Storm Water Pollution Prevention Plan (SWPPP) Associated with Industrial Activities

for

Van Nuys Airport

Van Nuys
Los Angeles
World Airports

Facility Address:
16461 Sherman Way
Van Nuys, California 91406

Waste Discharge Identification (WDID):
4 19I004994

Exceedance Response Action (ERA) Status:
Baseline

Legally Responsible Person (LRP):
Los Angeles World Airports
1 World Way
Los Angeles, CA 90045
Robert Freeman
(424) 646-6474

Duly Authorized Representatives:

SWPPP Preparation Date
June 25, 2015

TABLE OF CONTENTS

Page

LEGALLY RESPONSIBLE PERSON IV

AMENDMENT LOG V

1. SWPPP REQUIREMENTS 6

1.1 Introduction 6
1.2 Permit Registration Documents 6
1.3 SWPPP Availability and Implementation 7
1.4 Pollution Prevention Team 7
1.5 Permits and Governing Documents 8
1.6 SWPPP Amendments 9
1.7 Exceedance Response Actions (ERAs) 9
1.8 Termination and Changes to General Permit Coverage 10

2. FACILITY INFORMATION 12

2.1 Facility Description 12
2.1.1 Facility Location 12
2.1.2 Facility Operations 12
2.1.3 Existing Conditions 13
2.1.4 Description of Drainage Areas and Existing Drainage 14
2.1.5 Stormwater Run-On from Offsite Areas 16
2.2 Operations Schedule 16
2.3 Required Site Map(s) Information 16

3. POLLUTANT SOURCE ASSESSMENT 17

3.1 Description of Potential Pollutant Sources 17
3.2 Significant Spills and Leaks 21
3.3 Identification of Non-Stormwater Discharges (NSWDs) 21

4. BEST MANAGEMENT PRACTICES 22

4.1 Minimum BMPs 22
4.1.1 Good Housekeeping 22
4.1.2 Preventative Maintenance 23
4.1.3 Spill and Leak Prevention and Response 23
4.1.4 Material Handling and Waste Management 24
4.1.5 Erosion and Sediment Controls 24
4.1.6 Employee Training Program 25
4.1.7 Quality Assurance and Record Keeping 26

TABLE OF CONTENTS (Continued)

4.2 Advanced BMPs 26
4.2.1 Exposure Minimization BMPs 27
4.2.2 Stormwater Containment and Discharge Reduction BMPs 27
4.2.3 Spill Containment BMPs 27
4.2.4 Treatment Control BMPs 27
4.3 BMP Implementation and Maintenance Schedule 28
4.4 BMP Summary Table 28

5. MONITORING IMPLEMENTATION PLAN AND REPORTING 31

5.1 Purpose 31
5.2 Stormwater Monitoring Team 31
5.3 Discharge Locations 31
5.4 Monthly Dry Weather Visual Observations and Responses 31
5.4.1 Non-Stormwater Discharge Observations 31
5.4.2 Industrial Activities Areas and BMP Implementation 32
5.4.3 Visual Observations Follow-Up and Reporting 32
5.5 Stormwater Sampling and Analysis Procedures 33
5.5.1 Stormwater Sampling Schedule 33
5.5.2 Stormwater Sampling Locations 33
5.5.3 Sample Collection Criteria 33
5.5.4 Sampling Preparation 33
5.5.5 Sample Collection Procedures 33
5.5.6 Sample Handling 33
5.5.7 Sample Analysis 33
5.6 Sampling Documentation Procedures 33
5.7 Storm Event Visual Observations and Responses 33
5.8 Quality Assurance and Quality Control 33
5.9 Storm Event Log 33

6. REPORTING AND RECORDKEEPING 34

6.1 Stormwater Discharge Analytical Results Reporting 34
6.2 Annual Comprehensive Facility Compliance Evaluation 34
6.3 Annual Report 35
6.4 Records Retention 35

7. REFERENCES 36

8. LIST OF ACRONYMS AND ABBREVIATIONS 37

TABLE OF CONTENTS (Continued)

LIST OF FIGURES

Figure 1: Site Location

Figure 2: Site Map

Figure 3: Address Map

- Tenant Maps Organized by Address

Figure 4: Drainage Basin Map

Figure 5: Catch Basin and Storm Drain Map

Figure 6: Area of Pollutant Contact

Figure 7: Structural Management Controls

Figure 8: Industrial vs. Non-Industrial Area Map

LIST OF APPENDICES

Appendix A: Permit Registration Documents (PRDs)

Appendix B: VNY Tenant Pollution Prevention Team

Appendix C: Training Records

Appendix D: Spills and Leaks within the Previous Five-Year Period

Appendix E: BMP Fact Sheets

Appendix F: Dry Weather Inspection Forms

Appendix G: Storm Event Forms

Appendix H: Field Equipment Instructions

Appendix I: Storm Event Log

Appendix J: Storm Water Sampling & Analysis Plan

Attachment A: 2014 Industrial General Permit

Legally Responsible Person

Approval and Certification of the Storm Water Pollution Prevention Plan

Facility Name: Van Nuys Airport

Waste Discharge Identification (WDID): 4 19I004994

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

Robert Freeman
Legally Responsible Person

Signature of Duly Authorized Representative	Date
Name of Duly Authorized Representative	Telephone Number
Signature of Duly Authorized Representative	Date
Name of Duly Authorized Representative	Telephone Number

Amendment Log

Facility Name: Van Nuys Airport

Waste Discharge Identification (WDID): 4 19I004994

Amendment No.	Date	Page and Section No.	Requested By	Brief Description of Amendment; include reason for change, site location, and BMP modifications.	Prepared and Approved By
1	9/30/15	p. 13 - Table 2.1; Figure 3; App A; App F	K. Ang	List of Tenants Updated; Additional Facility Maps; NOI Form; Updated Dry Weather Observation Forms	K. Ang / R. Freeman
2	10/15/15	Sec 3 Table 3.1	C. Wang	Update of the Facility's Chemical Inventory List	K. Ang/ C. Wang
3	11/17/15	p. 31, Sections 5.1-5.3; Pp. 33-40 Sections 5.5-5.9; Appendix J; Appendix F	C. Wang	Sections 5.1-5.3 and Sections 5.5-5.9 is replaced by Appendix J: Updated Storm Water Sampling and Analysis Plan. In Appendix F, Annual Inspection Form updated.	K. Ang / R. Freeman
4	8/15/16	Table 1.1; Table 2.1; p15; Table 3.2; Table 4.2; Figures; App. B	C. Wang	VNY PPT; VNY Master Leaseholder by Primary Industrial Activity; Drainage Basin Description, Storm Water Run-On from Offsite Areas; Authorized NSWDs; Tenant Specific BMP; Updated Tenant Site Maps, Figure 8 (Industrial & Non-Industrial Activity Area Map); Tenant PPT	K. Ang/ R. Freeman

1. SWPPP REQUIREMENTS

1.1 Introduction

The Van Nuys Airport (VNY) comprises approximately 723 acres and is located at 16461 Sherman Way, Van Nuys, CA 91406. VNY is owned and operated by the City of Los Angeles Airports also known as the Los Angeles World Airports (LAWA). Numerous tenants who conduct a variety of airport-related support functions occupy leaseholds at VNY. The facility location is shown in **Figure 1,** a general site map is provided in **Figure 2,** and a tenant address map is provided in **Figure 3.**

This Storm Water Pollution Prevention Plan (SWPPP) is designed to comply with California's General Permit for Stormwater Discharges Associated with Industrial Activities (General Permit) Order No. 2014-0057-DWQ (NPDES No. CAS000001) issued by the State Water Resources Control Board (State Water Board) (**Attachment A**). In accordance with the General Permit, Section X.A, this SWPPP contains the following required elements:

- Facility Name and Contact Information;
- Site Map;
- List of Significant Industrial Materials;
- Description of Potential Pollution Sources;
- Assessment of Potential Pollutant Sources;
- Minimum Best Management Practices (BMPs);
- Advanced BMPs, if applicable;
- Annual Comprehensive Facility Compliance Evaluation (Annual Evaluation);
- Monitoring Implementation Plan (MIP); and
- Date that SWPPP was Initially Prepared and the Date of Each SWPPP Amendment, if Applicable.

1.2 Permit Registration Documents

Required Permit Registration Documents (PRDs) were submitted to the State Water Board via the Stormwater Multiple Application and Report Tracking System (SMARTS) by the Legally Responsible Person (LRP), or authorized personnel (i.e., Duly Authorized Representative) under the direction of the LRP. The project-specific PRDs include:

- Notice of Intent (NOI);
- Signed Certification Statement (LRP Certification was provided electronically with SMARTS PRD submittal);
- Site Map(s);
- SWPPP; and
- Annual Fee.

A copy of the submitted NOI, Signed Certification Statement and Annual Fee Receipt are kept in **Appendix A** along with the Waste Discharge Identification (WDID) confirmation letter. The site maps are included as **Figures 1 through 7**.

In the event of future significant changes to the facility layout, the Discharger will certify and submit new PRDs via SMARTS.

1.3 SWPPP Availability and Implementation

The SWPPP is available on-site to employees during hours of operation (see **Section 2.2** for the Operations Schedule), and will be made available upon request by a State or Municipal Inspector. The SWPPP will be implemented by July 1, 2015.

1.4 Pollution Prevention Team

LAWA staff that have been designated as Pollution Prevention Team members are listed below in **Table 1.1**, along with their responsibilities and duties. **Table 1.1** will be updated as needed when there are changes to LAWA staff and staff responsibilities.

Tenant staff who are designated as Tenant Pollution Prevention Team members are included in the table in **Appendix B** by address. The locations of the Tenant leaseholds are shown on **Figure 3.** Tenant provided site maps are attached behind **Figure 3,** organized by tenant address. When there are changes to tenant staff or operations, tenants will provide updated Tenant Pollution Prevention Team member information to LAWA staff who will update the table included in **Appendix B**.

LAWA and Tenant Pollution Prevention Team members will be trained to perform the duties assigned to them. Pollution Prevention Team member training records are provided in **Appendix C**.

Table 1.1: VNY Pollution Prevention Team

Name	Title	Phone Number	Responsibilities and Duties
Somvang Meksavanh	Environmental Specialist (Team Member)	(424) 646-6492	• SWPPP Team Member • SWPPP maintained and updated • Review tenant routine inspections • Coordinate training • Annual Reporting • Main task manager of water quality monitoring
Matthew Renaud	Environmental Specialist (Alternate Team Member)	(424) 646-9044	• Spill Data Collection Coordinator • Alternate Team Member for SWPPP tasks at VNY • Alternate task manager of water quality monitoring
VNY Tenants	See **Appendix B** for tenant specific Pollution Prevention Team information		• Implement BMPs at their respective facilities • Conduct routine inspections at their respective facilities
David Schack Alta Environmental	Vice President	(310) 951-9482 (C) (562) 495-5777 (O)	• Collect storm water discharge samples • Conduct routine inspections
David.Renfrew Alta Environmental	Director, Water Resources	(760) 908-5749 (C) (562) 495-5777 (O)	• Alternate Team Member • Collect storm water discharge samples • Conduct routine inspections

1.5 Permits and Governing Documents

In addition to the General Permit, the following documents have been taken into account while preparing this SWPPP:

- Regional Water Quality Control Board requirements;
- Basin Plan requirements;

- Total Maximum Daily Load (TMDL) requirements;
- Spill Prevention Control and Countermeasures (SPCC) Plan; and
- Hazardous Material Management Plan (HMMP).

1.6 SWPPP Amendments

This SWPPP will be revised replaced, and/or hand annotated as necessary to properly convey an amendment when:

- There is a General Permit violation;
- There is a reduction or increase in the total industrial area exposed to storm water;
- BMPs do not meet the objectives of reducing or eliminating pollutants in storm water discharges;
- There is a change in industrial operations which may affect the discharge of pollutants to surface waters, groundwater(s), or a municipal separate storm sewer system (MS4);
- There is a change to the parties responsible for implementing the SWPPP; or
- Otherwise deemed necessary.

Documentation of the amendment will be included in the Amendments Log located at the front of the SWPPP and will include the following information:

- Who requested the amendment;
- The location of proposed change;
- The reason for change; and
- The new/revised BMPs or relevent changes.

SWPPP amendments must be certified and submitted by the LRP via SMARTS within 30 days whenever the SWPPP is significantly revised. With the exception of significant revisions, SWPPP changes will not be certified and uploaded to SMARTS more than once every three months in the reporting year.

1.7 Exceedance Response Actions (ERAs)

In accordance with the General Permit, storm water discharges from VNY are subject to comparison with numeric action levels (NALs). A NAL exceedance for an individual pollutant can occur in one of two ways:

1. An annual NAL exceedance occurs when the average of all analytical results for a parameter from samples taken within a reporting year (July 1 to June 30) exceeds the Annual NAL; or

2. An instantaneous maximum NAL exceedance occurs when two (2) or more analytical results from samples taken for any single parameter within a reporting year (July 1 to June 30) exceeds the instantaneous maximum NAL value (for Total Suspended Solids and Oil & Grease) or are outside of the instantaneous maximum NAL range for pH.

The annual and instantaneous maximum NALs that are applicable to VNY and listed in the 2014 IGP are provided in **Table 1.2**, below.

Table 1.2: Applicable NAL Values

Parameter	Reporting Units	Annual NAL	Instantaneous Maximum NAL
pH	pH units	Not Applicable	Less than 6.0 Greater than 9.0
Total Suspended Solids	mg/L	100	400
Oil & Grease	mg/L	15	25
Copper	mg/L	.0332	
Ammonia (as N)	mg/L	2.14	
Biochemical Oxygen Demand (BOD)	mg/L	30	
Chemical Oxygen Demand (COD)	mg/L	120	

If a General Permit NAL exceedance occurs in a given reporting year, a Level 1 ERA Evaluation and a Level 1 ERA Report will be required in the following year, or, if in a subsequent year, a Level 2 ERA Action Plan and a Level 2 ERA Report will be required in accordance with the General Permit. The results of either of the ERA reports may require that the SWPPP be amended.

1.8 Termination and Changes to General Permit Coverage

When any of the following conditions occur, termination of coverage under the General Permit will be requested by certifying and submitting a Notice of Termination (NOT) via SMARTS:

- Operation of the facility has been transferred to another entity;
- The facility has ceased operations, completed closure activities, and removed all industrial related pollutant generating sources; or
- The facility's operations have changed and are no longer subject to the General Permit.

Compliance with the SWPPP and the provisions of the General Permit will continue until a valid NOT is received and accepted by the Board. If ownership changes, the new owner of the facility will be notified of the General Permit and regulatory requirements for permit coverage.

2. FACILITY INFORMATION

2.1 Facility Description

2.1.1 Facility Location

The Van Nuys Airport comprises approximately 723 acres and is located at 16461 Sherman Way in Van Nuys, California. The facility is located approximately one mile west of Interstate 405 and approximately 12 miles northeast of the Santa Monica Bay. The facility is identified in **Figure 1**.

2.1.2 Facility Operations

Operations at the facility consist of activities required for general aviation activities and related support functions. The specific industrial activities conducted at VNY include:

- Aircraft Fueling
- Aircraft Maintenance
- Aircraft Painting
- Aircraft Rental
- Aircraft Sanitary Service
- Aircraft Washing
- Anti-icing
- Cargo Handling
- Chemical Storage
- Equipment Degreasing
- Equipment Maintenance
- Equipment Storage
- Fuel Storage
- Floor Wash
- Outdoor Apron Wash
- Pesticide/Herbicide Usage
- Steam Cleaning
- Vehicle Fueling
- Vehicle Maintenance

Numerous tenants, who conduct a variety of airport-related support functions, occupy leaseholds at VNY. Federal regulations governing storm water discharges require that transportation facilities consisting of these areas or leaseholds which have discharges from vehicle maintenance shops, or equipment cleaning operations, which are defined as "associated with industrial activity", must be covered under an NPDES permit. Therefore, in accordance with federal regulations, tenants that conduct industrial

activities at VNY must be included as co-permittees under LAWA's program, or obtain separate permit coverage for their discharges.

In order to update current tenant information specifically related to storm water issues, VNY Pollution Prevention Team staff performs regular site inspections (at least once a year) at each of the tenant facilities/leaseholds where industrial activities are performed. This information is compiled for the annual report and to update the SWPPP.

Tenants that conduct industrial activities are grouped by their main industrial activity in **Table 2.1**.

Table 2.1: VNY Tenants by Primary Industrial Activity

AIRCRAFT FUELING / OPERATION / MAINTENANCE	
Aerolease Associates	Civil Air Patrol #135 (Condor Squadron)
Aerolease West	LAUSD North Valley Occ. Center
Air Center Aviation	MPG Aviation
Basenet, LLC	National Helicopter Service
Castle and Cooke Aviation	Prop Park
City of Los Angeles – General Services Dept.	Signature Flight Support – North & West
City of Los Angeles – Fire Department	Signature Flight Support – East & South
City of Los Angeles – Police Department	Southwest Aviation
Clay Lacy Aviation	Western Jet Aviation
MANUFACTURING	
MP Aero	

2.1.3 Existing Conditions

As shown in **Figure 2**, approximately 80 percent (approximately 580 acres) of VNY is impervious surface covered by buildings and paved areas (i.e. runways, taxiways and parking lots). The unpaved areas of the airport are covered by vegetation and surface soil. The facility is divided into seven drainage areas. Surface water from the facility discharges to Bull Creek which is 303(d) listed for indicator bacteria. VNY is located within the Los Angeles River Watershed Reach 5 (between Balboa Boulevard and Sepulveda Dam), which is 303(d) listed for oil and has TMDLs for ammonia, copper, lead, nutrients (algae) and trash.

