination processes; chemicals to be used, if any, and the relevant MSDSs; washing methods employed; and BMPs used to control potential pollutants related to the activity.

Upon satisfactory review of the wash plan, the Authority will provide written approval to conduct washing activities in the manner described in the plan. In general, the approved wash plans indicate that the washing is performed as far away from storm drains as possible and temporary berms are used to block off nearby storm drains to prevent runoff to the storm drain system. Wash water is then vacuumed up and properly disposed through the Authority's dewatering bin (where solids are removed) into the sanitary sewer connection at the main waste disposal site in Drainage Basin 8 (see Figure F-1). Due to the remote location used by the parking lot management service to wash the fleet of courtesy shuttle buses, the wash water generated at this location is collected and properly disposed to the sanitary sewer at an off-airport location. Any equipment degreasing is conducted indoors and washing activities are prohibited in areas that do not provide a wash rack, oil water separator, or area to deploy proper containment. The lone exception to obtaining this approval involves the use of properly designed wash rack connected to a dead end sump and/or the sanitary sewer. There are two wash racks at SAN are leased to tenants. One is an open-air facility designed for vehicles and the other is an open-air facility designed specifically for washing aircraft. Both wash racks collect the wash water runoff and then discharge it to the sanitary sewer system. Both wash racks are used to wash equipment other than vehicles and aircraft.

#### Fuel, GSE, and Chemical Storage Areas

Tenants at SAN store varying quantities of chemicals and petroleum products (i.e., hydraulic fluids, gasoline, diesel, and jet fuels). Many tenants have indoor and outdoor storage areas to house these items. Chemicals, oils, and waste oils are typically stored in 55-gallon drums or smaller containers. Fuels are typically stored in underground or aboveground storage tanks, but some tenants who store only small quantities have 5-gallon fuel containers. Deicing fluids are stored in 55-gallon metal or plastic drums. Other materials such as cleaners, paints, and paint-related products are stored in smaller containers. Secondary containment may be required by law for certain hazardous materials, and the Authority encourages the use of secondary containment in all chemical storage areas. Outdoor storage areas, if not adequately protected from contact with stormwater, have the greatest potential to impact stormwater. In these areas, the Authority requires implementation of the Outdoor Material Storage BMP (SC07) and the proper use of secondary containment and cover, if possible.

**Fueling Facilities** - The FSF and RFF contain several aboveground and underground tanks, as outlined in the description of Drainage Basin 6 in Section 1. Jet fuel is delivered to the two 1,000,000-gallon ASTs within a valved secondary containment area at the FSF via underground pipelines from the 10th Avenue Marine Terminal storage tanks. The facility can also receive jet fuel from commercial transport trucks at approximately 8,200 gallons per load. The fuel is off-loaded at the three dual-position unloading islands. The jet fuel tanks at the FSF and RFF are connected via an underground hydrant fueling system. Fueling is generally performed at SAN from fuel transfer trucks which load at the RFF. Loading of gasoline and diesel into cars and trucks takes place at various locations around the airport. The FBO fueling facility has a 15,000-gallon jet fuel UST that is filled by an off-site vendor. The aircraft refueling trucks at the FBO are stored outdoors on the concrete ramp area at the FBO and used to fuel general aviation aircraft and ground support equipment at the FBO.

The emergency power generators at the airport are operated by the Authority and feature ASTs with fuel storage capacities ranging up to 500 gallons. Currently at the airport, other UST fuel storage capacities range from 3,000 to 15,000 gallons, aircraft refueling trucks range in storage capacity from 1,200 to 15,000 gallons, and vehicle refueling trucks range from 300 to 2,200 gallons. ASTs and USTs are fitted with a combination of overfill protection, leak detection, and alarm systems to prevent spills, leaks, and discharges. All fuel delivery trucks or fueling areas must be equipped with spill kits. The loading/unloading areas are inspected on a regular basis to identify any leaks from fuel transfers. At the FSF, leaks from fuel transfers are directed to bermed, sloped, spill containment areas that are linked to the 12,000-gallon oil water separator. At the RFF, the four loading islands are sloped and bermed to direct any discharges to a 12,000-gallon underground wastewater holding tank. Fuel spills that occur in any other area of the airport must be cleaned immediately using dry methods to reduce the potential to impact stormwater.

Ground Support Equipment - Areas designated for the storage and maintenance of GSE are primarily located in Drainage Basin 7, however, they do occur throughout the other ramp areas. During rain events, any residues (fuel, oil, grease) on the GSE under repair or leaks from the GSE are potential pollutant sources in stormwater discharges and must be controlled by proper BMP implementation.

Chemical/Materials Storage - Chemicals and other materials are stored in the GSE maintenance areas, around the gate areas, in the boneyard area, at the fixed base operation, at the FSF, in the cargo areas north of the North Ramp, and near the runway generator area. The materials stored include hydraulic fluids, lubricants, oils and greases, antifreeze, paints, rust preventers, solvents, batteries, metals, lavatory chemicals, cleaning solutions, deicing chemicals, pesticides, and herbicides. During rain events, any residues on chemical storage containers, or residuals from chemical spills or leaks in uncovered outdoor storage areas are potential pollutant sources in stormwater discharges. Facilities that include chemical and materials storage must have secondary containment and overhead coverage. Generally, only small quantities of these significant materials are stored at SAN. They are generally contained within flammable materials storage lockers or outdoor sheds, or on spill pallets. The lockers are completely enclosed, provide containment for small spills, and do not appear to be a source of significant quantities of pollutants to the storm drain system. Average daily amounts stored outdoors may range from a few 5-gallon cans to 110 gallons of hydraulic fluid in 5-gallon cans, a few 1-quart cans to 120 gallons of engine oils, a few small containers to 300 gallons in 55-gallon drums of lavatory chemicals, and various small containers of other chemicals such as paints, pesticides, rust preventers, antifreeze and solvents in the flammable materials storage lockers. Large volumes of materials in 55-gallon drums tend to be stored indoors and associated with various tenant maintenance areas.

Figure 3 and the figure attached to the Outdoor Material Storage (SC-07) in Appendix B outline the main chemical and materials storage locations and the types of chemicals and materials stored. The figure attached to the Outdoor Loading/Unloading of Materials BMP (SC-06) in Appendix B outlines areas where materials are shipped, received, loaded, or unloaded.