There are identified areas within the facility that have known historic sources of contamination that are consistent with an operating air transportation facility. These areas are not surficial (subsurface soils and groundwater) and are not identified as a threat to storm water run-off.

2.1.4 Description of Drainage Areas and Existing Drainage

Drainage Basin #1

Basin #1 includes the northeast portion of runway 16L-34R and leaseholds in the northeast portion of VNY. Basin #1 primarily drains to the east towards Woodley Avenue. Storm water runoff from the airport merges with upstream flows on Woodley Avenue prior to discharging into one of two catch basins near Woodley Avenue or into the street curb and gutter. The flow continues south on Woodley Avenue and intersects discharge point #1 at Waterman Drive.

Drainage Basin #2

Basin #2 includes storm water runoff from the northwest portion of VNY. Due to the topography of the basin, the runoff flows to Bull Creek in a variety of patterns. Bull Creek leaves VNY after receiving flows from several outfalls. Discharge point #2 is located further downstream at the intersection of Bull Creek and Stagg Street. Runon from the adjacent Southern Pacific Railroad right-of-way can also drain onto airport property and discharge into Bull Creek.

Drainage Basin #3

Basin #3 includes the airport property located between Roscoe Boulevard and Napa Street known as the Agricultural Area. The tenants in this area grow plants and trees. Storm water runoff from this area flows south to several catch basins along Roscoe Boulevard. Drainage into discharge point #3 consists solely of runoff from the agricultural area and thus contains no discharge associated with industrial activity.

Drainage Basin #4

Storm water runoff from the central western portion of VNY sheetflows west onto Hayvenhurst Place and drains south into discharge point #4. There are two parallel swales that run north/south and drain south towards Hayvenhurst Avenue. Discharge point #4 is located at Hayvenhurst Avenue and Sherman Way.

Drainage Basin #5

Storm water runoff in drainage basin #5 is comprised of drainage from the southwestern portion of VNY. This basin includes surface runoff from the western portion of the golf course, a swale which runs parallel to Runway 16R-34L and drains into a subsurface pipe at the south end of the runway, and a part of drainage basin #4. Run-on from adjacent non-LAWA properties located on Hayvenhurst Avenue drain into drainage

basin #5. The runoff in Basin #5 flows from southern and northern areas of the basin onto Vanowen Street and discharges into discharge point #5.

Drainage Basin #6

Basin #6 receives storm water runoff from the eastern portion of the golf course, the southeastern portion of Runway 16R-34L, leaseholds and tie down areas, and the tunnel area along Sherman Way. The Sherman Way tunnel is a vehicle passage area under the airport runway, which is oriented east west along Sherman Way below VNY.

The runoff from Runway 16R-34L flows to a culvert parallel to the runway and drains south to the Sherman Way tunnel. The runoff collected in the Sherman Way tunnel is pumped up onto the airport property and into a culvert which flows south towards discharge point #6. Runoff from the golf course flows north on Sophia Avenue and discharges from the airport property at Vanowen Street.

Drainage Basin #7

Surface water runoff from the central eastern portion of VNY drains both east and west to several catch basins located near Woodley Avenue. Run-on from some of the industrial-commercial facilities on the south side of Stagg Street drain into drainage basin #7.

2.1.5 Storm Water Run-On from Offsite Areas

Run-on to the site can occur at the following locations:

- Drainage Basin #2 - Run-on from the Southern Pacific Railroad right-of-way, discharges to Bull Creek.
- Drainage Basin #5 – Run-on from the rear portion of adjacent non-LAWA properties addressed on Hayvenhurst Avenue.
- Drainage Basin #6 – Storm water that collects in the Sherman Way tunnel is pumped up and into a culvert on airport property, discharges at location #6.
- Drainage Basin #7 – Run-on from industrial commercial facilities addressed on the south side of Stagg Street drain into drainage basin #7.

The General Permit requires that BMPs be implemented to direct offsite and non-industrial run-on away from industrial areas and erodible surfaces. Culverts and berms are utilized to prevent off-site run-on to industrial activity areas at VNY. The off-site drainage areas and associated storm water conveyance facilities are shown on **Figure 4**.

2.2 Operations Schedule

VNY operates 24 hours a day 365 days a year.

If industrial activities are temporarily suspended for 10 or more consecutive calendar days during a reporting year, BMPs that are necessary to achieve compliance with this General Permit during the temporary suspension of the industrial activity will be identified and incorporated into the SWPPP.

2.3 Required Site Map(s) Information

Figures 1 through 7 include the information required by the General Permit (Section X.E). The maps include information regarding the facility boundary and storm water drainage areas, direction of storm water flow, nearby water bodies, locations of storm water collection and conveyance systems including outfalls, locations of industrial activities and materials, and locations of structural control measures.

3. POLLUTANT SOURCE ASSESSMENT

This section presents a list of industrial activities, materials, and potential pollutant sources at the facility. It also identifies specific pollutants associated with these sources, activities and/or areas that have the potential for spills and leaks, and the pollutant sources that are susceptible to exposure with storm water and non-storm water discharges (NSWDs).

A pollutant source assessment has been conducted for each industrial area and/or activity at the facility as required by Section X.G.2 of the General Permit.

3.1 Description of Potential Pollutant Sources

This section includes a general description of industrial activities and associated materials that are used or stored onsite as reported by VNY tenants in an annual questionnaire. VNY tenants reported that the potential pollutants listed in **Table 3.1** are located on site.

Table 3.1 Potential Pollutants Reported by Tenants*

Potential Pollutants	Estimated Quantity
Acids (gallons)	7
Anti-Freeze (pounds)	2
Anti-Freeze (gallons)	118
AV Gas (gallons)	24,550
Anti-icing Fluid (Glycol-based) (gallons)	0
Concrete Mix (pounds)	3,150
Degreaser (gallons)	287
Deodorizing Solution (gallons)	55
Diesel Fuel (gallons)	9,860
Engine Oil (gallons)	709
Fertilizer (gallons)	6
Foaming Agent (gallons)	1,200
Foaming Agent (pounds)	30,000
Freon (gallons)	120
Fuel Additive (gallons)	330
Gasoline (gallons)	2,874
Grease (pounds)	1
Grease (gallons)	51
Hydraulic Fluid (gallons)	797
Isopropyl Alcohol (gallons)	131
Jet Fuel (gallons)	325,255
Motor Oil (gallons)	133

Oily Rags (gallons)	255
Oily Rags (pounds)	127
Paint (gallons)	313
Pesticide (gallons)	5
Propylene Glycol (gallons)	5
Soap (gallons)	187
Solvents (gallons)	318
Transmission Fluids (gallons)	15
Turbine Oil (gallons)	140
Waste Absorbent (gallons)	270
Waste Absorbent (pounds)	130
Waste Anti-Freeze (gallons)	10
Waste Fuel (gallons)	2,070
Waste Hydraulics (gallons)	195
Waste Oil (gallons)	2,510
Waste Oil Filters (gallons)	432
Waste Oil Filters (pieces)	2
Potential Pollutants	**Estimated Quantity**
Waste Oil Filters (pounds)	20
Waste Solvents (gallons)	260
*Data in this table is a compilation of information reported by VNY tenants.	

Primary industrial activities conducted by each tenant are listed in **Table 2.1.** Tenants may conduct associated ancillary activities in addition to their primary activities. BMPs implemented by each tenant to reduce and prevent potential pollutants from contacting storm water are discussed in **Section 4.**

Locations of potential pollutant sources are shown in **Figure 6** and associated BMPs are shown in **Figure 7** for the overall facility. Potential pollutant sources and associated BMPs for VNY tenants are shown in figures prepared by the tenants which are attached behind **Figure 3**, organized by tenant address.

Industrial activities conducted onsite at VNY that could be potential sources of pollution include:

- Aircraft, Vehicle and Equipment Maintenance
- Aircraft and Vehicle Fueling
- Aircraft and Vehicle Washing
- Material Loading/Unloading
- Chemical and Fuel Storage

- Building and Grounds Maintenance

A brief description of these industrial activities and associated materials that may be stored onsite is presented below.

Aircraft, Vehicle and Equipment Maintenance

The majority of aircraft, vehicle, and equipment maintenance activities are conducted indoors, but some light maintenance occurs outdoors. Based on the nature of maintenance activities at airports, materials such as lubricating oils, hydraulic oils, degreasers, and cleaning products are potentially present in these areas. Small leaks or spills of these materials are not uncommon during maintenance activities. Based on inspection results, most tenants appear to respond appropriately to these small leaks through the use of absorbents and therefore this activity seems to represent limited potential for significant pollutant discharge. Areas of aircraft and vehicle maintenance are indicated on **Figure 6**.

Typically maintenance areas that are located indoors have floor drains that discharge the sanitary sewer system in accordance with Industrial Waste Discharge Permits. Therefore, discharges from floor drains at VNY present limited potential for pollutant discharge to the storm drain system. Additional information on existing practices to prevent the discharge of pollutants from maintenance areas is presented in **Section 4**.

Aircraft and Vehicle Fueling Areas

The transfer of jet fuel, aviation gasoline, diesel, and gasoline from above ground storage tanks (ASTs) underground storage tanks (USTs) is conducted via closed hose transfer connections. This closed hose approach is also used when jet fuel or Avgas is loaded into an aircraft. Aircraft fueling activities are conducted only on concrete ramps or paved areas. Vehicle fueling is conducted at various areas throughout VNY either outdoor or covered areas. Based on the quantity of fueling activities that take place at VNY, fuel spills are expected to occur, with some spills reaching the storm drain system while other spills are contained by absorption materials and vacuum pump clean-up methods prior to entering a catch basin.

Aircraft Painting and Stripping Areas

Paint areas are used for painting vehicle and aircraft parts, sand blasting and paint stripping. Paint, paint-related materials (i.e. thinners, solvents, etc.) and particulates from sand blasting and paint stripping are potential pollutant sources.

Aircraft and Vehicle Washing Areas

Designated and non-designated vehicle, aircraft and equipment wash areas are located at VNY. Designated wash areas are located in specific locations and generally contain a wash rack and an oil/water separator to collect and provide treatment of the runoff. The runoff is then routed to the sanitary sewer system.

Anti-icing

Application of anti-icing chemicals which are glycol-based is generally used on aircraft to minimize the ice build-up on the wings and plane body during cold weather conditions. A minimal amount, if any, of anti-icing materials are used at VNY.

Material Loading/Unloading Areas

Various chemical products (i.e. oils and waste oils) are regularly transferred to and from tenant facilities at VNY. These loading/unloading areas may consist of loading docks at buildings or outdoor storage and transfer facilities such as at the fuel farms. During chemical and petroleum product loading, spills, leaks, and/or release of residues on the exterior of the drums or containers could occur resulting in pollutants entering the storm drains. Waste oil that is periodically loaded by waste haulers (from maintenance facilities that generate waste oil) is another potential pollutant source.

Chemical and Fuel Storage Areas

Tenants at VNY store chemicals and petroleum products (i.e. gasoline, diesel, and jet fuels). Many tenants have separate covered and outdoor storage facilities to house these items. Chemicals, oils, and waste oils may be stored indoors or outdoors in 55-gallon drums. Other materials such as cleansers, paints and paint related products are stored indoors and outdoors, on the ground, or in cabinets. During the winter rain season, any residues on the containers or residuals from chemical spills or leaks in outdoor storage areas are potential sources that could contribute to pollutants in storm water discharges.

Building and Grounds Maintenance

Pesticide and herbicide products are applied at select areas at VNY to eliminate insects and to inhibit the growth of weeds. These products are stored indoors and outdoors in various types of containers. Products which are stored outdoors can have residues on the container which could be washed into the storm drain. During rainfall events, pesticide and herbicide residues which accumulate where they are applied can also wash into the storm drain. Limited pollutant discharge is expected at VNY from the use and storage of pesticides and herbicides.

3.2 Significant Spills and Leaks

Table 3.1 includes a list of industrial materials where spills and leaks have potential to occur. Spills and leaks will be prevented by implementing the BMPs described in **Section 4**.

Significant spills that have occurred in the last five years are summarized in **Appendix D**. The tables include the date, tenant name, location, material, quantity, estimated area covered and a description of the cleanup method.

3.3 Identification of Non-Storm Water Discharges (NSWDs)

NSWDs consist of discharges which do not originate from precipitation events. The General Permit allows certain NSWDs provided they:

- Do not cause erosion;
- Do not carry other pollutants;
- Are not prohibited by the local MS4; and
- Do not require a separate NPDES Permit from the Regional Water Board.

NSWDs that are not specifically listed above, or that are authorized under a separate NPDES permit, are prohibited (referred to as unauthorized NSWD's). There are no unauthorized NSWDs identified at the facility. Authorized NSWDs at this facility are summarized in **Table 3.2** below.

Table 3.2: Authorized NSWDs at VNY

NSWD Source	Frequency of Discharge	Drainage Area	Discharge Location	Quantity of NSWD	Characteristics of NSWD
Irrigation Drainage	Daily	All Drainage Areas	All Discharge Locations	Varies	Non-potable water
Air Conditioning Condensate	Daily	All Drainage Areas	All Discharge Locations	Varies	Non-potable water
Water-only Fire Fighting Equipment Testing	Varies	All Drainage Areas	All Discharge Locations	Varies	Non-potable water
Potable Water Sources	Varies	All Drainage Areas	All Discharge Locations	Varies	Potable Water

These authorized NSWDs will be managed with the BMPs described in **Section 4** of this SWPPP. Steps will be taken to prevent and eliminate unauthorized NSWDs.

4. BEST MANAGEMENT PRACTICES

4.1 Minimum BMPs

Sections 4.1.1 through **4.1.7** list the requirements for each minimum BMP. Minimum BMPs will be implemented for additional targeted industrial activities, equipment, and materials as necessary. If any of the required minimum BMPs are applicable but cannot be implemented, an explanation and alternative approach will be provided in the following sections.

As required by the General Permit, a summary of implemented BMPs is included in **Table 4.1**. **Appendix E** includes the applicable LAWA and CASQA BMP fact sheets, which provide general guidance on how BMPs should be implemented, the targeted industrial activities and the targeted pollutants that will be controlled by correctly implementing the BMPs.

4.1.1 Good Housekeeping

The following good housekeeping measures are required to be implemented in accordance with the General Permit (Section X.H.1.a):

- *Observe all outdoor areas associated with industrial activity including stormwater discharge locations, drainage areas, conveyance systems, waste handling/disposal areas, and perimeter areas impacted by off-facility materials or stormwater run-on to determine housekeeping needs. Any identified debris, waste, spills, tracked materials, or leaked materials will be cleaned and disposed of properly;*
- *Minimize or prevent material tracking;*
- *Minimize dust generated from industrial materials or activities;*
- *Ensure that all facility areas impacted by rinse/wash waters are cleaned as soon as possible;*
- *Cover all stored industrial materials that can be readily mobilized by contact with stormwater;*
- *Contain all stored non-solid industrial materials or wastes (e.g., particulates, powders, shredded paper, etc.) that can be transported or dispersed via by the wind or contact with stormwater;*
- *Prevent disposal of any rinse/wash waters or industrial materials into the stormwater conveyance system;*

- *Minimize stormwater discharges from non-industrial areas (e.g., stormwater flows from employee parking area) that contact industrial areas of the facility; and*
- *Minimize authorized NSWDs from non-industrial areas (e.g., potable water, fire hydrant testing, etc.) that contact industrial areas of the facility.*

The facility fulfills the above General Permit requirements by implementing the site specific BMPs summarized in **Table 4.1** and described in the LAWA and CASQA BMP Fact Sheets in **Appendix E**. Each tenant at VNY is responsible for implementing specific BMPs based on the industrial activities occurring at their facilities.

4.1.2 Preventative Maintenance

The following preventative maintenance measures are required to be implemented in accordance with the General Permit (Section X.H.1.b):

- *Identify all equipment and systems used outdoors that may spill or leak pollutants;*
- *Observe the identified equipment and systems to detect leaks, or identify conditions that may result in the development of leaks;*
- *Establish an appropriate schedule for maintenance of identified equipment and systems; and*
- *Establish procedures for prompt maintenance and repair of equipment, and maintenance of systems when conditions exist that may result in the development of spills or leaks.*

The facility fulfills the above General Permit requirements by implementing the site specific BMPs summarized in **Table 4.1** and described in the LAWA and CASQA BMP Fact Sheets in **Appendix E.** Each tenant at VNY is responsible for implementing specific BMPs based on the industrial activities occurring at their facilities.