### Outdoor Washdown/Sweeping

General Outdoor Washdown/Sweeping - Atmospheric deposition, vehicle and aircraft use and emissions, the breakdown of asphalt and concrete surfaces, and peeling or crumbling paint from structures and runway surfaces can introduce particulates into the storm drain system at SAN. The physical removal of particulates and attached fine pollutant particles (in particular heavy metals) from outdoor surfaces at the airport will prevent or eliminate the pollutant load that may be transferred to San Diego Bay. The Authority requires the use of the Outdoor Washdown/Sweeping (Apron Washing, Ramp Scrubbing) BMP (SC12) in Appendix B to address pollutants associated with washing and sweeping activities. Aircraft, vehicle, and washing is discussed separately above and power washing is considered separately below.

Ramp Sweeping - The Authority conducts a sweeping program designed to reduce pollutant discharges to its storm drain system from ramp and airfield industrial and commercial areas. The ramp sweeping program conducted by the Authority is further described in Section 7.2.3 below. This program differs from the Authority's road and parking facility sweeping programs described in Section 6. Potential pollutant sources that can be mitigated by sweeping practices in ramp areas are trash and debris (FOD), sediment, particulates, and other associated pollutants such as metals. Loading and unloading of trash, cargo, and catering supplies from aircraft can lead to trash and debris on the ramp areas. Any uncovered dumpsters or trash cans can be potential sources of trash and debris, as well as littering by staff, tenants, or the public. All Authority staff and tenants are very much aware of the potential hazards of FOD at the airport, and conduct daily FOD walks to check for any trash, so the source from tenants and staff should be very minimal. Everyone working on the ramp is trained to immediately remove FOD when it is observed and place it in covered FOD bins located in each tenant gate area and throughout the airport. Some tenants also perform manual sweeping of their operational areas.

### Power Washing/Ramp Scrubbing/Runway Rubber Removal

In addition to ramp sweeping activities discussed above, the Authority also performs power washing, ramp scrubbing, and runway rubber removal activities. These activities, and the power washing activities of the airport janitorial services provider, are described here.

Power washing - Both the Authority and the airport janitorial services provider conduct power washing, the Authority on an as-needed basis and the janitorial services provider on a routine basis. Portions of the sidewalk areas in front of the terminals and the pedestrian bridges leading from the parking lots to the terminals are power washed by the janitorial services provider almost daily using high pressure water only. Wastewater from power washing may contain and transport contaminants on the surface to the storm drain system. The primary pollutants associated with power washing at the airport are particulates, trash, and debris. Both the Authority and the janitorial services provider use power washing equipment designed to minimize the amount of water used and to capture all the wastewater. To address the potential release or transport of pollutants during power washing activities, the Authority requires the use of several BMP found in Appendix B,

including the Non-stormwater Management BMP (SC01), the Employee Training BMP (SC10), and the Housekeeping BMP (SC18).

Ramp Scrubbing - CASQA guidance states that, "no currently available conventional sweeper is effective at removing oil and grease." As such, the Authority conducts an outdoor ramp scrubbing program in the gate areas (and in the north ramp area when requested by Authority staff or tenants) designed to remove oil and grease, debris, and particulate matter (to which heavy metals may be adsorbed, or which may contain metals). Oil and grease, fuels, hydraulic fluids, and other substances may leak onto the ramp from parked aircraft, vehicles, and equipment. An effective outdoor ramp scrubbing program, in conjunction with the ramp sweeping program discussed above, can help to reduce the levels of these pollutants in stormwater runoff from the airport.

Runway Rubber Removal - On the runway, materials such as tire rubber, oil and grease, paint chips, jet fuel, and vehicle exhaust products can build up on a runway surface over time, causing a reduction in the pavement's surface friction. When the friction value falls below a specific level, safety may be compromised and maintenance must be performed. The buildup is generally removed using high-pressure water or specialized detergents within a containment/recovery system. To address the potential release or transport of pollutants during runway rubber removal activities, the Authority requires the use of the Runway Rubber Removal BMP (SC15) in Appendix B.

#### Pesticide/Herbicide Use

Currently, only two tenants and the Authority use pesticides and/or herbicides. The food service provider contracts a company to perform pesticide applications and none of these products are stored at the food service facilities. The company managing the FSF uses herbicides to control weeds. They store small quantities in small containers within secondary containment outdoors at the FSF. The Authority also stores a small amount outdoors within secondary containment at the runway generator area. The use of pesticides and herbicides at the airport does not result in significant discharges to the ground. During rainfall events, pesticide and herbicide residuals that accumulate at the application sites can be washed into the storm drain system. However, based on the small quantities used at the airport, this activity appears to present a low potential for impacting stormwater discharge.

#### Shipping/Receiving Areas

The main shipping/receiving areas are in Drainage Basins 7, 8, and 12, first described in Section 1.0 and depicted on Figure 3. The fronts of the main cargo buildings are located in the southeast portion of Drainage Basin 8, where cargo and supplies are loaded and unloaded for the Authority, the various airlines, and cargo carriers. The airport food service provider uses a loading/unloading dock at Terminal 2 West and at the connection between the east and west halves of Terminal 2, where food, drink, and other catering supplies for the airport restaurants are delivered by truck. A fork lift is typically used for loading and unloading at the docks. Loading and unloading of aircraft occurs in Drainage Basins 1, 5, 6, 8 and 12 using hydraulic lifting equipment. To address the potential release or transport of pollutants during loading and unloading activities, the Authority requires the use of the Outdoor

Loading/Unloading of Materials BMP (SC06) in Appendix B. The main loading and unloading areas are shown in the figure attached to the Material Loading/Unloading BMP description in Appendix B.

#### Waste Treatment, Storage, and Disposal

**Lavatory Waste** - Lavatory waste is pumped daily from aircraft on the ramp or apron areas and transported to a specially designed waste disposal facility, an enclosed facility referred to as the triturator. The triturator is located at the southeastern-most corner of the airport, behind the blast fence. To prevent sewage spills during the transfer of lavatory waste through the triturator into the sanitary sewer, the transfer is performed in a drive-up facility that has overhead cover. During aircraft lavatory servicing operations, chemical odorizers and/or sanitizers may be used. Airline tenants generally store these chemicals indoors at the gate areas, or occasionally outdoors on wooden pallets under overhangs or tarps. The design of the disposal facility generally limits potential spills and leaks to the ramp areas during transfer from the aircraft to a small tanker truck.

**Hazardous Waste Storage** - Hazardous waste, mostly waste oils, oil filters, and used absorbent materials in 55-gallon drums, is stored at:

- The Authority's boneyard area in Drainage Basin 6;
- The FSF in Drainage Basin 6;
- The gate areas in Drainage Basins 8 and 12, the GSE maintenance areas in Drainage Basin 7, the FBO in Drainage Basin 1, and the North Ramp in Drainage Basins 5 and 6.

The only locations at the airport at which more than 6,000 kg (13,200 lbs) of hazardous waste might be stored at any time are the underground storage tanks for waste fuels at both the FSF and the RFF. Currently, no facility at the airport generates more than 100 kg (220 lbs) of hazardous waste in any one month. To address the potential release or transport of pollutants during hazardous waste storage activities, the Authority requires the use of both the Outdoor Material Storage BMP (SC07) and the Waste Handling and Disposal BMP (SC08) in Appendix B. The areas at which hazardous waste storage occurs at the airport are also shown in the figure attached to these two BMP descriptions in Appendix B.

**Waste Disposal** - The main waste disposal area at SAN is the trash compactor/recycling bin/dewatering bin area, as outlined in the description for Drainage Basin 8 in Section 1 and depicted in Figure 3. There are also dumpsters and recycling bins at various locations throughout the airport. To address the potential release or transport of pollutants during waste disposal activities, the Authority requires the use of the Waste Handling and Disposal BMP (SC08). The areas at which waste disposal occurs at the airport are also shown in the figure attached to the Waste Disposal and Handling BMP description in Appendix B.

### Dust and Particulate Generating Activities

Construction/demolition, aircraft and vehicle use and emissions, and airport operations can generate dust and particulates at SAN. In addition, airline off-loading of trash and debris from aircraft generates a significant source of gross pollutants, that require proper handling and disposal. The main industrial areas generating dust and particulates are the runway/taxiway area, terminal gate areas, the FBO, and the gate areas for cargo operators on the North ramp. The pollutants and particulates generated can include trash and debris, metals, and hydrocarbons. The main commercial area generating dust and particulates is the large vehicle storage area, north of the runway, outside the airfield perimeter fence, and southwest of Pacific Highway (see Figure 3).

### Significant Spills and Leaks

Fueling and equipment maintenance activities generally involve the use or handling of jet fuel, aviation gas, hydraulic oils, oil, deicing fluids, degreasers, and other solvents. Considering that approximately 400,000 gallons of jet fuel are handled and transferred from truck to aircraft every day at the airport, it is highly likely that a the history of significant spills (as defined by the General Industrial Permit) would involve the handling of jet fuel. The refueler trucks operate nearly every corner of the airport, from the ramp areas of the terminals and at the FBO, to the air cargo/air freight operations area and overnight aircraft parking areas. Areas where the largest spills have occurred are the main Terminal gate areas, the Fuel Storage Facility, and the north cargo ramp area. In the last 5 years, all of these spills have been less than 350 gallons; were contained within SAN; and were immediately cleaned up; and none of these spill reached San Diego Bay. Since the airport was first brought under the coverage of the General Industrial Permit in 1992, only one spill has reached San Diego Bay. This one incident occurred in June 1998 when a fueling truck traveling on the vehicle service road hit the protector posts at a vehicle gate near the far eastern end of the runway, releasing approximately 400 gallons of jet fuel (see Figure 3 for the exact location of the spill). Fuel was observed moving towards the runway and entered the storm drain system. The runway was closed temporarily to takeoffs, but landings were not affected. The appropriate agencies were notified. The fuel from the damaged truck was pumped to another truck. A commercial hazmat response company was called and began containment of the spill. Spill containment booms were deployed at the storm drain outfall to San Diego Bay and the fuel was skimmed off the bay. Since then, spill prevention and control procedures have been enhanced to help prevent and respond to future spills, and no other spills have ever reached the bay. Spill procedures are described in Section 9 and the BMP required by the Authority to address spills is the Spill Prevention, Control, and Clean-up BMP (SR-01) in Appendix B.

### Potential Non-storm Water Discharges

Potential unauthorized non-stormwater discharges could include: aircraft, vehicle, and equipment washing; power washing, ramp scrubbing, and runway rubber removal; non-emergency fire fighting activities; improper materials and waste handling, storage, and disposal; and spills and leaks. However, as discussed in Section 7.2.3 below, BMPs are in place to eliminate potential discharges from the majority of these sources. Authorized non-stormwater discharges and non-emergency fire fighting flows are described in Section 3 of

this SWMP, including the BMPs to control these discharges. The Authority's illicit discharge detection and elimination program is discussed in Section 9. With nearly every drainage basins susceptible to tidal intrusion, the drainage areas where the majority of the remaining potential authorized non-stormwater discharges occur are: Drainage Basins 1, 8 and 12 for potable water flushing; Drainage Basins 1, 5, 6, 7, 8, 9, 10, 11, 12 and 14 for air conditioning condensation; Drainage Basins 1, 2, 8, 9, 10, 11 and 14 for landscape watering; and Drainage Basin 6 for emergency firefighting activities (See Figure 3).

#### Soil Erosion

SAN is 85% to 95% impervious and either covered by structures or concrete/asphalt surfaces. Unpaved areas are the least tern nesting ovals in the southwest corner of SAN (south of the runway), landscaped areas, the NTC Inactive Landfill, and any active construction projects that may involve the removal of the impervious surface. The least tern nesting oval surfaces are generally very coarse gravel with little exposed soil. Landscaped areas are well-maintained and vegetated to prevent soil erosion. Where erosion does occur, sand bags or other storm drain inlet protection methods are employed and maintenance is performed to repair or revegetate the eroded areas. Since the closure of the NTC Inactive Landfill in 1971, the landfill cover been maintained to control surface water ponding and to prevent erosion. Active construction projects contain specific contract requirements for erosion and sediment control.