4.1.3 Spill and Leak Prevention and Response

The following spill and leak prevention and response measures are required to be implemented in accordance with the General Permit (Section X.H.1.c):

- *Establish procedures and/or controls to minimize spills and leaks;*
- *Develop and implement spill and leak response procedures to prevent industrial materials from discharging through the stormwater conveyance system. Spilled or leaked industrial materials will be cleaned promptly and disposed of properly;*

- *Identify and describe all necessary and appropriate spill and leak response equipment, location(s) of spill and leak response equipment, and spill or leak response equipment maintenance procedures; and*
- *Identify and train appropriate spill and leak response personnel.*

The facility fulfills the above General Permit requirements by implementing the site specific BMPs summarized in **Table 4.1** and described in the LAWA and CASQA BMP Fact Sheets in **Appendix E**. Each tenant at VNY is responsible for implementing specific BMPs based on the industrial activities occurring at their facilities.

4.1.4 Material Handling and Waste Management

The following material handling and waste management measures are required to be implemented in accordance with the General Permit (Section X.H.1.d):

- *Prevent or minimize handling of industrial materials or wastes that can be readily mobilized by contact with stormwater during a storm event;*
- *Contain all stored non-solid industrial materials or wastes (e.g., particulates, powders, shredded paper, etc.) that can be transported or dispersed by the wind or contact with stormwater during handling;*
- *Cover industrial waste disposal containers and industrial material storage containers that contain industrial materials when not in use;*
- *Divert run-on and stormwater generated from within the facility away from all stockpiled materials;*
- *Clean all spills of industrial materials or wastes that occur during handling in accordance with the spill response procedures (Section X.H.1.c); and*
- *Observe and clean as appropriate, any outdoor material or waste handling equipment or containers that can be contaminated by contact with industrial materials or wastes.*

The facility fulfills the above General Permit requirements by implementing the site specific BMPs summarized in **Table 4.1** and described in the LAWA and CASQA BMP Fact Sheets in **Appendix E**. Each tenant at VNY is responsible for implementing specific BMPs based on the industrial activities occurring at their facilities.

4.1.5 Erosion and Sediment Controls

The following erosion and sediment control measures will be implemented in accordance with the General Permit (Section X.H.1.e):

- *Implement effective wind erosion controls;*

- *Provide effective stabilization for all disturbed soils and other erodible areas prior to a forecasted storm event;*
- *Maintain effective perimeter controls and stabilize all site entrances and exits to sufficiently control discharges of erodible materials from discharging or being tracked off the site;*
- *Divert run-on and stormwater generated from within the facility away from all erodible materials*.

The facility fulfills the above General Permit requirements by implementing the site specific BMPs summarized in **Table 4.1** and described in the LAWA and CASQA BMP Fact Sheets in **Appendix E**. Each tenant at VNY is responsible for implementing specific BMPs based on the industrial activities occurring at their facilities.

4.1.6 Employee Training Program

The following employee training program measures are required to be implemented in accordance with the General Permit (Section X.H.1.f):

- *Ensure that all team members implementing the various compliance activities of this SWPPP are properly trained in topics including but not limited to: BMP implementation, BMP effectiveness evaluations, visual observations, and monitoring activities;*
- *Prepare or acquire appropriate training manuals or training materials;*
- *Identify which personnel need to be trained, their responsibilities, and the type of training they will receive;*
- *Provide a training schedule; and*
- *Maintain documentation of all completed training classes and the personnel that received training in the SWPPP.*

The Pollution Prevention Team will be trained in implementing the various compliance activities specified in this SWPPP. Task specific training for employees engaged in activities that have the potential to cause storm water pollution will be conducted when new employees are hired or new tasks are incorporated into the site activities and refresher training will be provided annually. Documentation of training activities is retained in **Appendix C**.

The facility training will be performed by qualified personnel who are familiar with the facility. The training personnel will be responsible for providing information during training sessions and subsequently completing the training logs in **Appendix C**. The training logs identify the site-specific storm water topics covered, as well as the names

of site personnel who attended the training. Each team member will be trained in the specific role they are responsible to undertake.

4.1.7 Quality Assurance and Record Keeping

The following quality assurance and record keeping measures are required to be implemented in accordance with the General Permit (Section X.H.1.g):

- *Develop and implement management procedures to ensure that appropriate staff implements all elements of the SWPPP, including the Monitoring Implementation Plan;*
- *Develop a method of tracking and recording the implementation of BMPs identified in the SWPPP; and*
- *Maintain the BMP implementation records, training records, and records related to any spills and clean-up related response activities for a minimum of five years (Section XXI.J.4).*

Paper or electronic records of documents required by this SWPPP will be retained for a minimum of five (5) years from the date generated for the following items:

- Employee Training Records;
- BMP Implementation Records;
- Spill and Clean-up Related Records;
- Sampling and Analysis Records;
- Visual Observation Records;
- Corrective Action Records; and
- Annual Reports.

4.2 Advanced BMPs

Where the minimum BMPs described above will not adequately reduce or prevent pollutants in storm water discharges, the General Permit (Section X.H.2) requires dischargers, to the extent feasible, implement and maintain advanced BMPs necessary to reduce or prevent discharges of pollutants in its storm water discharge in a manner that reflects best industry practice considering technological availability and economic practicability and achievability.

4.2.1 Exposure Minimization BMPs

Storm resistant shelters are installed onsite to prevent the contact of storm water with industrial activities and material. The locations of these shelters and associated industrial activities and materials are presented for the overall facility in **Table 4.1** and shown on **Figure 7**. Figures prepared by VNY tenants identifying these features are attached behind **Figure 3**, organized by tenant address. Structural controls, covered canopies and storm resistant shelters are utilized when possible in the following areas of the site:

- Loading/unloading areas/docks
- Material handling areas
- Vehicle and equipment fueling areas
- Cargo handling areas

4.2.2 Storm Water Containment and Discharge Reduction BMPs

Storm water containment and discharge reduction BMPs include BMPs that divert, reuse, contain, or reduce the volume of storm water runoff. The locations of these containment and discharge reduction BMPs and associated industrial activities and materials are presented in **Table 4.1** and shown on **Figure 7**. Containment and discharge reduction BMPs utilized on Site will be incorporated into the SWPPP as they are implemented.

4.2.3 Spill Containment BMPs

Spill containment BMPs prevent spills and leaks from coming in contact with storm water runoff or directly discharging from the site. Secondary containment is used at the facility to contain spills from storage tanks containing diesel, waste oil, and antifreeze. Spill containment BMPs are presented in **Table 4.1.** Each tenant at VNY is responsible for implementing specific BMPs based on the industrial activities occurring at their facilities.

4.2.4 Treatment Control BMPs

Treatment control BMPs include one or more mechanical, chemical, biologic, physical, or any other treatment process technology and is sized to meet the treatment control design storm standard. Specific treatment control BMPs implemented at VNY are summarized in **Table 4.1** and the BMP fact sheets are included in **Appendix E**.

Treatment control BMPs implemented at VNY will be incorporated into the SWPPP as they are implemented.

4.3 BMP Implementation and Maintenance Schedule

BMPs will be maintained regularly to ensure proper and effective functionality. If necessary, corrective actions of identified deficiencies will be implemented as soon as practicable and associated amendments to the SWPPP will be prepared and documented. BMP inspections will occur monthly by Pollution Prevention Team members and records of BMP implementation will be documented on the **Monthly Dry Weather Visual Observations** form. Tenants at VNY are responsible for implementing BMPs specific to the industrial activities conducted at their facilities. The tenants must retain records of BMP implementation and maintenance and provide them to VNY Pollution Prevention Team members for review.

4.4 BMP Summary Table

Table 4.1 summarizes the minimum and advanced BMPs implemented to prevent discharge of pollutants in storm water runoff at VNY. The LAWA and CASQA BMP Fact Sheets included in **Appendix E** summarize the targeted industrial activities, targeted pollutants, purpose, approach, requirements, limitations and other relevant information for each of the BMPs implemented at VNY.

Each tenant at VNY is responsible for implementing specific BMPs based on the industrial activities occurring at their facilities. The BMPs being implemented by each tenant are presented in **Table 4.2**.

Table 4.1: BMP Summary Table

BMP Fact Sheet Number	Title	Addresses Minimum General Permit BMP Elements Requirements					Addresses Advanced General Permit BMP Elements Requirements		
		Good Housekeeping	Preventative Maintenance	Spill and Leak Prevention and Response	Material Handling and Waste Management	Erosion and Sediment Control	Exposure Minimization	Storm Water Containment and Discharge Reduction	Treatment Control
LAWA SC1	Elimination of Non-Storm Water Discharges	✓		✓		✓			
LAWA SC2	Aircraft, Ground Vehicle, and Equipment Maintenance	✓	✓	✓	✓				
LAWA SC3	Aircraft, Vehicle and Equipment Fueling	✓	✓	✓	✓		✓		
LAWA SC4	Aircraft, Vehicle and Equipment Washing	✓	✓	✓	✓				
LAWA SC5	Aircraft Deicing	✓	✓	✓	✓				
LAWA SC6	Outdoor Material Handling	✓	✓	✓	✓		✓		
LAWA SC7	Outdoor Storage of Significant Material	✓		✓	✓		✓		
LAWA SC8	Waste Handling and Disposal	✓	✓	✓	✓				
LAWA SC9	Building and Grounds Maintenance	✓		✓	✓				
LAWA SC10	Storm Water Pollution Prevention Education	✓	✓	✓	✓	✓			
LAWA SC11	Lavatory Service Operations			✓					
LAWA SC12	Outdoor Washdown/Sweeping	✓	✓	✓	✓				
LAWA SC13	Fire Fighting Foam discharge	✓	✓	✓		✓			
LAWA SC14	Potable Water System Flushing	✓		✓		✓			
LAWA SC15	Runway Rubber Removal	✓	✓	✓	✓	✓			
LAWA TC1	Oil/Water Separators	✓			✓				✓
LAWA SR1	Emergency Spill Cleanup Plan	✓		✓	✓	✓			
LAWA SC40	Contaminated or Erodible Surfaces					✓			
LAWA SC44	Drainage System Maintenance	✓	✓	✓				✓	

Address		Tenant	Non-Stormwater Discharges	Vehicle, and Equipment Maintenance	Vehicle and Equipment Fueling	Vehicle and Equipment Washing	SC5 Aircraft Deicing	SC6 Outdoor Material Handling	Storage of Significant Material	SC8 Waste Handling and Disposal	SC9 Building and Grounds Maintenance	Pollution Prevention Education	SC11 Lavatory Service Operations	SC12 Outdoor Washdown/Sweeping	SC13 Fire Fighting Foam discharge	SC14 Potable Water System Flushing	SC15 Runway Rubber Removal	TC1 Oil/Water Separators	Emergency Spill Cleanup Plan	Contaminated or Erodible Surfaces	Drainage System Maintenance
7035	Sophia Ave	Signature Flight Support East - So Cal Jets	X	X						X		X									
7150	Hayvenhurst Ave	Southwest Aviation - Paramount Corporate Aviation	X	X	X	X				X		X	X	X					X		
7155	Valjean Ave	Signature Flight Support East - East	X	X	X	X		X	X	X		X	X	X					X		
7240	Hayvenhurst Ave	Signature Flight Support West	X	X	X	X		X	X	X		X	X	X		X			X		X
7335	Hayvenhurst Pl	Aerolease West	X									X									
7345	Hayvenhurst Pl	Aerolease West	X									X									
7356	Hayvenhurst Ave	Aerolease West	X									X									
7366	Hayvenhurst Ave	Aerolease West	X									X									
7402	Hayvenhurst Ave	Aerolease West	X									X									
7405	Hayvenhurst Pl	Aerolease West	X	X						X	X	X		X							
7410	Hayvenhurst Ave	Aerolease West	X	X					X	X		X							X		
7415	Hayvenhurst Pl	Castle & Cooke	X	X	X	X		X	X	X		X	X	X					X		
7426	Hayvenhurst Ave	Aerolease West	X									X									
7435	Valjean Ave	Clay Lacy	X	X	X	X		X	X	X		X	X	X				X	X		
7436	Hayvenhurst Ave	Aerolease West	X									X	X								
7458	Hayvenhurst Ave	Aerolease West	X	X	X	X				X		X	X	X					X		
7501	Hayvenhurst Pl	Castle & Cooke	X	X		X				X		X	X	X					X		
7520	Hayvenhurst Ave	Castle & Cooke	X	X	X	X		X	X	X		X	X	X				X	X		X
7535	Valjean Ave	Signature Flight Support East - Net Jets	X		X			X	X	X	X	X		X					X		
7614	Hayvenhurst Pl	Castle & Cooke	X		X					X		X		X					X		X
7646	Hayvenhurst Ave	MPG Aviation	X					X				X									X
7701	Woodley Ave	MP Aero	X	X		X				X		X							X		
7800	Hayvenhurst Ave	Civil Air Patrol - Condor Squadron	X	X	X					X	X	X		X					X		
7900	Balboa Blvd	Propeller Park	X		X					X		X		X					X		X
7943	Woodley Ave	Aerolease Associates	X		X					X		X	X	X				X	X		
7945	Woodley Ave	Aerolease Associates	X	X	X					X		X						X			
7947	Woodley Ave	Aerolease Associates	X		X					X		X						X			
16101	Saticoy Str	Western Jet Aviation	X	X	X	X				X	X	X	X	X		X			X		
16231	Waterman Dr	Air Center Aviation	X			X		X		X	X	X		X					X		
16233	Vanowen Str	Signature Flight Support East - Jet Tech	X	X	X	X				X		X		X							
16303	Waterman Dr	Air Center Aviation	X	X	X	X				X		X						X	X		
16425	Hart Str	Southwest Aviation	X	X	X	X				X		X		X				X	X		
16550	Saticoy Str	LAUSD Aircraft Maintenance School	X	X	X	X				X	X	X		X				X			
16617	Arminta Str	LAFD #114	X		X					X		X		X				X	X		X
16621	Arminta Str	LA City General Services Dept. Aircraft Maintenance	X	X	X	X			X	X		X		X					X		
16623	Arminta Str	LA City LAPD Air Support	X		X	X						X						X			X
16644	Roscoe Blvd	Basenet	X		X	X				X		X		X							
16700	Roscoe Blvd	Signature Flight Support North	X	X	X	X		X	X	X		X	X	X					X		
16750	Roscoe Blvd	National Helicopter Services	X	X	X	X				X		X		X					X		
16813	Stagg St	LAWA C&M Yard	X	X	X	X		X	X	X	X	X						X	X		X

Table 4.2 VNY Tenant Specific BMPs

5. MONITORING IMPLEMENTATION PLAN AND REPORTING

5.1 Purpose

Refer to Appendix J.

5.2 Storm Water Monitoring Team

Refer to Appendix J.

5.3 Discharge Locations

Refer to Appendix J.

5.4 Monthly Dry Weather Visual Observations and Responses

Visual observations are required to be conducted at least once each calendar month to identify potential storm water pollutant sources associated with outdoor industrial equipment operations and storage areas. Monthly visual observations will be conducted during daylight hours of scheduled facility operating hours and on days without precipitation.

Monthly dry weather visual observations include observations of the following:

- Authorized and unauthorized non-storm water discharges
- Industrial activity areas
- BMP implementation

Monthly dry weather visual observations will be documented on the **Monthly Dry Weather Visual Observations** form located in **Appendix F** and will serve as the BMP Implementation Log for the BMPs maintained at the facility. If visual observations are not conducted, an explanation shall be provided on a **Monthly Dry Weather Visual Observation** form.

5.4.1 Non-Storm Water Discharge Observations

Drainage areas shall be observed to identify the presence of or evidence of past spills, leaks, uncontrolled pollutant sources, or other authorized or unauthorized non-storm water discharges. Non-storm water discharge observations should be documented on the **Monthly Dry Weather Visual Observations** form located in **Appendix F**.

The following information should be recorded on the **Monthly Dry Weather Visual Observations** form, as appropriate:

- Presence or evidence of any non-storm water discharge (authorized or unauthorized);
- Pollutant characteristics (floating and suspended material, sheen, discoloration, turbidity, odor, etc.); and
- Source of discharge.

For authorized non-storm water discharges, also document whether BMPs are in place and are functioning to prevent contact with materials or equipment that could introduce pollutants to storm water conveyance systems.

5.4.2 Industrial Activities Areas and BMP Implementation

Drainage areas and identified potential pollutant source areas, including outdoor industrial activity, industrial equipment, and material storage areas, shall be observed for evidence of potential pollutant sources. BMPs shall be observed to verify that they are being implemented as described in **Section 4**. BMP deficiencies shall be noted and repairs and/or maintenance shall be initiated as soon as possible. Industrial activity areas and BMP observations should be documented on the **Monthly Dry Weather Visual Observations** form located in **Appendix F**.

5.4.3 Visual Observations Follow-Up and Reporting

Correction of deficiencies identified by the observations, including required repairs or maintenance of BMPs, will be initiated and completed as soon as possible. Response actions will include the following:

- Report observations to the Pollution Prevention Team Leader or designated individual;
- Identify and implement appropriate response actions;
- Determine if a SWPPP update is needed;
- Verify completion of response actions; and
- Document response actions.