#### Parking Lots and Vehicle Storage

Parking lots and vehicle storage sites are one of the commercial activities conducted at SAN with the potential to contribute a significant pollutant load to the storm drain system. Information gathered as part of site visits, annual inspections, and stormwater monitoring, indicates that the significant materials associated with these commercial activities which could be potential pollutants consist primarily of fluid leaks from vehicles, as well as trash and debris.

#### Food Service

Food services represent another commercial activity conducted at SAN with the potential to contribute a significant pollutant load to the storm drain system. Information gathered as part of site visits, annual inspections, and stormwater monitoring, indicates that the significant materials associated with food service commercial activities which could be potential pollutants consist primarily of spills and leaks from grease handling, as well as trash and debris.

#### Janitorial Service

Janitorial services are also a commercial activities conducted at SAN with the potential to contribute a significant pollutant load to the storm drain system. Information gathered as part of site visits, annual inspections, and stormwater monitoring, indicates that the significant materials associated with janitorial service commercial activities which could be potential pollutants consist primarily of cleaning chemical spills, trash and debris, and wastewaters generated by cleaning activities.



### Summary of Industrial/Commercial Sites and Sources

The above-described industrial and commercial activities occurring at SAN are summarized in Table 6. For each drainage basin at the airport (initially described in Section 1 and depicted in Figure 3), Table 6 presents: the stormwater runoff sampling location identification number for any sampling locations within the basin; the name of the industrial/commercial entity located or operating in that particular basin; the types of industrial and commercial activities occurring in the basin; and the potential pollutants associated with those activities. Similar and additional information is provided for individual industrial/commercial entity on the Tenant Summary Sheets found in Appendix E.

The potential pollutants listed in Table 6 are either stored or handled in the particular drainage basin identified. The main shipping and receiving area for most materials at the airport, aside from restaurant and catering food service supplies, occurs at the cargo buildings located between Terminal 1 and the Commuter Terminal. The fronts of the cargo buildings are located in the southeastern portion of Drainage Basin 8, and the backs in the western portion of Drainage Basin 7. All shipping and receiving areas, including aircraft loading/unloading areas, are shown on the figure attached to the Outdoor Loading/Unloading of Materials BMP (SC06) in Appendix B. Pollutant sources stored, handled, shipped, or received by each individual industrial/commercial entity are itemized in the Tenant Summary Sheets in Appendix E. The Tenant Summary Sheets also include maps which depict the location or operating areas of each entity. The locations for storage of particular types of materials and waste are indicated on Figure 3, and Figures 5 through 8, as well as the figures attached to the Outdoor Material Storage BMP (SC07) and the Waste Handling and Disposal BMP (SC08) in Appendix B. The BMP descriptions in Appendix B also include maps of where particular activities occur at SAN, as well as a list of the pollutants associated with those activities.

### 7.2.3 BEST MANAGEMENT PRACTICE REQUIREMENTS

A "stormwater BMP" is broadly defined as any program, technology, process, siting criteria, operating method, measure, or device that controls, removes, or reduces pollution in stormwater runoff. The Authority has identified BMPs that are required to control industrial/commercial pollutant sources at SAN, in accordance with Sections D.3.b.(2) and J.1.a.(1)(f)(ii) of the Municipal Permit and Section A.8 of the General Industrial Permit. The required BMPs were first presented in the SWMP prepared under the previous Municipal Permit (RWQCB Order No. 2001-01).

Both the General Industrial Permit and the Municipal Permit require the Authority to implement BMPs to address potential pollutant discharges; however, the performance standard established by each permit is different. The General Industrial Permit requires that the implementation of BMPs achieve (BAT) for toxic and non-conventional pollutants and (BCT) for conventional pollutants. The Municipal Permit requires that the implementation of BMPs achieve MEP. These standards were taken into account when developing the BMP requirements at SAN.

BMPs are commonly defined two ways: non-structural or structural, and source control or treatment control. Non-structural BMPs generally consist of processes, prohibitions, procedures, schedule of activities, etc., that prevent pollutants associated with industrial or commercial activities from entering stormwater. They are generally low cost and low technology in nature. Structural BMPs either prevent the pollutants from coming into contact with stormwater or treat/remove the pollutants in stormwater. On the other hand, source control BMPs prevent contact between stormwater and the pollution source and can be structural or non-structural. Treatment control BMPs treat the stormwater to remove pollutant(s) and are structural by their basic nature. Treatment control BMPs are not 100 percent effective, even if maintained and operated properly. From a cost and aesthetic perspective, treatment control BMPs that use natural processes are usually preferred over other fabricated or manufactured designs when conditions allow. Source control BMPs are preferred over treatment control BMPs because they are generally 100 percent effective if implemented properly and usually less costly than treatment control BMPs.

The BMPs required by the Authority may consist of a single measure or activity, a set of BMPs, or a pollution prevention program. This section discusses BMPs that pertain to specific industrial/commercial activities and areas. Also discussed are four specific pollution prevention programs implemented at SAN. One of these is the regularly scheduled power washing conducted by several tenants and by the airport janitorial services provider. The other 3 pollution prevention programs are conducted by the Authority and entitled, ramp sweeping, ramp scrubbing, and runway rubber removal. Structural treatment control BMPs implemented at SAN are discussed in Section 6.2 above and in the Treatment Controls BMP (TC-01) presented in Appendix B.

Additional operational BMPs are discussed in other sections of this document, such as the Non-Stormwater Discharges section, Illicit Discharge Detection and Elimination Component section, and the Education Component section.

### **Updated BMP Requirements**

The BMPs required by the Authority to address industrial/commercial pollutant sources at SAN were first summarized into 19 BMP titles in Appendix B of the August 2003 Storm Water Management Plan and last presented in the same appendix of the SWMP January 2005-Revision. These 19 BMP titles are updated and revised as described below. The updates and revisions are based on information gathered during recent site visits and annual inspections, the 2005 and 2007 Site Audits (MACTEC, 2005a and MACTEC, 2007b), the 2006 BMP Recommendations Report (MACTEC, 2006a), as well as other information regarding current industry and technical standards. The updates and revisions include enhancements to existing BMPs currently being implemented at SAN and the addition of new BMPs where necessary.

One significant change has been the identification of individual elements for each BMP title. For example, BMP SC01- Non-stormwater management has 4 individual elements designated as SC01-01 through SC01-04, with SC01-01 described as "Notify Airport

Operations and the Airport Environmental Affairs Department if there is any evidence of illicit connections or illegal discharges." The nature of each update is briefly noted here:

- SC01 - Non-Stormwater Management; name changed.
- SC02A - Outdoor Equipment Operations and Maintenance Areas; added.
- SC02B - Aircraft, Ground Vehicle, and Equipment Maintenance; ID changed and BMP description enhanced to include 2 new elements.
- SC03 - Aircraft, Ground Vehicle, and Equipment Fueling; no changes.
- SC04 - Aircraft, Ground Vehicle, and Equipment Cleaning; BMP description enhanced to include 1 new element.
- SC05 - Aircraft De/Anti-Icing; BMP description enhanced to include 1 new element.
- SC06 - Outdoor Loading/Unloading of Materials; no changes.
- SC07 - Outdoor Material Storage; name changed and BMP description enhanced to include 7 new elements.
- SC08 - Waste Handling/Disposal; name changed and BMP description enhanced to include 3 new elements.
- SC09 - Building and Grounds Maintenance; BMP description enhanced to include 1 new element.
- SC10 - Employee Training; name changed and BMP description enhanced to include 1 new element.
- SC11 - Lavatory Service Operations; BMP description enhanced to include 1 new element.
- SC12 - Outdoor Washdown/Sweeping (Apron Washing, Ramp Scrubbing); name changed and BMP description enhanced to include 4 new elements.
- SC13 - Fire Fighting Foam Discharge; no change and additional details included in SWMP Section 3;
- SC14 - Potable Water System Flushing; no change and additional details included in SWMP Section 3 (Non-stormwater Discharges);
- SC15 - Runway Rubber Removal; BMP description enhanced to include 1 new element.

- SC16 - Parking Lots; BMP description enhanced to include 4 new elements and additional details included in SWMP Section 6 (Municipal Component);
- SC17 - Storm Drain Maintenance; name changed and BMP description enhanced to include 2 new elements.
- SC18 - Housekeeping; added.
- SC19 - Safer/Alternative Products; added.
- SR01 - Spill Prevention, Control, and Clean-up; name changed and BMP description enhanced to include 4 new elements.
- TC01 - Treatment Controls; name changed and BMP description enhanced to include 1 new element.

All Authority staff and tenant personnel are required to implement the updated BMPs as appropriate. Table 7 presents an assessment of pollutant sources that are likely to be found in stormwater discharges at SAN and identifies the BMPs, in terms of individual BMP element, required to address those sources Table 7 associates the pollutant sources with issues/areas identified by the BMP title listed above. A list and description of all 21 BMPs title required by the Authority can be found in Appendix B.

The particular BMPs, listed by individual element applicable to each tenant and to the Authority, are presented in Table 8, which also indicates whether the activity is being performed indoors or outdoors. The particular BMPs listed by individual element are presented in the Tenant Summary Sheets in Appendix E.

### **Pollution Prevention Programs**

#### **Regular Power Washing**

Outdoor tenant operational areas that are regularly cleaned by power washing include the concrete pad at the RFF and several cargo ramp areas. The airport janitorial services provider also regularly power washes the sidewalks in front of the terminals, the trash compactor areas near the terminals, the loading/unloading dock at the west end of Terminal 2 West, and the grease trap areas operated by the food service provider. The concrete pad at the RFF is steam cleaned, and the discharge enters the 12,000-gallon underground wastewater tank, which is serviced as needed or annually. Those tenants power washing the cargo ramp areas either perform the work themselves or contract for the service. All power washing is conducted in accordance with the BMPs described in Section 7.2.2 above.

#### **Ramp Sweeping**

The Authority Facilities Maintenance Department sweeps the aircraft gate and ramp (apron) areas twice a week. Using mechanical sweeping equipment, the program is directed mainly

at removing FOD, but it also removes sediment, particulate matter, and other pollutants. Sweeping of each gate area occurs approximately twice each month. The debris/sweepings are vacuumed up into the unit and are disposed of in the regular trash dumpster near the maintenance shop in Terminal 2.

#### Ramp Scrubbing

The Facilities Maintenance Department performs ramp scrubbing 4 times a week using automatic scrubbers. A biodegradable waxy soap, specifically made for oil removal, is used during the procedure. The soap is stored in 2 x 100-gallon plastic containers on wooden pallets, under cover, at Terminal 2 West. The scrubber is used for 6 - 6 1/2 hours each time and approximately 3 to 4 gates are completed each day. The wash water is vacuumed up and reused within the unit. Water is replaced once per shift. Wastewater is disposed of in the dewatering bin at the trash compactor area and discharged to the sanitary sewer system. The North ramp/cargo areas near the control tower are scrubbed when tenants request it or as needed. The Facilities Maintenance Department also contracts for a professional concrete cleaning company to conduct large-scale ramp scrubbing operations to thoroughly clean ramp and apron areas once-a-year or as-needed.

#### Runway Rubber Removal

Runway rubber removal is conducted by a professional company under contract to the Authority. An all-in-one system is used that either uses high-pressure water or a chemical rubber removal solution and scrubbing action followed by a rinse(s). Both systems vacuum up the rubber and any residual liquids. Runway rubber removal is performed as warranted by runway friction testing, although quarterly rubber removal tends to be the norm.

### 7.2.4 PROGRAM IMPLEMENTATION

The Authority has identified those updated BMPs applicable to industrial/commercial activities at SAN (Table 7 and Appendix B) and has also identified those BMPs applicable to individual tenants and to the Authority (Table 8 and Appendix E). Tenants and Authority departments are required to adopt applicable BMPs, when necessary, as new activities are added or existing activities change. BMPs or elements of BMPs requiring major operational and/or structural modifications must be implemented in a timely manner.

New BMP requirements will be incorporated in the annual SWMP update, as required by both the General Industrial Permit and Municipal Permit.