If identified deficiencies require design changes, including additional BMPs, the implementation of changes will be completed as soon as possible and the SWPPP will be amended to reflect the changes. BMP deficiencies identified during routine visual observations and the measures taken to correct deficiencies will be tracked on the **Monthly Dry Weather Visual Observations** form.

5.5 Storm Water Sampling and Analysis Procedures

Refer to Appendix J.

5.6 Sampling Documentation Procedures

Refer to Appendix J.

5.7 Storm Event Visual Observations and Responses

Refer to Appendix J.

5.8 Quality Assurance and Quality Control

Refer to Appendix J.

5.9 Storm Event Log

Refer to Appendix J.

6. REPORTING AND RECORDKEEPING

6.1 Storm Water Discharge Analytical Results Reporting

Sampling and analytical results for individual samples will be submitted via SMARTS within 30 days of obtaining results for each sampling event.

- The method detection limit will be provided when an analytical result from samples taken is reported by the laboratory as a “non-detect" or less than the method detection limit. A value of zero will not be reported.

- Analytical results that are reported by the laboratory as below the minimum level (often referred to as the reporting limit) but above the method detection limit will be provided.

- Reported analytical results will be averaged automatically by SMARTS at the end of the reporting year. For any calculations required by the General Permit a value of zero shall be used for analytical results that are reported by the laboratory as “non-detect" or less than the Method Detection Limit (MDL).

6.2 Annual Comprehensive Facility Compliance Evaluation

The General Permit (Section XV) requires the Discharger to conduct one Annual Comprehensive Facility Compliance Evaluation (Annual Evaluation) for each reporting year (July 1 to June 30). Annual Evaluations will be conducted at least eight months and not more than 16 months after the previous Annual Evaluation. The SWPPP will be revised, as appropriate based on the results of the Annual Evaluation, and the revisions will be implemented within 90 days of the Annual Evaluation.

At a minimum, Annual Evaluations will consist of:

- A review of all sampling, visual observation, and inspection and monitoring records and sampling and analysis results conducted during the previous reporting year;
- A visual inspection of all areas of industrial activity and associated potential pollutant sources for evidence of, or the potential for, pollutants entering the storm water conveyance system;
- A visual inspection of all drainage areas previously identified as having no exposure to industrial activities and materials in accordance with the definitions in General Permit Section XVII;
- A visual inspection of equipment needed to implement the BMPs;

- A visual inspection of any BMPs;
- A review and effectiveness assessment of all BMPs for each area of industrial activity and associated potential pollutant sources to determine if the BMPs are properly designed, implemented, and are effective in reducing and preventing pollutants in industrial storm water discharges and authorized NSWDs; and
- An assessment of any other factors needed to comply with the Annual Reporting requirements in General Permit Section XVI.B.

6.3 Annual Report

The Annual Report will be prepared, certified, and electronically submitted no later than July 15th following each reporting year using the standardized format and checklists in SMARTS based on the reporting requirements identified in Section XVI of the General Permit. Annual reports will be submitted in SMARTS and in accordance with information required by the on-line forms.

6.4 Records Retention

Paper or electronic records of storm water monitoring information and copies of reports (including Annual Reports) must be retained for a period of at least five years from date of submittal or longer if required by the Regional Water Board.

Records to be retained include:

- Employee Training Records;
- BMP Implementation Records;
- Spill and Clean-up Related Records;
- Sampling logs and analytical laboratory reports;
- Visual Observation Records, including corrective action responses; and
- Annual Reports from SMARTS (checklist and any explanations).

Copies of these records will be available for review by the Water Board's staff at the facility during scheduled facility operating hours. Upon written request by U.S. EPA or the local MS4, Dischargers will provide paper or electronic copies of requested records to the Water Boards, U.S. EPA, or local MS4 within 10 working days from receipt of the request.

7. REFERENCES

State Water Resources Control Board (2014). Order 2014-0057-DWQ, NPDES General Permit No. CAS000001: National Pollutant Discharges Elimination System (NPDES) California General Permit for Storm Water Discharge Associated with Industrial Activities. Available on-line at:

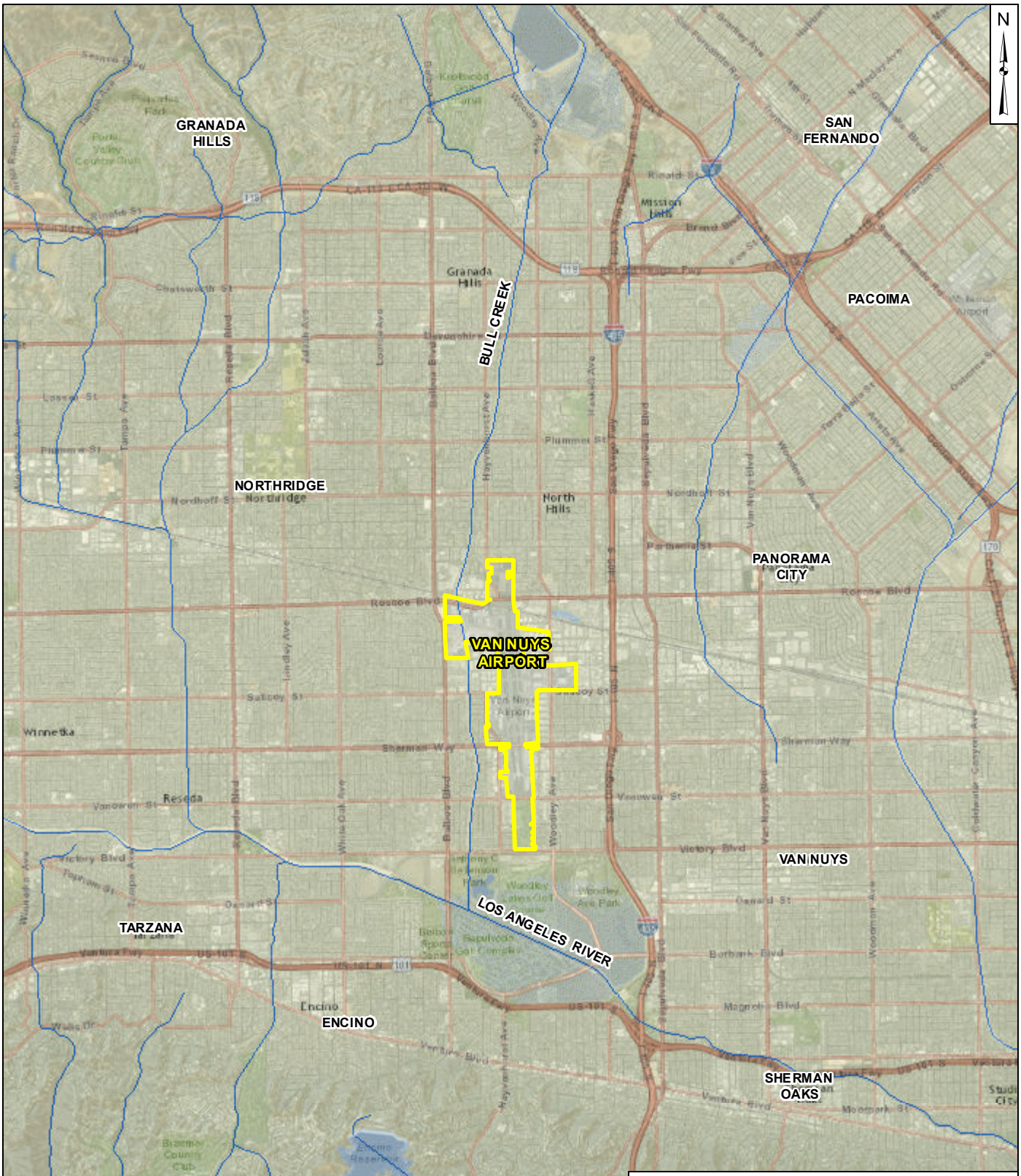
http://www.waterboards.ca.gov/water_issues/programs/stormwater/industrial.shtml.

CASQA 2012, *Stormwater BMP Handbook Portal: Industrial Commercial*, August 2014, www.casqa.org

8. LIST OF ACRONYMS AND ABBREVIATIONS

amsl	above mean sea level
Annual Evaluation	Annual Comprehensive Facility Compliance Evaluation
BMPs	Best Management Practices
CASQA	California Stormwater Quality Association
COC	Chain of Custody
COD	Chemical Oxygen Demand
ERA	Exceedance Response Action
ERAs	Exceedance Response Actions
General Permit	General Permit for Stormwater Discharges Associated with Industrial Activities
HMMP	Hazardous Material Management Plan
LRP	Legally Responsible Person
MDL	Method Detection Limit
MIP	Monitoring Implementation Plan
MS4	Municipal Separate Storm Sewer System
NAL	Numeric Action Level
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharges Elimination System
NSWDs	Non-Storm Water Discharges
PRDs	Permit Registration Documents
PPT	Pollution Prevention Team
QA/QC	Quality Assurance and Quality Control
QSEs	Qualified Storm Events
SMARTS	Stormwater Multi Application and Report Tracking System
SPCC	Spill Prevention Control and Countermeasure
State Water Board	State Water Resources Control Board
SWPPP	Storm Water Pollution Prevention Plan
TMDL	Total Maximum Daily Load
WDID	Waste Discharge Identification

FIGURES



SITE LOCATION
VAN NUYS AIRPORT

LOS ANGELES COUNTY, CALIFORNIA

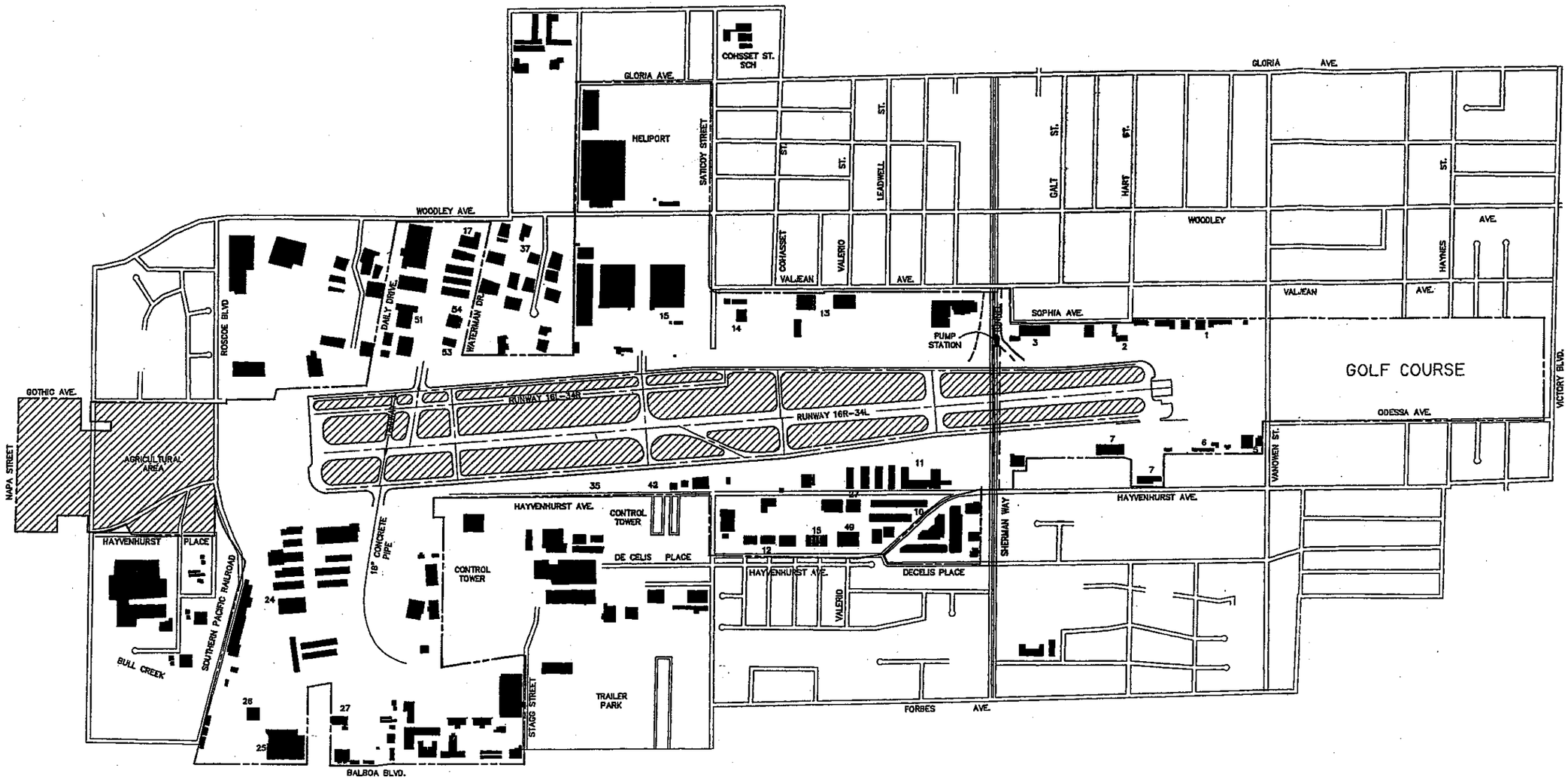
3,500 1,750 0 3,500 7,000 Feet

Van Nuys
Los Angeles World Airports

Figure **1**

Project No: HSW1472 | June 2015

S:\GIS\HSW1472\Project\VanNuys_SiteLoc.mxd cc 6/25/2015



TENANT ID NO.	TENANT NAME	TENANT ID NO.	TENANT NAME	TENANT ID NO.	TENANT NAME	TENANT ID NO.	TENANT NAME
24	Air Sources Inc.	37	Federal Express	27	Pacific Holding	14	Skytrails
53	Brâca Wing & Helicopter	17	Fire Station No. 90	3	Petersen Aviation	1	Skytrails Aviation
35	Civil Air Patrol #135	6	Green Hornets	11	Raytheon Aircraft Services	7	Southwest Aviation
25	City of Los Angeles	15	Hughes Aircraft	5	Schaefer Air Ambulance	49	The Air Group
	Van Nuys Heliport	42	MPG Aviation	54	Silva Aviation	51	The Jet Center
13	Clay Lacy	26	National Helicopter			12	Thornton Corporation
2	DOA Maintenance Yard						

1000 0 1000 2000
SCALE IN FEET

LEGEND

AIRPORT BOUNDARY

UNPAVED AREAS (REMAINDER OF THE FACILITY IS PAVED)

FIGURE 2

REV. NO	DATE	DRWN	CHKD	REMARKS

DESIGNED BY:
DRAWN BY: J. La Madrid
SHEET CHK'D BY:
CROSS CHK'D BY:
APPROVED BY:
DATE: 7-25-97

CAMP DRESSER & McKEE INC.
18881 Von Karman Avenue, Suite 650
Irvine, California 92612
(714) 752-5452
environmental engineers, scientists, planners, & management consultants
CDM

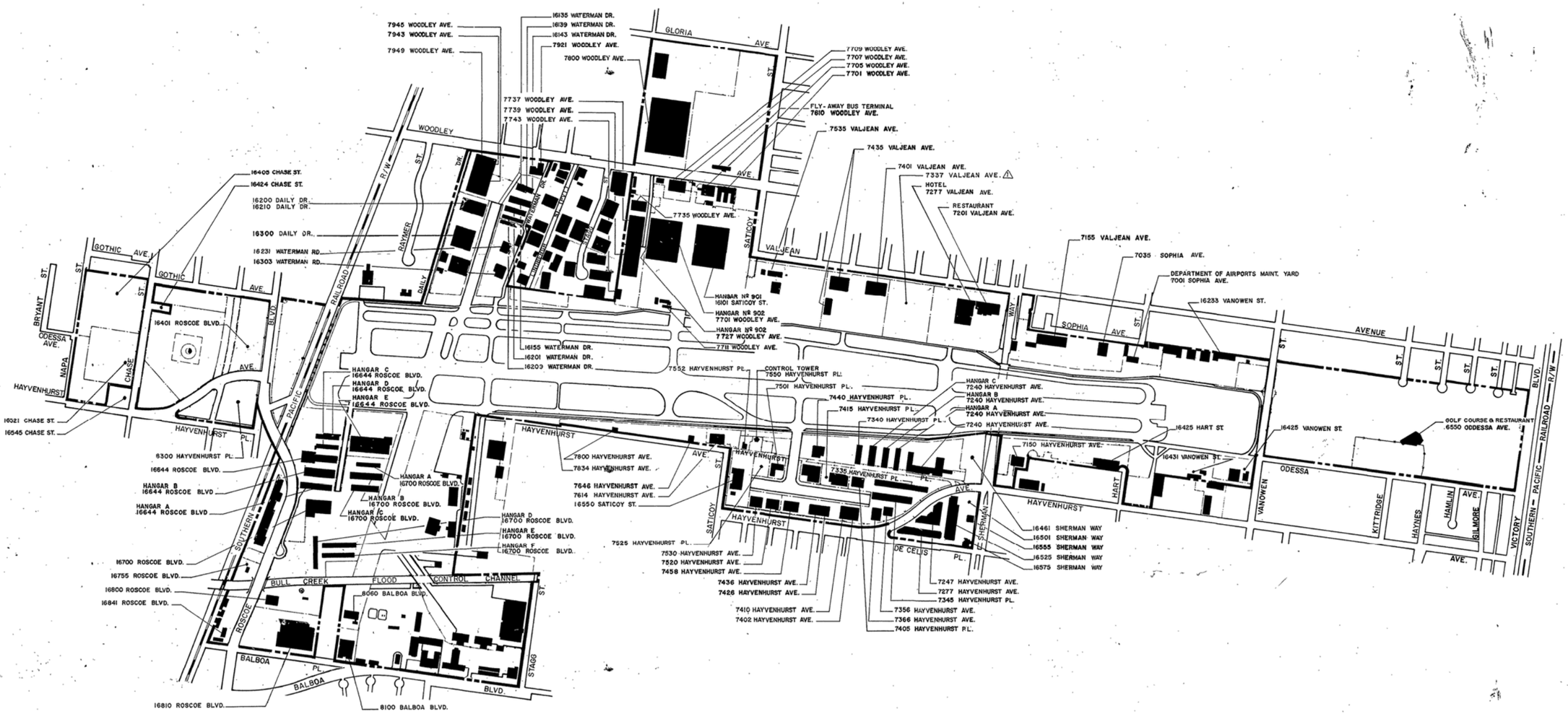
LOS ANGELES WORLD AIRPORTS
VAN NUYS AIRPORT

GENERAL INDUSTRIAL STORMWATER PERMIT

SITE MAP

PROJECT NO. 2232-112

FIGURE 2-1



SCALE : 1" = 500'