All tenants and Authority departments (with stormwater management responsibilities) are provided and maintain up-to-date copies of the SWMP in either hard-copy or electronic copy, or have immediate access to the SWMP via the internet. The Tenant Summary Sheets in Appendix E list the contact information for each tenant. Tenants are required to notify the Authority Environmental Affairs Department at least annually regarding any needs to update or modify the SWMP. All industrial/commercial tenants should be knowledgeable of the BMPs required for use by the Authority to address their individual operations and activities (see Tables 7 and 8, and Appendix B and E, respectively).

The specific elements of the Authority's industrial/commercial stormwater management activities are presented below.

### **Education and Outreach**

Details on education and outreach programs for Authority staff, tenants, and the general public related to industrial/commercial activities are provided in Sections 10.0 and 11.0.

### **Staff Training**

All Authority staff are provided annual SWMP implementation training regarding topics such as prohibited discharges, BMPs requirements, good housekeeping, inspections, spill response, and record keeping procedures. Authority staff training is mandatory. For more details on staff training, see Section 10.0.

### **Facility Inspections**

Generally, both the Authority staff and industrial/commercial tenants inspect their operating and storage areas either daily or as part of their own routine facility inspections. Tenants are encouraged to request the assistance of the Authority Facilities Maintenance Department for any cleaning that cannot be addressed by their own efforts (in response to lease obligations) or that are not being addressed by the Authority's regularly scheduled ramp sweeping or scrubbing programs. The Authority Airside Operations Department staff also inspect the terminals, ramps, runway, and FBO approximately 24-hours per day.

Any inspections specifically required by either the Municipal Permit or the General Industrial Permit will be conducted by the Authority Environmental Affairs Department, as discussed below. The Authority may choose to require tenants and/or other Authority staff to conduct inspections that might compliment the permit-required inspection program and further ensure BMPs are being properly implemented. The Authority recommends that tenants conduct at least semi-annual inspections of their activities and operational areas and that they maintain records of these inspections as further means to ensure that BMPs are being properly implemented. Inspection records should be retained for at least five years.

### **Municipal Permit Requirements**

The Authority is required to conduct inspections of industrial and commercial activity/operations/facilities to monitor compliance with the Municipal Permit, as well as the Authority's ordinances, permits, and approvals. The Municipal Permit (Sections D.3.b.(3)(b) and D.3.b.(3)(c)) outlines procedures for determining the number of high priority industrial or commercial sites that must be inspected in any given year of program implementation under the renewed Municipal Permit. Nevertheless, suffice to say that the Authority has determined that all industrial/commercial entities at SAN are considered high priority (as noted in Section 7.2.2 above) and each one will be inspected at least annually. These inspections will be coordinated with inspections for the General Industrial Permit (described below).

### **General Industrial Permit Inspection Requirements**

The General Industrial Permit requires the Authority to conduct an inspection program to: ensure that the BMPs being implemented are evaluated and revised to meet changing conditions; aid in the implementation and revision of the SWMP; and measure the effectiveness of BMPs to prevent or reduce pollutants in stormwater discharges and authorized non-stormwater discharges. The inspection program must be a written, site-specific document that is revised whenever appropriate and be readily available for review by Authority staff and tenants. The General Industrial Permit inspection requirements include the following:

- Quarterly non-stormwater discharge visual observations, and
- Monthly stormwater discharge visual observations, and
- Annual Comprehensive Site Compliance Evaluation.

Quarterly Non-stormwater Discharge Visual Observations - The Authority conducts quarterly inspections of the airport to observe authorized non-stormwater discharges and their sources to verify that BMPs required to control those authorized discharges are being properly implemented and are effective. The Authority also conducts quarterly visual observations of all drainage areas to identify any unauthorized non-stormwater discharges. Authority staff evaluate non-stormwater discharges to ensure: 1) compliance with the General Industrial Permit and the Municipal Permit; 2) that required BMPs are effective at preventing or reducing the contact of non-stormwater discharges with significant materials or equipment and minimize the flow or volume of discharges, to the MEP; and 3) that non-stormwater discharges do not contain or transport significant quantities of pollutants. The quarterly inspections also verify the list of potential pollutants at the industrial/commercial sites/sources, and identify any necessary modifications to the SWMP.

The quarterly observations are conducted during daylight hours, on days with no stormwater discharges, and within each of the following periods: January-March, April-June, July-September, and October-December. The observations are conducted within 6 to 18 weeks of each other. At least one of the quarterly inspections is incorporated into the annual comprehensive site compliance evaluation discussed below. The observations document the presence of any uncharacteristic volumes, discolorations, stains, odors, floating material, etc., as well as the source of any discharge. Records of the observations, including date, location, description of observations, and response taken to eliminate unauthorized non-stormwater discharges and to reduce or prevent pollutants from contacting non-stormwater discharges, are maintained by the Authority Environmental Affairs Department.

Monthly Stormwater Discharge Visual Observations - The Authority conducts visual observations of stormwater discharges at all stormwater monitoring locations during the first hour of discharge from one storm event per month during the wet season (October 1 through May 30). History and experience have led the Authority to develop a program that conducts the stormwater discharge visual observations only during daylight hours when preceded by at least three days (72 hours) without measurable precipitation of more than 0.1 inches (as

measured by the National Weather Service at Lindbergh Field). Visual observations are not required during dangerous weather conditions, such as electrical storms or flooding. During observations, the Authority documents the presence of any floating and suspended material, oil and grease, discolorations, turbidity, odor, and the source of any pollutant observed (if a source can be determined). If the presence of pollutants is observed, efforts will be made to identify the source of the pollutants. The investigation will begin at the sampling location and continue through the drainage basin until the pollutant source is located, if possible. Once located, the Authority will direct that corrective actions to reduce or prevent pollutants from contacting stormwater discharge be taken by the responsible party. Visual observations of stored or contained stormwater, such as at the FSF, are conducted at the time of release.