FIGURE 3

REV. NO.	DESCRIPTION	APPROVED BY CHIEF ARPT. ENGR.	DATE
△	ADDED TENANT ADDRESS AT VALJEAN AVE PER O.J.E. MEMO DATED 6-21-89 & UPDATED AS NECESSARY	mmP	7-6-89

CITY OF LOS ANGELES
DEPARTMENT OF AIRPORTS

ADDRESS MAP

VAN NUYS AIRPORT

Herman Butler	Mal M. Packer
ASST. CHIEF AIRPORTS ENGINEER	CHIEF AIRPORTS ENGINEER

SCALE	DRAWN	CHECKED	DATE	SHEET NO.	DRAWING NO.
1"=500'	NVV	MV	5-13-86	1 of 1	86045-511

0052568

M F

SWPPP Site Map

Signature East Leasehold

SWPPP Site Map

Signature Flight Support – So Cal Jets

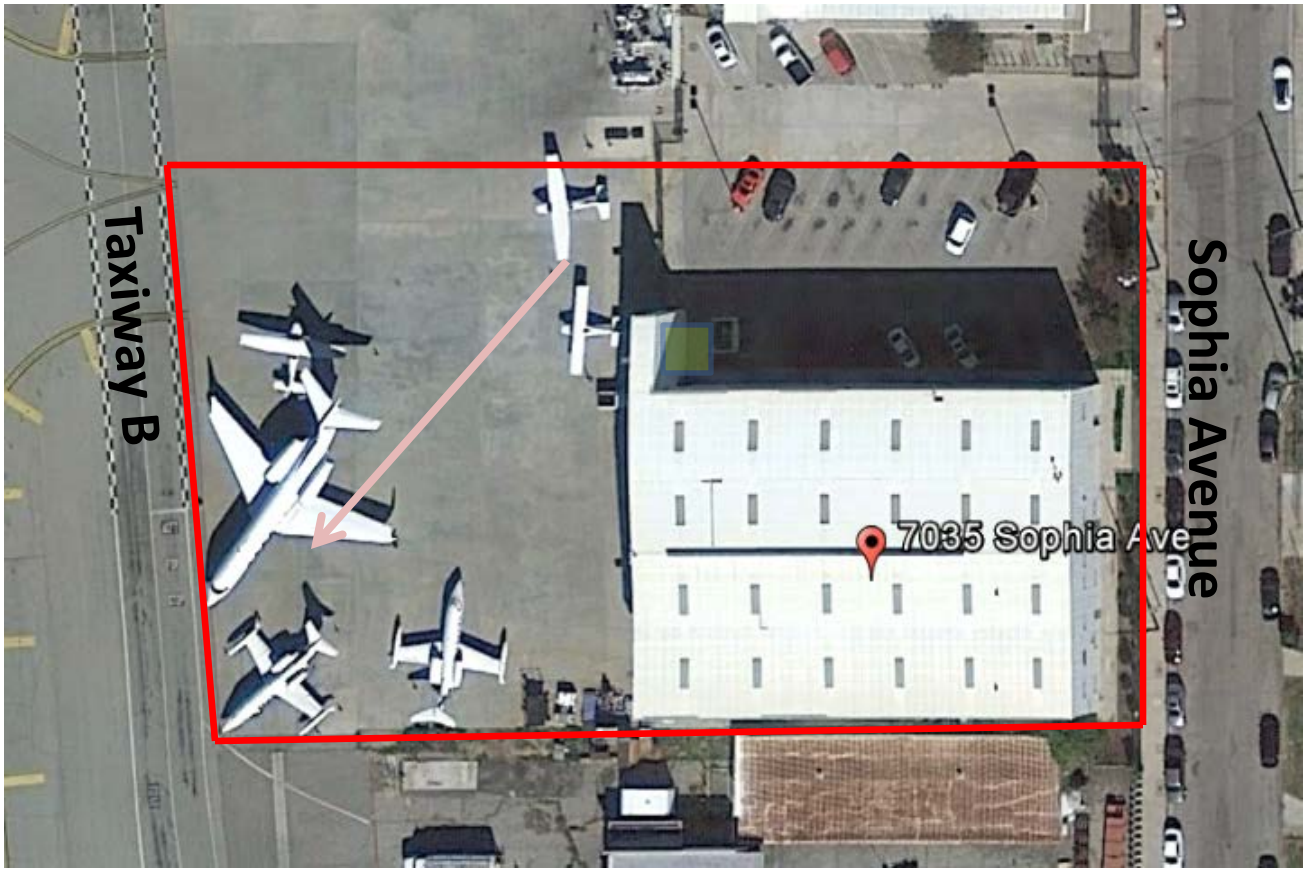
7035 Sophia Avenue
Van Nuys, CA 91406

Facility Boundary

Rain Flow

Outdoor Trash Storage

N
W
E
S



Note 1: This address is part of the Signature Flight Support leasehold called "Signature East" and is sub-let to SoCal Jets.

Note 2: There are no impervious area at this address.

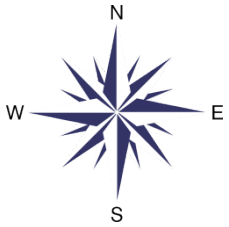
Note 3: Industrial activities are performed indoors.

SWPPP Site Map

Southwest Aviation

Paramount Pictures Corporate Aviation

7150 Hayvenhurst Avenue
Van Nuys, CA 91406



- **Facility Boundary**
- **Rain Flow**
- **Outdoor Fueling Area**
- **Outdoor Trash Storage**
- **Outdoor Hazardous Substances Storage**
- **MS4 Inlet**

NOTE: Generator at the same location as the "Outdoor Hazardous Substances Storage"

SWPPP Site Map

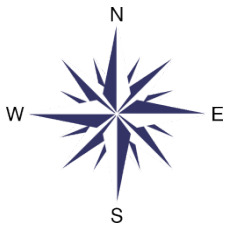
Signature East Leasehold

SWPPP Site Map

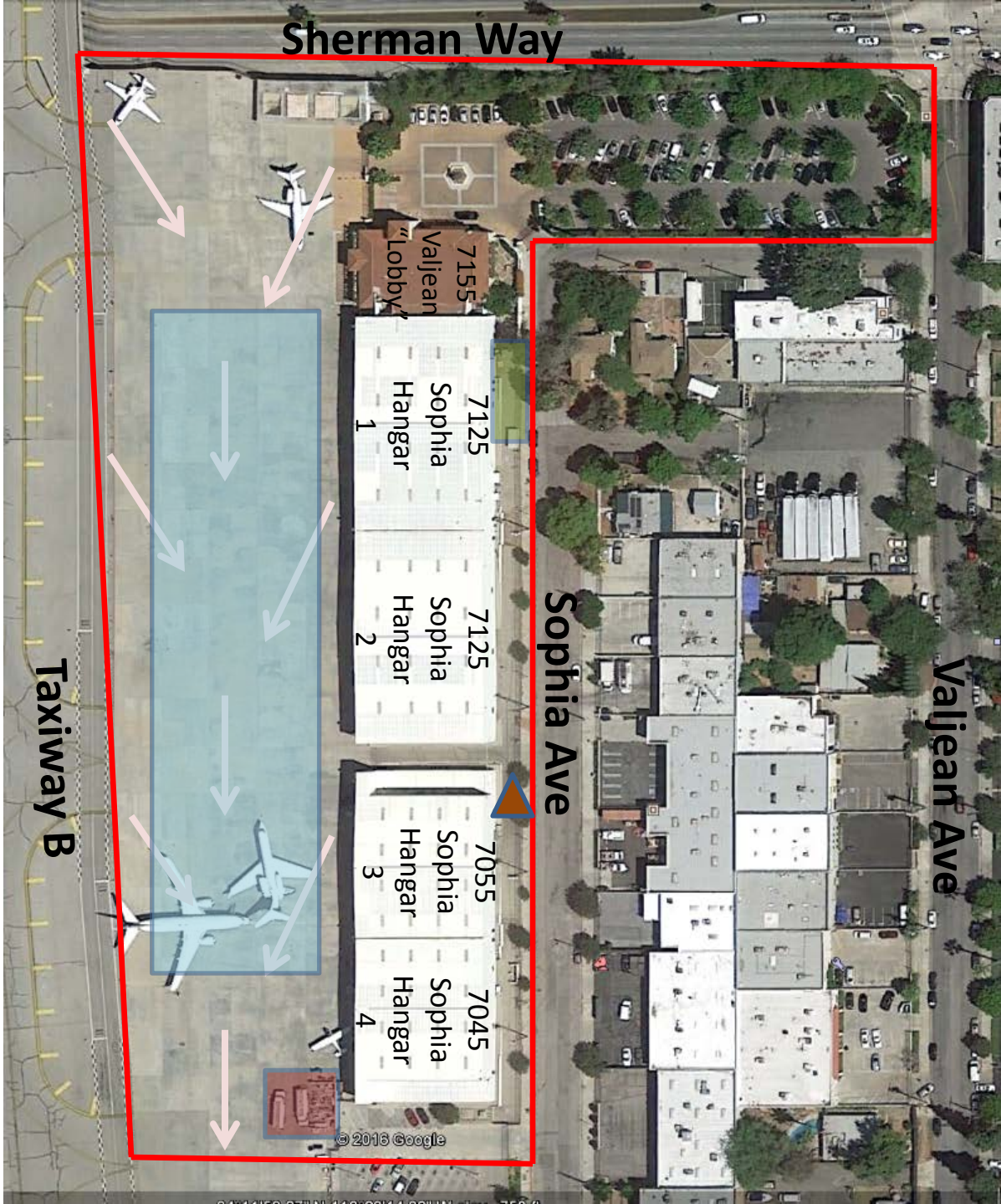
Signature Flight Support – East

7155 Valjean Avenue
Van Nuys, CA 91406

- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Hazardous Substance Storage
- Triturator



Note: Maintenance activities performed indoors.



SWPPP Site Map

Signature Flight Support - West

7240 Hayvenhurst Ave
Van Nuys, CA 91406

Note 1: There are no non-impervious area/s.
Note 2: Maintenance activities are performed indoors.

- Facility Boundary
- Rain Flow
- Swale
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Outdoor Hazardous Substance Storage
- Outdoor Washing Area
- Triturator
- Sewer-Connected Drain
- Sewer-Connected Clarifier

Aerolease West Stormwater Site Map

= Rain Drains (8)

= Triturator (4)

= Outdoor Trash (3)

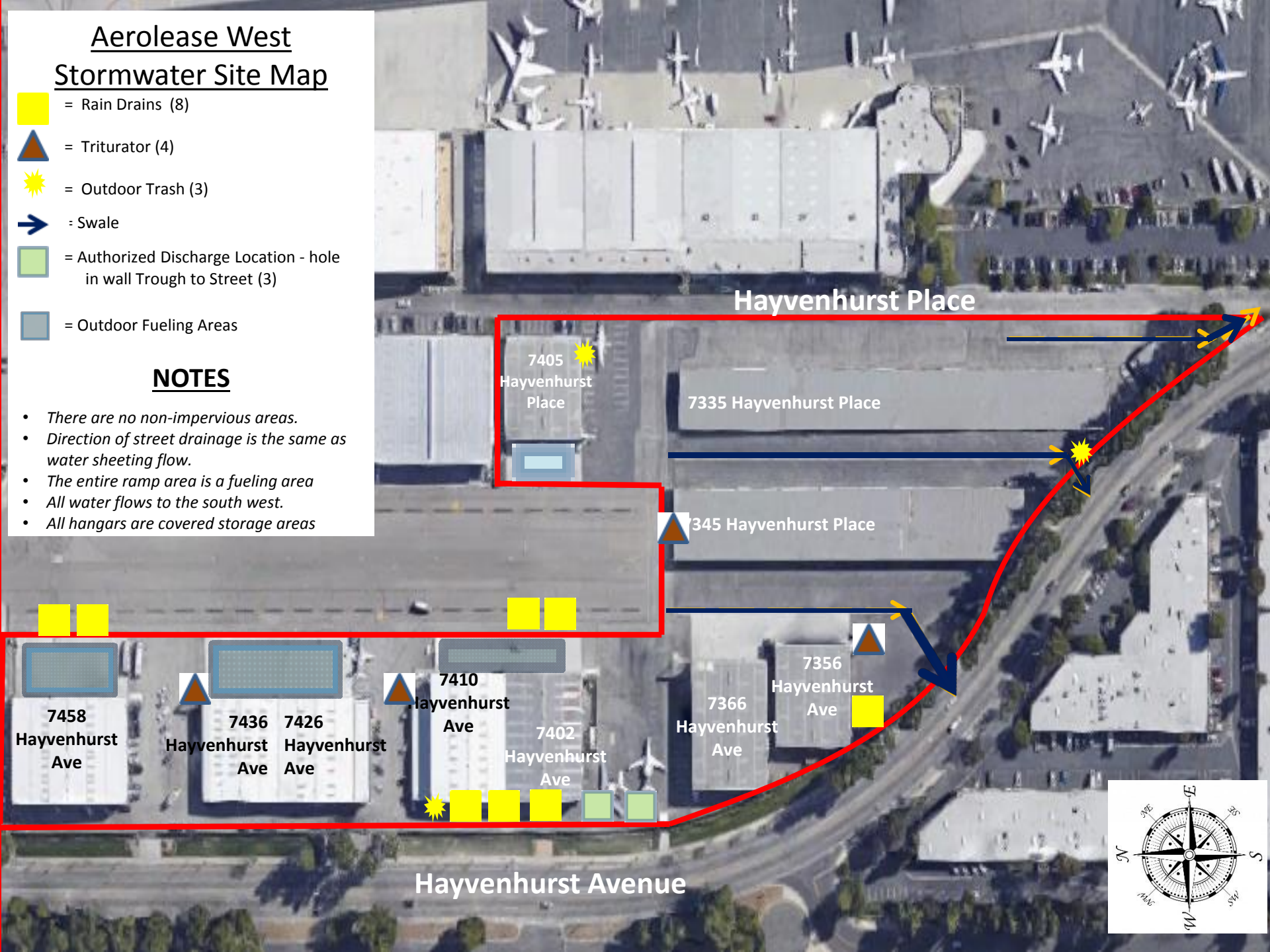
= Swale

= Authorized Discharge Location - hole in wall Trough to Street (3)