Annual Comprehensive Site Compliance Evaluation - The Authority conducts one annual comprehensive site compliance evaluation (ACSCE), which the Authority also refers to as an Annual Comprehensive Site Inspection (ACSI), during the General Industrial Permit reporting period of July 1st through June 30th (which also matches the fiscal year of the Authority). The ACSIs are conducted within 8 to 16 months of each other. The ACSI process includes: a review of all visual observations records, inspection records, and sampling and analysis results; a review and evaluation of all BMPs to determine whether the BMPs are adequate, properly implemented and maintained, or whether additional BMPs are needed; a visual inspection of all potential pollutant sources for evidence of, or the potential for, pollutants entering the drainage system; and a visual inspection of equipment needed to implement the SWMP, such as spill response equipment. Any incidents of non-compliance are noted and the responsible party is directed by the Authority to take corrective action. The ACSI process includes timely follow-up inspections whenever BMP deficiencies are found at any particular site. The process also produces a report that identifies any necessary revisions to the SWMP, to the Authority's BMP requirements, or to the descriptions of the BMPs, and outlines a schedule for implementing any necessary revisions. Any revisions necessary must be implemented within 90 days of the ACSI. The ACSI report allows the Authority to certify that SAN is in compliance with the General Industrial Permit or if not in compliance, the reasons why not.

#### Formal Inspection Procedures for Industrial/Commercial Sites and Sources

Formal inspections of industrial/commercial sites and sources by the Authority Environmental Affairs Department staff generally include a review of the following information, to the extent the information exists: 1) SWPPPs or BMP implementation plans; 2) any relevant monitoring data; 3) any self-inspection records; and 6) any previous inspection reports, including the ACSIs, as appropriate. The inspection generally involves an assessment of: 1) compliance with the SWMP and the Authority's ordinances and permits related to urban runoff; 2) existing BMP requirements and the adequacy of BMP implementation, BMP maintenance and effectiveness, and the site supervisor/manager's efforts to make appropriate adjustment when ineffective BMPs have been identified; and 3) visual observations for non-stormwater discharges, potential illicit connections, and potential discharge of pollutants in stormwater runoff. The inspection also presents an opportunity to provide education and training regarding stormwater pollution prevention.



There are 4 basic steps to the Authority's facility/site inspection procedures described below, namely: initiation, preparation, the site visit, and the post-inspection activities.

Step 1: Initiation - The inspection is typically initiated in response to a schedule, a public report or complaint, an illicit discharge investigation, or as follow-up to a previous inspection, violation, or other enforcement action. The inspector typically conducts a complete inspection of the entire facility/site, regardless of the initiating circumstances. However, the inspectors may choose to focus on specific issues that were previously identified or that were the reason for the initiation of the inspection

Step 2: Pre-Inspection Preparation - Prior to visiting a facility/site, the inspector reviews any of the available information noted above and organizes the appropriate inspection form (found in Appendix G). Using maps and other sources, the inspector familiarizes themselves with the general site location and vicinity, including proximity to storm drain inlets.

Step 3: The Site Visit - The inspector begins assessing site conditions upon approach to the facility/site. Depending upon circumstances and availability, the inspector may begin by interviewing the facility/site operator or other responsible individual. The inspector then verifies/clarifies observations made upon approaching the facility/site, identifies and evaluates the BMP requirement applicable to the site/activity, as well as the effectiveness of the BMPs being implemented. If responsible individuals are available, the inspector will ensure the contact information and BMP requirements on record are accurate and discuss how various BMP requirements are being met (especially if requisite BMPs have been incorporated into the operations and activities in a manner that may not be obvious). The inspector typically asks to see any existing pollution prevention plans, records, or environmental management system documentation. While conducting a walkthrough of the facility/site, the inspector notes those industrial/commercial areas and activities that are exposed to precipitation (thereby increases the risk of pollutants entering the storm drain system. Areas of stormwater run-on and runoff are also noted. The inspector uses the walkthrough to assess: the accuracy of site maps, descriptions of the areas and activities, and lists of materials on site; the effectiveness of the BMPs being implemented; and any evidence of potential or existing illegal discharges. The inspection is documented on the appropriate form(s) as outlined below. The inspection form should bear the signatures of both the inspector and the responsible individual (or designee) for the facility/site.

Step 4: Post-Inspection Activities - After the inspection, the inspector ensures actions are taken to address any immediate concerns; updates the Authority's records, as necessary; files copies of the inspection form (and ensures a copy is issued to the responsible party); issues corrective action or enforcement orders to the responsible party, as necessary; schedules follow-up inspections, as needed; and makes reports or referrals, as needed, to the appropriate departments or agencies.

### Inspection Forms

The Authority Environmental Affairs Department conducts various inspections at SAN to maintain and ensure compliance with both the General Industrial Permit and the Municipal

Permit. The various inspection programs were outlined above. The inspections are documented in field activity reports. Inspection reports and/or summaries, as appropriate, are included in the Annual Reports required by the General Industrial Permit and Municipal Permit. The inspection forms used for each of the various inspection programs are presented in Appendix G.

The General Industrial Permit requires the use of the following inspection forms developed by the SWRCB:

- **Form 2** - Quarterly Visual Observations of Authorized Non-Stormwater Discharges,
- **Form 3** - Quarterly Visual Observations of Unauthorized Non-Stormwater Discharges,
- **Form 4** - Monthly Visual Observations of Stormwater Discharges,
- **Form 5** - Annual Comprehensive Site Compliance Evaluation Potential Pollutant Source/Industrial Activity BMP Status.

Details regarding the authorized and unauthorized non-stormwater discharges, the subjects of Forms 2 and 3, are included in Section 3. Form 4 is used to record observations, the dates of observation, the locations observed, and the responses taken to reduce or prevent pollutants in stormwater discharges. Examples of the SWMP-compliance facility/site inspection forms are also provided in Appendix G.

[Note - Appendix G also includes General Industrial Permit - Form 1 - Sampling & Analysis Results - is used to present the results of wet weather sampling and analysis. The wet weather sampling and analysis performed by the Authority in compliance with the General Industrial Permit is discussed in Section 9 and Appendix D2 of this SWMP.]