= Outdoor Fueling Areas

NOTES

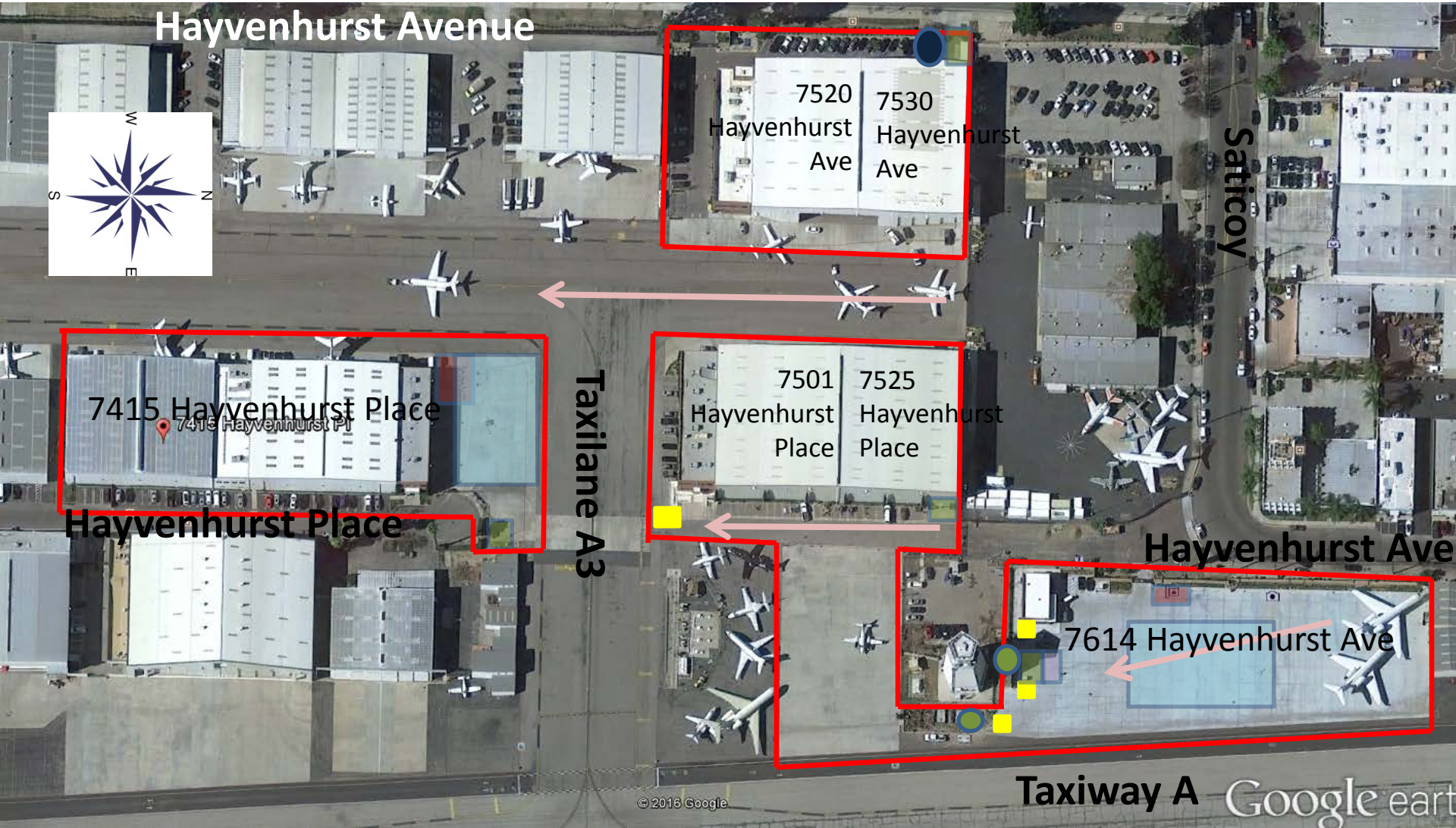
- *There are no non-impervious areas.*
- *Direction of street drainage is the same as water sheeting flow.*
- *The entire ramp area is a fueling area*
- *All water flows to the south west.*
- *All hangars are covered storage areas*



SWPPP Site Map

Castle & Cooke
7415 Hayvenhurst Place
Van Nuys, CA 91406

- Facility Boundary
- Rain Flow
- Triturator
- Sewer-Connected Clarifier
- Bio or Rock Swale
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Outdoor Hazardous Substances Storage
- Area Drains



SWPPP Site Map

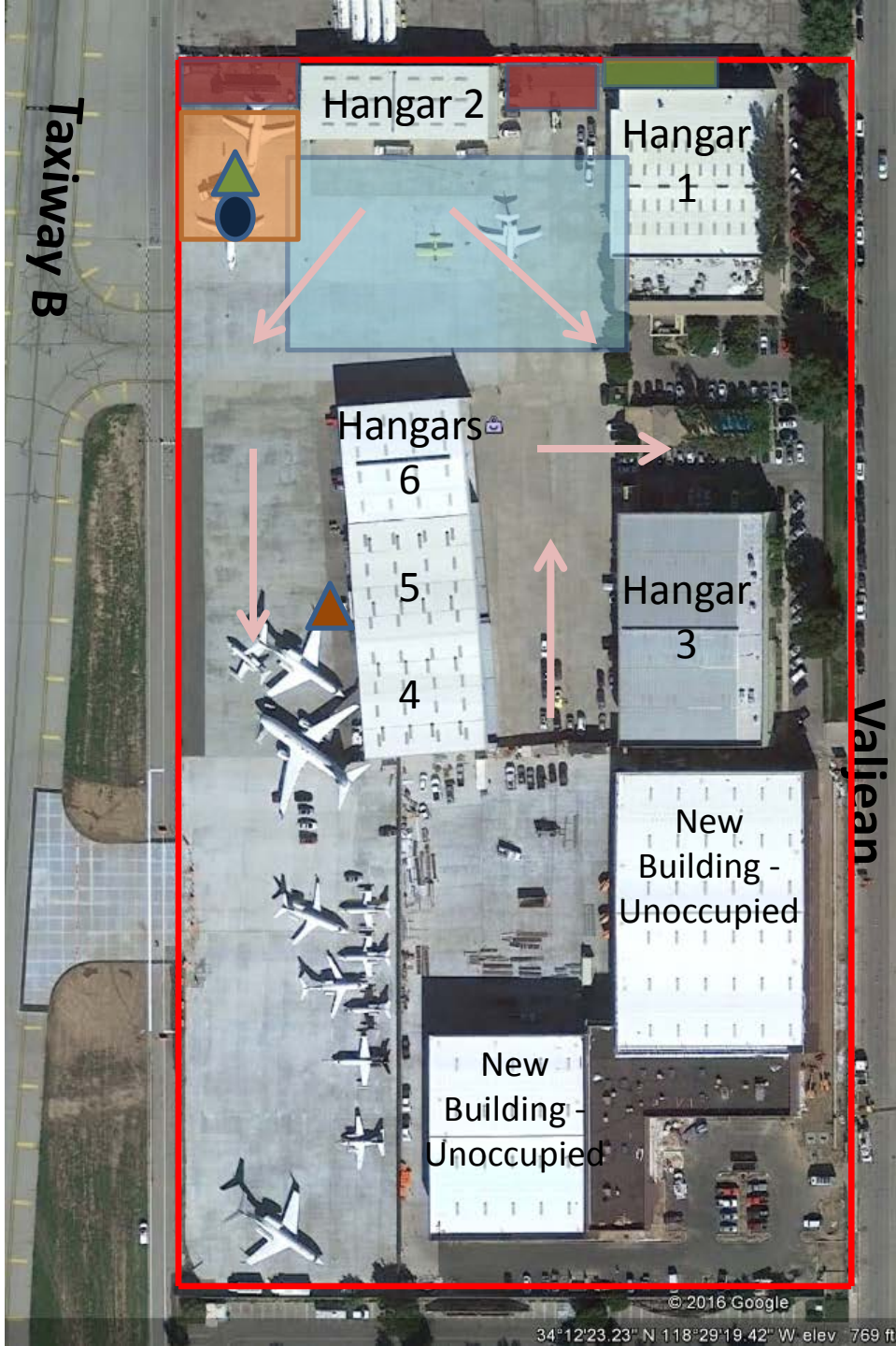
Clay Lacy

7435 Valjean Ave
Van Nuys, CA 91406

- Facility Boundary
- Rain Flow
- Triturator
- Sewer-Connected Clarifier
- Sewer-Connected Drain
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Hazardous Substances Storage
- Outdoor Washing Area

N
W E
S

Note: There are no non-impervious areas.



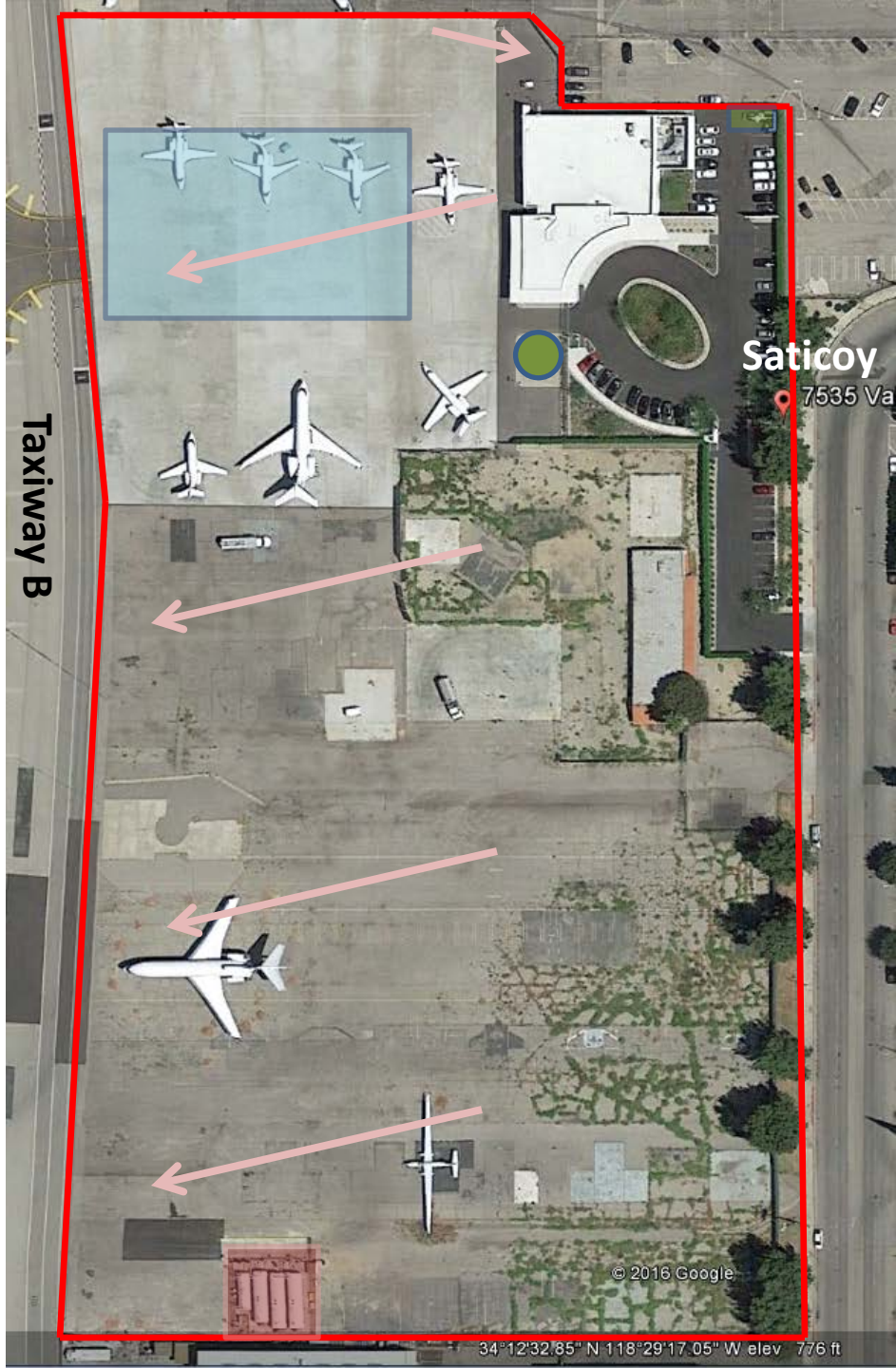
SWPPP Site Map

Signature Flight Support

Net Jets & Fuel Farm

7535 Valjean Avenue
Van Nuys, CA 91406

- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Hazardous Substances Storage (Fuel Farm)
- Non-Impervious Areas (Rock Swale)



SWPPP Site Map

MPG Aviation

7646 Hayvenhurst Ave
Van Nuys, CA 91406

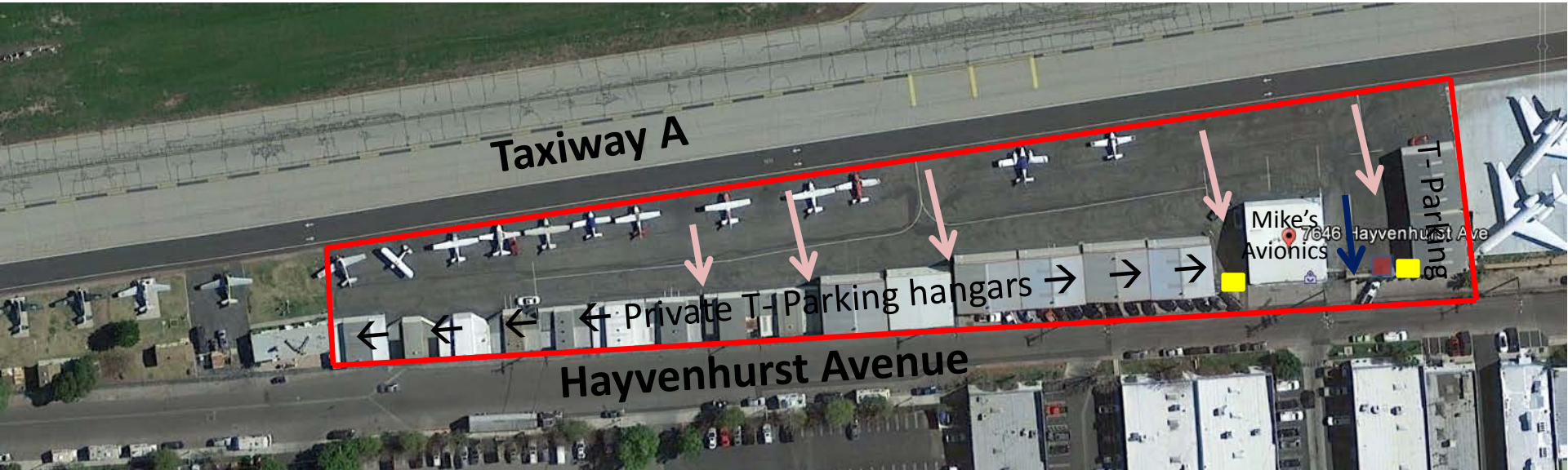
Facility Boundary

Rain Flow

Swale

Outdoor Hazardous Substance Storage

Area Drain



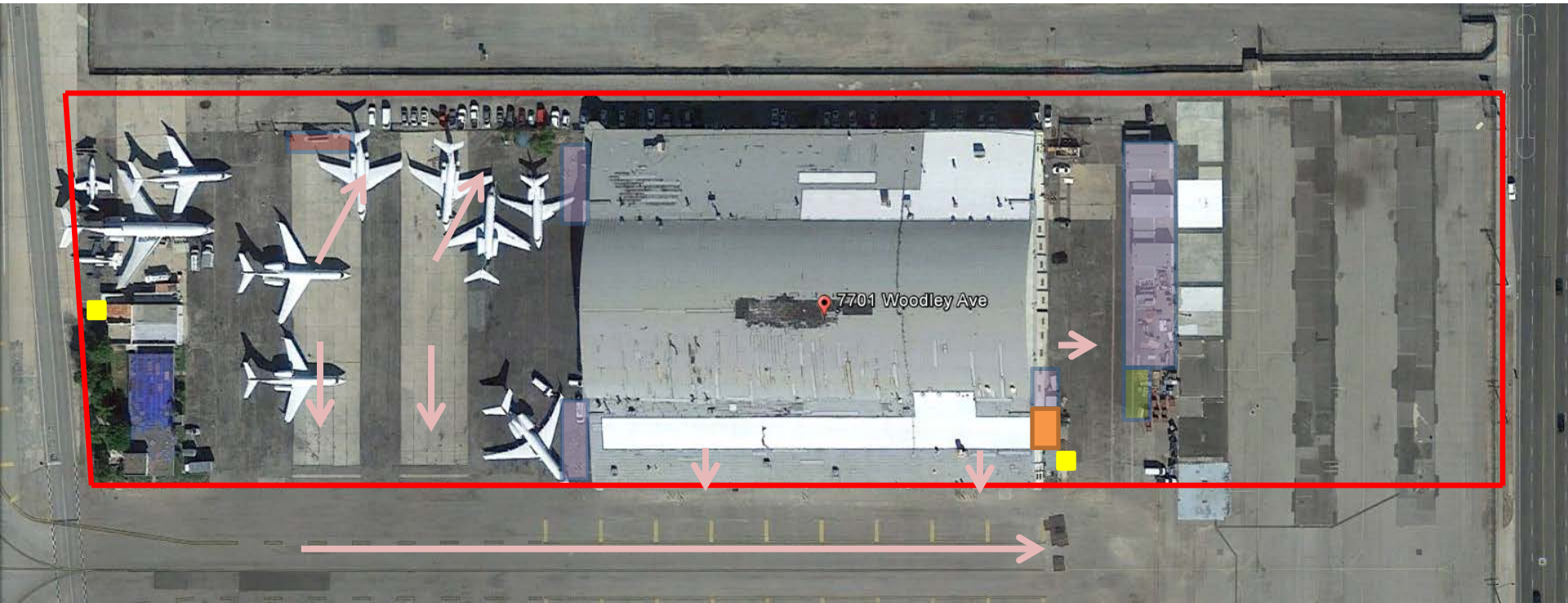
SWPPP Site Map

MP Aero

7701 Woodley Avenue
Van Nuys, CA 91406

N
W
E
S

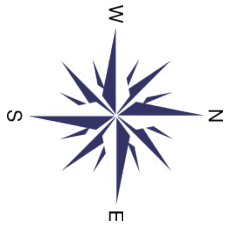
- Facility Boundary
- Rain Flow
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Outdoor Hazardous Substances Storage
- Area Drains
- Outdoor Washing Area