### **Owner Operator Notifications**

One objective of the SAN SWMP is to notify all industrial/commercial sites/sources at SAN, whether operated by tenants or the Authority, of the BMP requirements deemed applicable to each site/source by the Authority. As noted above, all tenants and Authority departments (with stormwater management responsibilities) are provided and maintain current, up-to-date copies of the SWMP in either hard-copy or electronic copy, or have immediate access to the SWMP via the internet. As such, the Authority complies with the notification requirements of Section D.3.b.(2)(c) of the Municipal Permit.

### **Enforcement Measures**

Any BMP violations have not been addressed by the industrial/commercial site/source tenant or Authority department will be discussed with responsible party. The inspector will require the submittal of a written explanation and description of the actions that will be taken to correct the problem. A corrective action form may be used to document the problem and its resolution. The responsible party should be given a Corrective Action Form for each

violation documented during the inspection. The responsible party must provide documentation describing the actions taken to the Environmental Affairs Department within 30 days of the notice to correct the violation.

If violations discovered during an inspection are not resolved voluntarily by the responsible party, the Authority will pursue appropriate enforcement actions as detailed in Article 8.7 of the Authority Code and described in Section 2.4 of this SWMP.

### **Reporting of Industrial Non-Filers and Incidents of Non-Compliance**

#### **Reporting of Industrial Non-Filers**

As noted in the Introduction of this SWMP, the industrial operations at SAN have been subject to the General Industrial Permit since 1992. At that time, the Port of San Diego filed a Notice of Intent to Comply (NOI) with the permit that included all the industrial entities at the airport. Since then, ownership and operation of SAN was transferred from the Port of San Diego to the Authority, and the Port of San Diego filed a Notice of Termination from permit compliance and listed the Authority as the new facility operator for SAN. In March of 2003, the Authority filed a NOI to comply with the General Industrial Permit and listed the primary SIC code for the site as 4500 Air Transportation. In response, the SWRCB issued WDID #937I018035 to SAN. In August of 2003, the Authority prepared the SAN SWMP to comply, in part, with the General Industrial Permit. As was true at the time that the Port of San Diego operated the airport, all airport tenants operate under lease or license agreement with the airport owner/operator, which is currently the Authority. As such, since the NOI included all industrial operations at SAN, there cannot be any General Industrial Permit non-filers at SAN.

#### **Incidents of Non-compliance**

The Authority may issue a written enforcement notice for incidents of repeat or serious non-compliance. If an incident or practice of non-compliance occurs, Authority Environmental Affairs Department staff will then determine if the incident endangers human health or the environment by considering the following criteria:

- Characteristics, quantity, and toxicity of substances/materials involved;
- Proximity of site to a sensitive water body (San Diego Bay);
- Proximity of site to an impaired water body (San Diego Bay);
- Proximity of site to a sensitive habitat/endangered species;
- Estimated volume of actual and/or potential discharge;
- Whether the incident involves a discharge to the storm drain;
- Condition of the storm drain system (clog, etc.).

If the Authority determines that the incident does endanger human health or the environment, then the Authority will provide verbal notification to the RWQCB within 24 hours from the time the Authority becomes aware of the circumstances. Within 5 days of the time the Authority becomes aware of the circumstances, the Authority will provide the RWQCB with a written submission containing a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

In addition, under the General Industrial Permit, incidents of non-compliance are grounds for enforcement actions, Permit termination, revocation and re-issuance, or modification or denial of a permit renewal application. If any stormwater or non-stormwater discharges exceed the discharge prohibitions, effluent limitations, or receiving water limitations specified in the General Industrial Permit, or exceed any applicable water quality standards in the Statewide or Regional Water Boards' Basin Plans, the facility is not in compliance. Should such a situation arise, the Authority will submit a report to the RWQCB within 60 days describing BMPs currently being implemented and additional BMPs that will be implemented, with a schedule of implementation, to prevent or reduce any pollutants that are causing or contributing to the exceedance of water quality standards. Following approval of the report by the RWQCB, the Authority will revise and implement this SWMP and monitoring program, as necessary, within 90 days to incorporate any additional BMPs that may have been and/or will be implemented (including a schedule for implementation) and any additional monitoring requirements. Any anticipated non-compliance, such as a planned change at the airport facility that will change the nature or increase the amount of pollutants discharged, will be reported to the RWQCB. Any non-compliances will be reported in the monitoring report discussed below, and will include a description of the non-compliance and its cause, the date and time of the non-compliance and if it has been corrected, as well as the steps taken or planned to reduce and prevent a recurrence of the non-compliance.

### **Reporting**

Both the Municipal Permit and the General Industrial Permit require the Authority submit Annual Reports to the RWQCB. The Municipal Permit requires submission of an annual report by September 30th of each year, which includes the information listed in Section J.3.a.(3) of the permit for the preceding 12-month period of July 1st to June 30th. The General Industrial Permit requires submission of an annual report by July 1st of each year, which includes the information listed in Section B.14 of the permit for the preceding 12-month period of July 1st to June 30th. The Annual Reports are signed and certified by the Director of Environmental Affairs.

### **Records**

Records of all stormwater monitoring information, copies of all reports (including Annual Reports) required by the Municipal Permit and the General Industrial Permit, and records of all data used to complete the NOI for the General Industrial Permit, and all other data and information required by either permit will be retained by the Authority for a period of at least five years.

### **7.3 MOBILE SOURCES ELEMENT**

While there are several industrial/commercial entities at SAN that operate at locations throughout the airport, the Authority does not consider any of these entities to be mobile sources in terms of the Municipal Permit. Any and all industrial/commercial entities at SAN are included in the discussion of stationary industrial/commercial sites/sources above.

### **7.4 INDUSTRIAL AND COMMERCIAL COMPONENT EFFECTIVENESS ASSESSMENT**

The Authority has developed internal and external effectiveness assessment programs to evaluate the Authority staff, Authority boards, and tenant compliance with water quality issues. The Authority's Effectiveness Assessment component is described in Section 13.0 of this document.

### **7.5 INDUSTRIAL AND COMMERCIAL COMPONENT PROGRAM REVIEW AND MODIFICATION**

The Authority has reserved this section to identify and document future changes to the Industrial and Commercial Component of the SWMP. Section 14.0 of this SWMP details the program modifications made to the *SWMP January 2005-Revision* to bring this document into compliance with the renewed Municipal Permit.