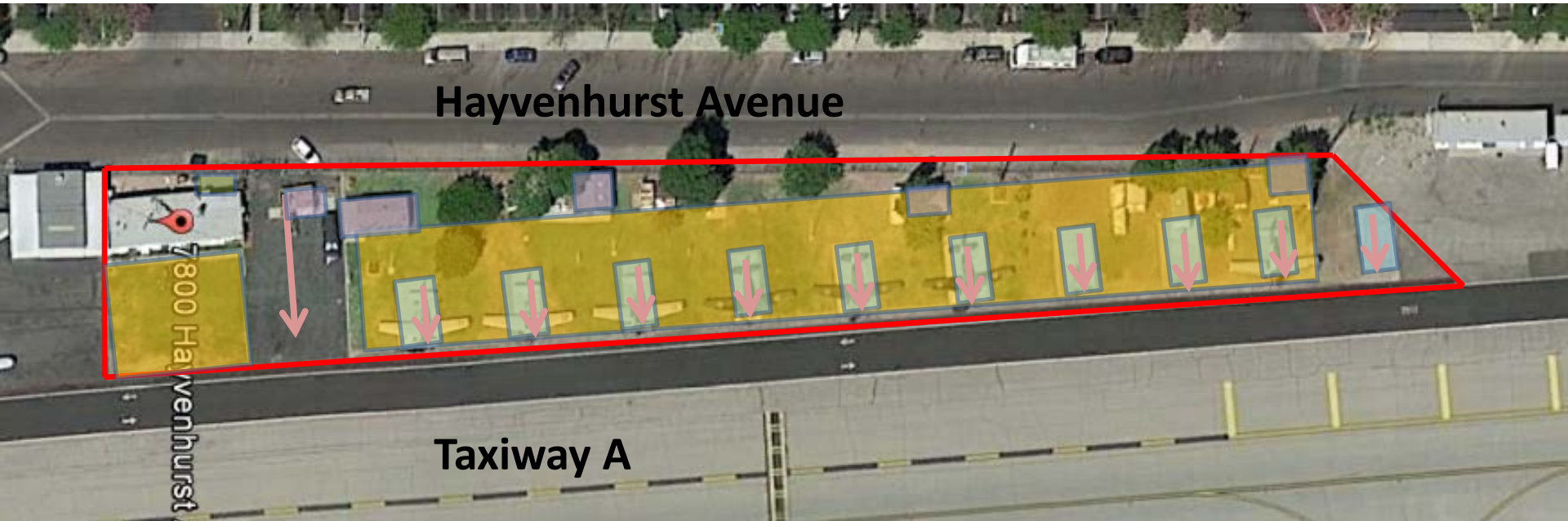
SWPPP Site Map

Condor Squadron

7800 Hayvenhurst Ave
Van Nuys, CA 91406



- Facility Boundary
- Rain Flow
- Outdoor Fueling Impervious Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Non-Impervious Areas



SWPPP Site Map

PROP PARK

7900 Balboa Blvd, Van Nuys CA 91406

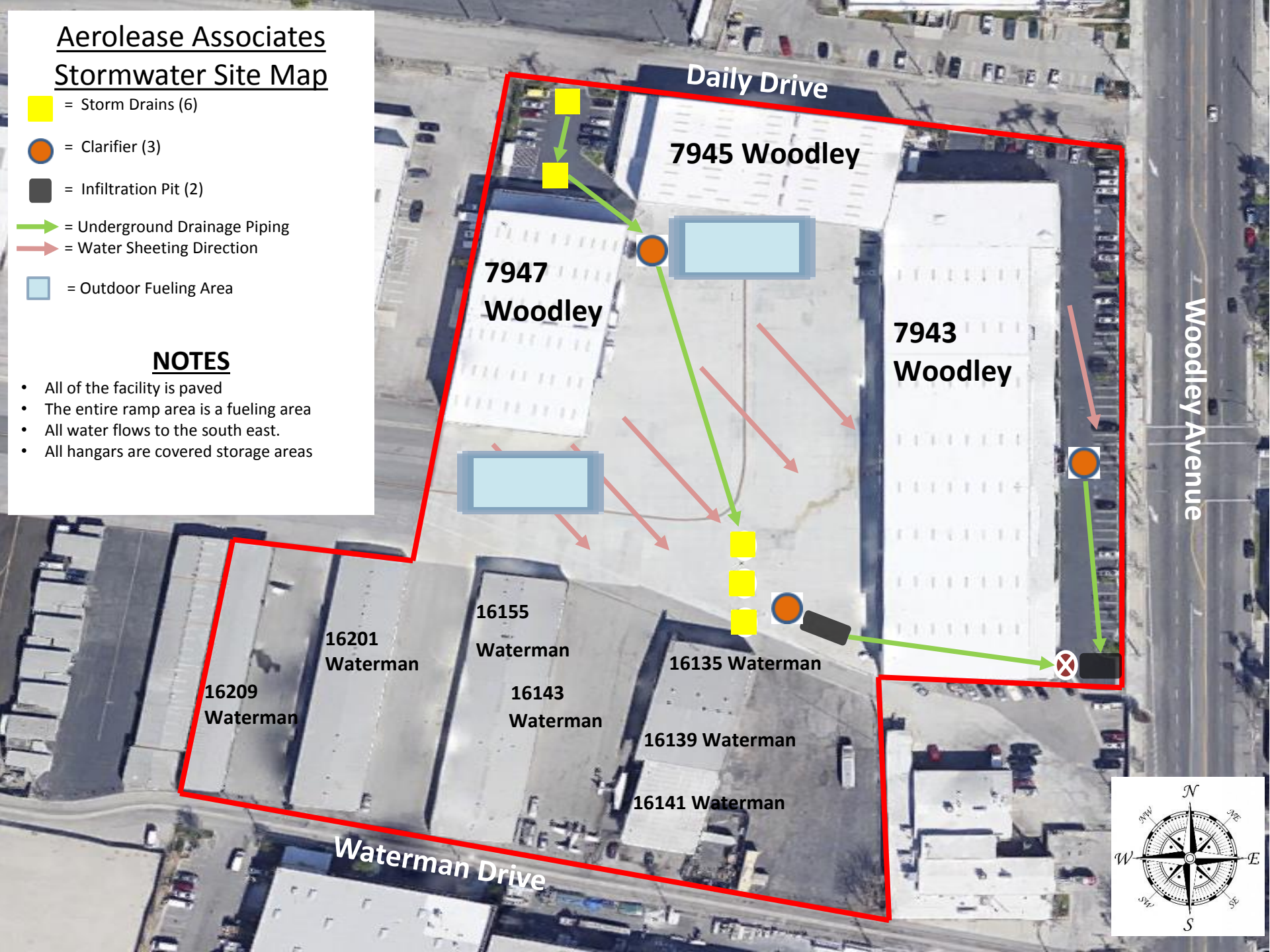
SWPPP Site Map

PROP PARK – Phase 2

7900 Balboa Blvd Stagg Street
Van Nuys, CA 91406

Note: Prop Park development is in phases. This phase is completed and is in use.

- Facility Boundary
- Rain Flow
- Swale
- Bio or Rock Swale
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Hazardous Substances Storage
- Non-Impervious Areas


Aerolease Associates
Stormwater Site Map
= Storm Drains (6)
= Clarifier (3)
= Infiltration Pit (2)
= Underground Drainage Piping
= Water Sheeting Direction
= Outdoor Fueling Area
NOTES
• All of the facility is paved
• The entire ramp area is a fueling area
• All water flows to the south east.
• All hangars are covered storage areas
Daily Drive
7945 Woodley
7947 Woodley
7943 Woodley
Woodley Avenue
16155 Waterman
16201 Waterman
16209 Waterman
16143 Waterman
16135 Waterman
16139 Waterman
16141 Waterman
Waterman Drive
N
NE
E
SE
S
SW
W
NW

SWPPP Site Map

Western Jet Aviation

16101 Saticoy Street
Van Nuys, CA 91406

Note 1: All areas are impervious.

Note 2: Outdoor storage area is an enclosed shipping container.

- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Materials & Equipment Storage
- Authorized Discharge Location
- MS4 Inlet

SWPPP Site Map

Air Center Aviation

Van Nuys, CA 91406

Facility Boundary

Rain Flow

Outdoor Fueling Area

Outdoor Vehicle Washing

Sewer-Connected Clarifier

Sewer-Connected Drain

Note: All areas are impervious.

SWPPP Site Map

Signature East Leasehold

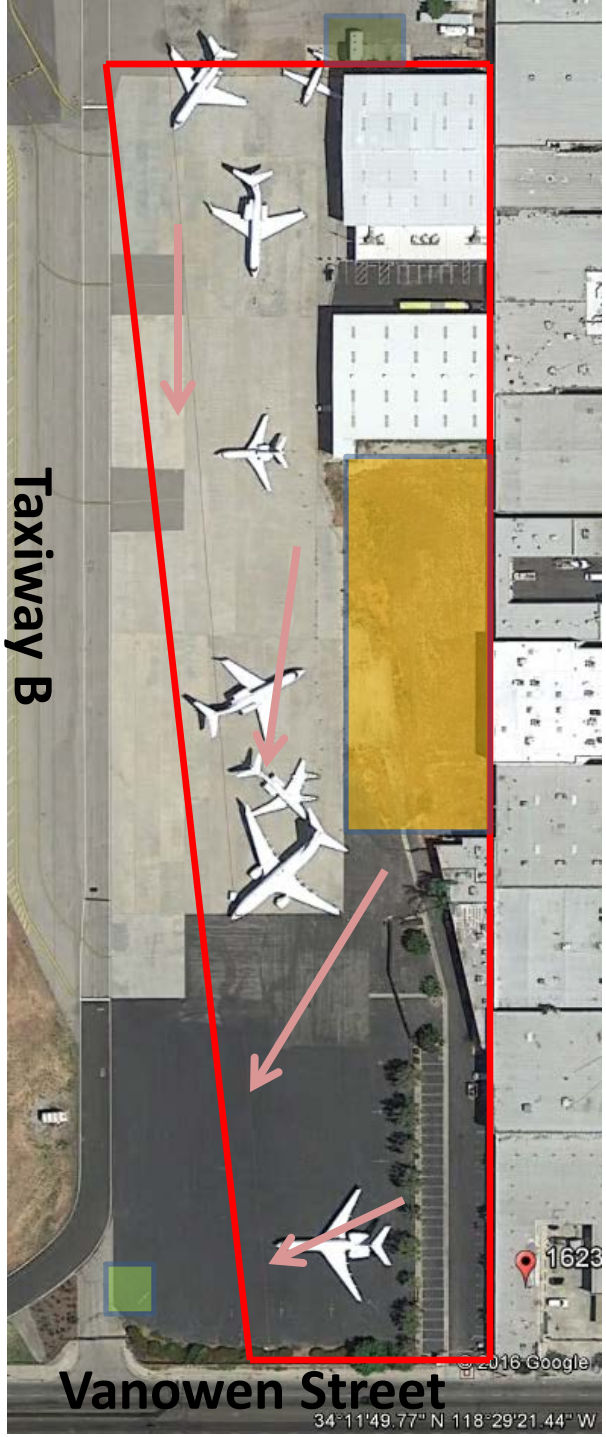
SWPPP Site Map

Signature Flight Support – Jet Tech & Signature South

16233 Vanowen Street
Van Nuys, CA 91406

- Facility Boundary
- Rain Flow
- Outdoor Trash Storage
- Non-Impervious Areas
- Authorized Discharge Location

N
W E
S



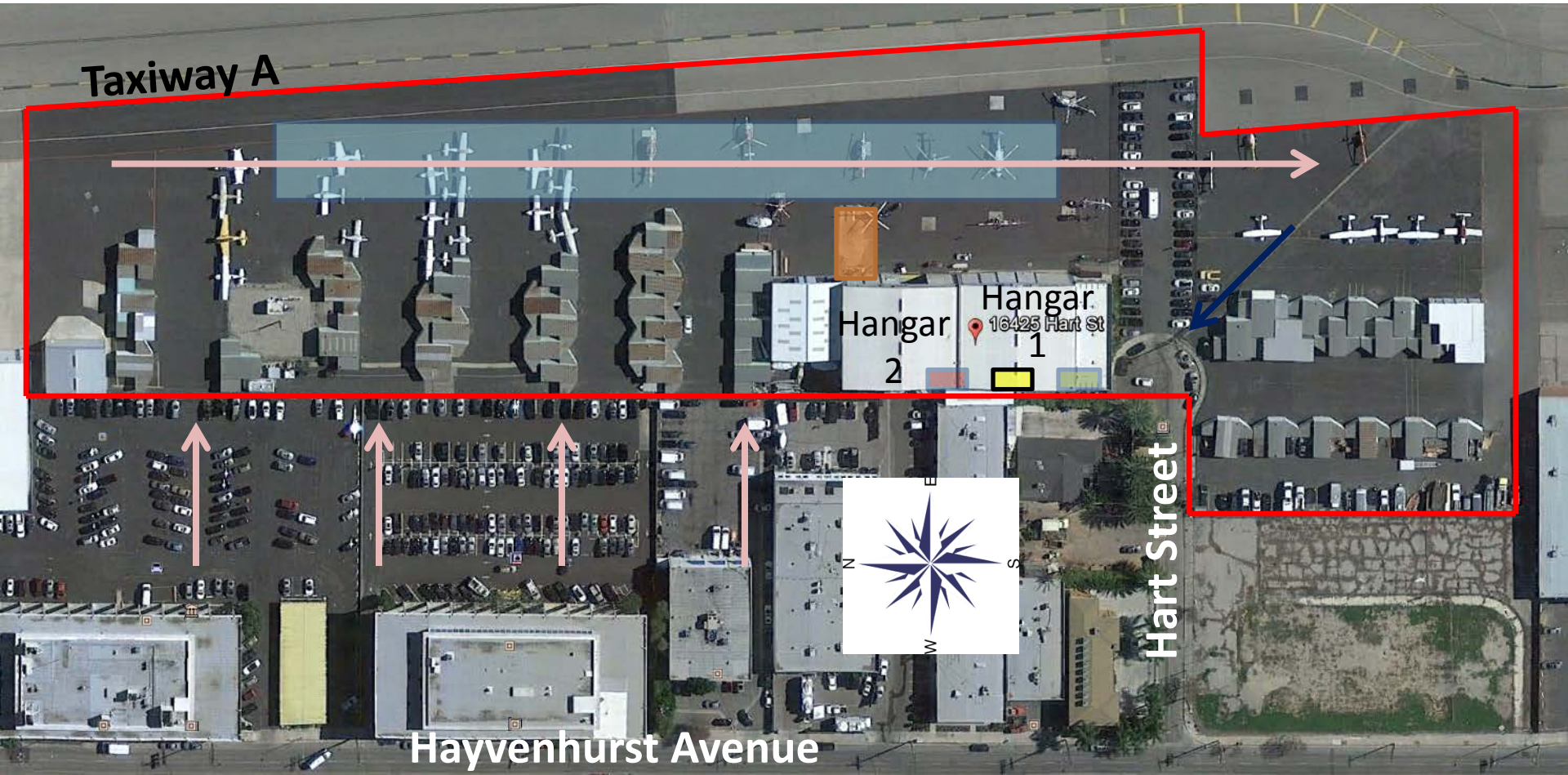
Note: Aircraft-related industrial activities are located inside the two northernmost hangars. Last building on the south is for office use only.

SWPPP Site Map

Southwest Aviation

16425 Hart Street
Van Nuys, CA 91406

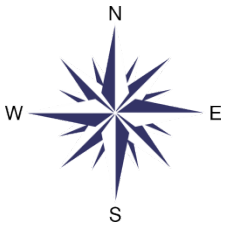
- Facility Boundary
- Rain Flow
- Swale
- Outdoor Fueling
- Outdoor Trash Storage
- Outdoor Hazardous Substances Storage
- Outdoor Washing Area
- Outdoor Industrial Activity



SWPPP Site Map

LAUSD Aircraft Maintenance School
16550 Saticoy Street
Van Nuys, CA 91406

- Facility Boundary
- Rain Flow
- Sewer-Connected Clarifier
- Sewer-Connected Drain
- Outdoor Industrial Activity
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Area Drains
- Outdoor Washing Area



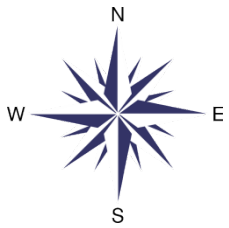
SWPPP Site Map

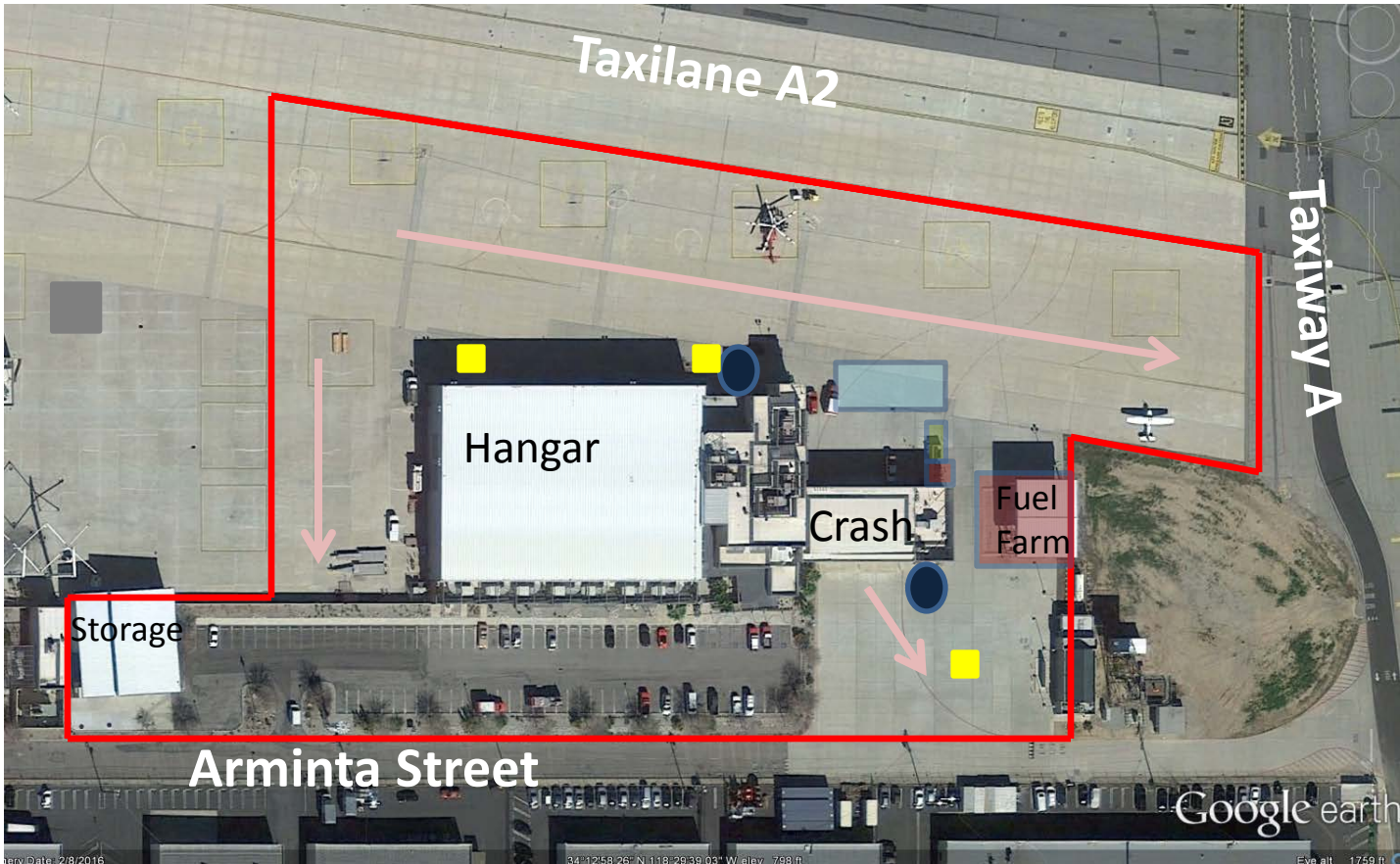
City of Los Angeles

LAFD Station #114 Air Operations &
GSD Fuel Services Division

16617 Arminta Street
Van Nuys, CA 91406

- Facility Boundary
- Rain Flow
- Sewer-Connected Clarifier
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Hazardous Substances Storage
- Area Drains





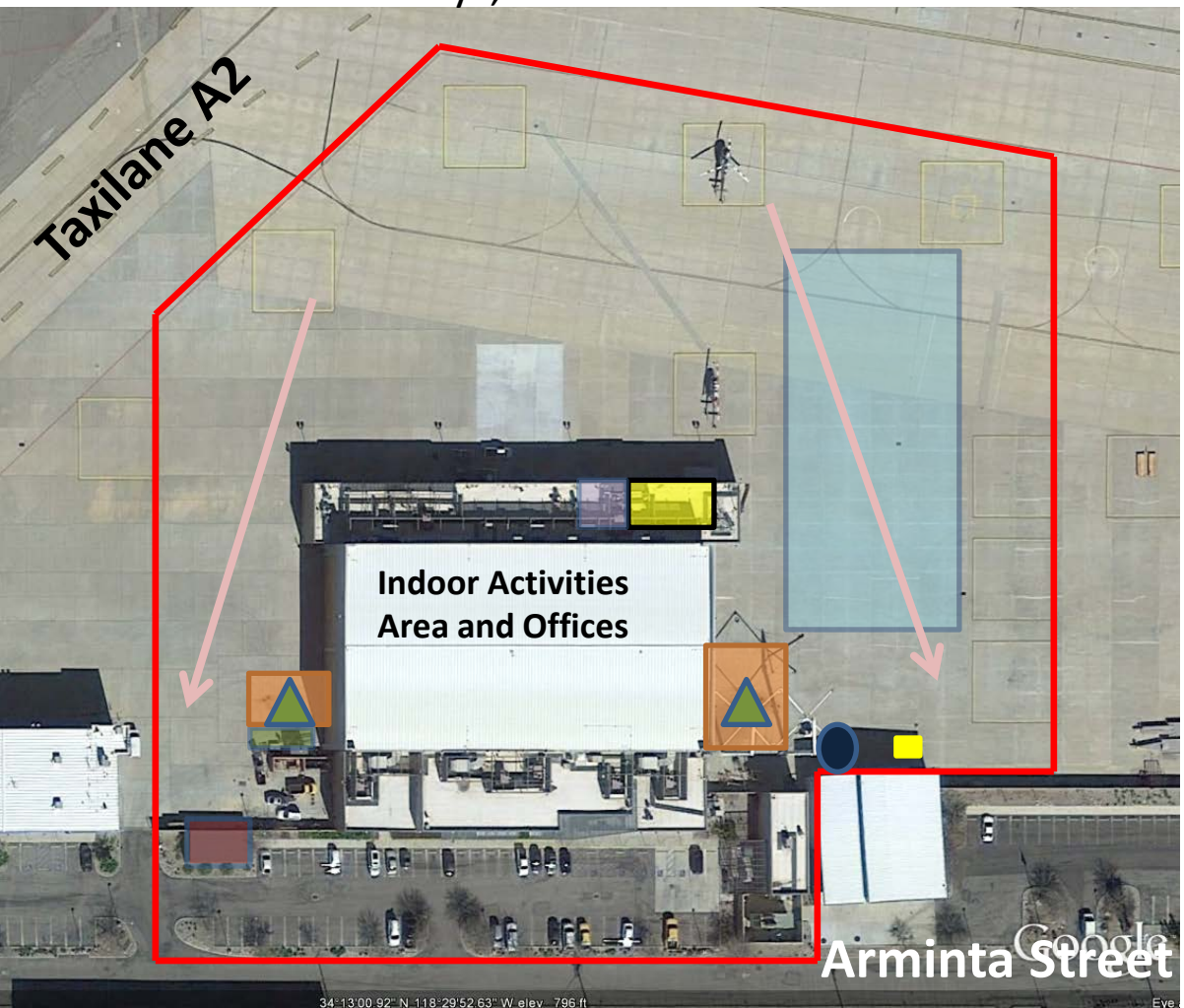
SWPPP Site Map

City of LA

GSD Fleet Services - Aircraft Maintenance

16621 Arminta Street

Van Nuys, CA 91406

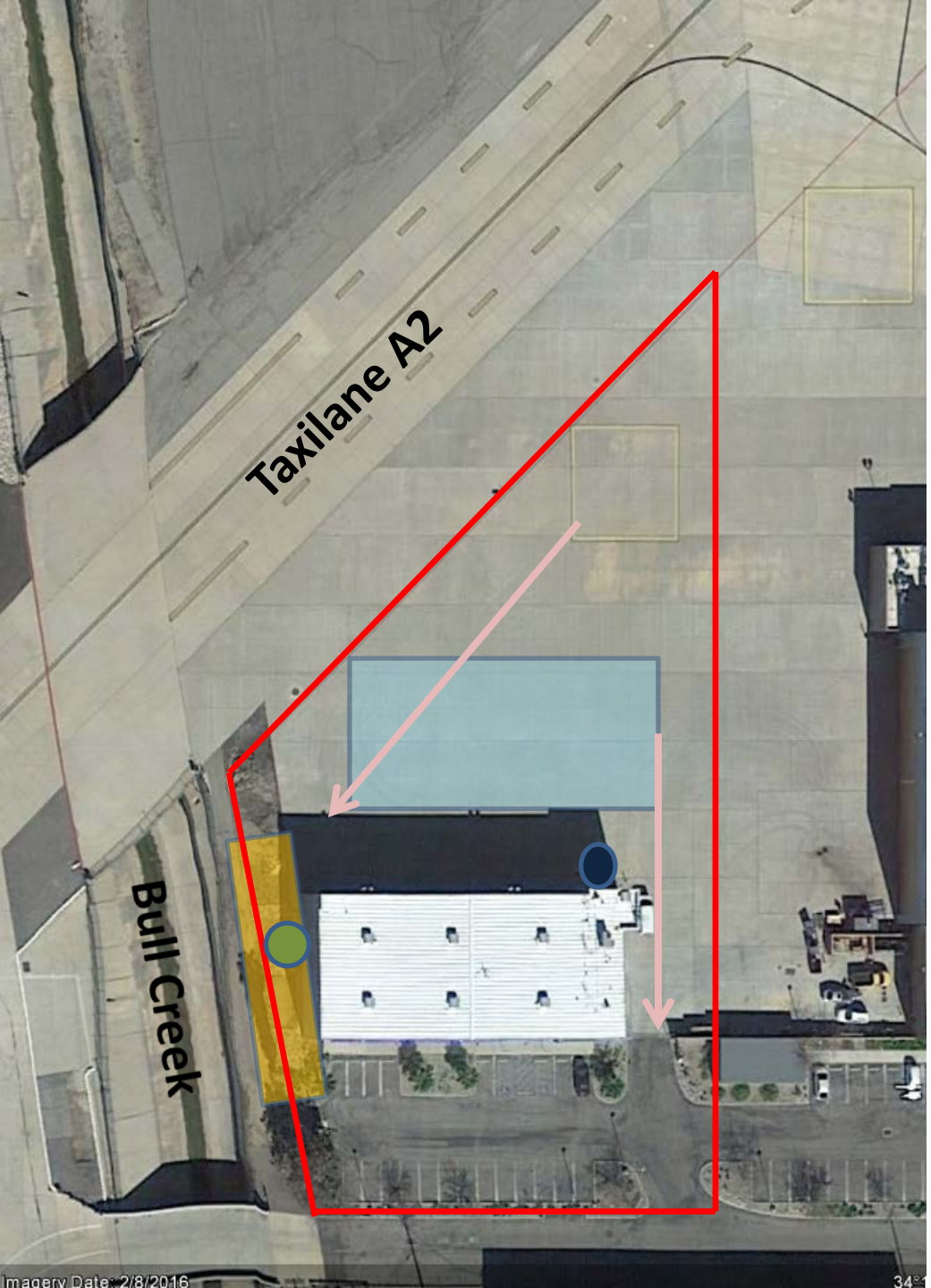


N

W E

S

- Facility Boundary
- Rain Flow
- Sewer-Connected Clarifier
- Sewer-Connected Drain
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Outdoor Hazardous Substances Storage
- Area Drains
- Outdoor Washing Area
- Outdoor Industrial Activity



SWPPP Site Map

City of LA

LAPD Air Support

16623 Arminta Street
Van Nuys, CA 91406

N
W
E
S

- Facility Boundary
- Rain Flow
- Sewer-Connected Clarifier
- Bio or Rock Swale
- Outdoor Fueling Area
- Non-Impervious Areas

SWPPP Site Map

Basenet

16644 Roscoe Blvd
Van Nuys, CA 91406

N
W E
S

- **Facility Boundary**
- **Rain Flow**
- **Swale**
- **Outdoor Fueling Area**
- **Outdoor Trash Storage**
- **Outdoor Equipment Storage**
- **Sewer Connected Clarifier**

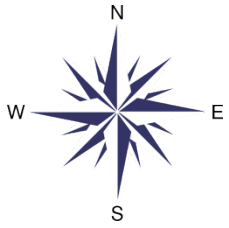
Note: Red "X" indicates former UST location.

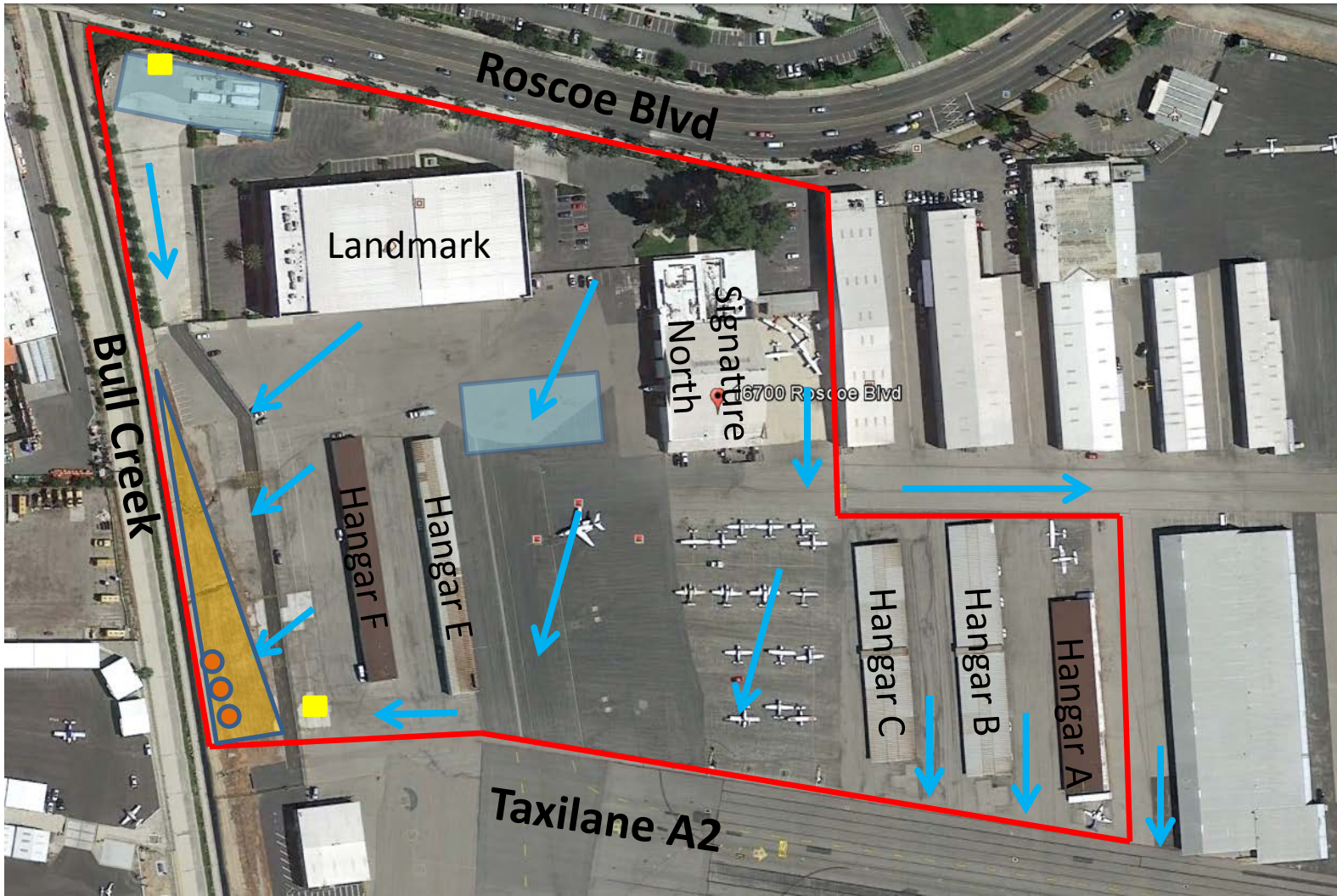
SWPPP Site Map

Signature North

16700 Roscoe Blvd
Van Nuys, CA 91406

Facility Boundary
Rain Flow
Outdoor Fueling Area
Non-Impervious Areas
Stormwater Interceptor
Area Drain





SWPPP Site Map

National Helicopter Service

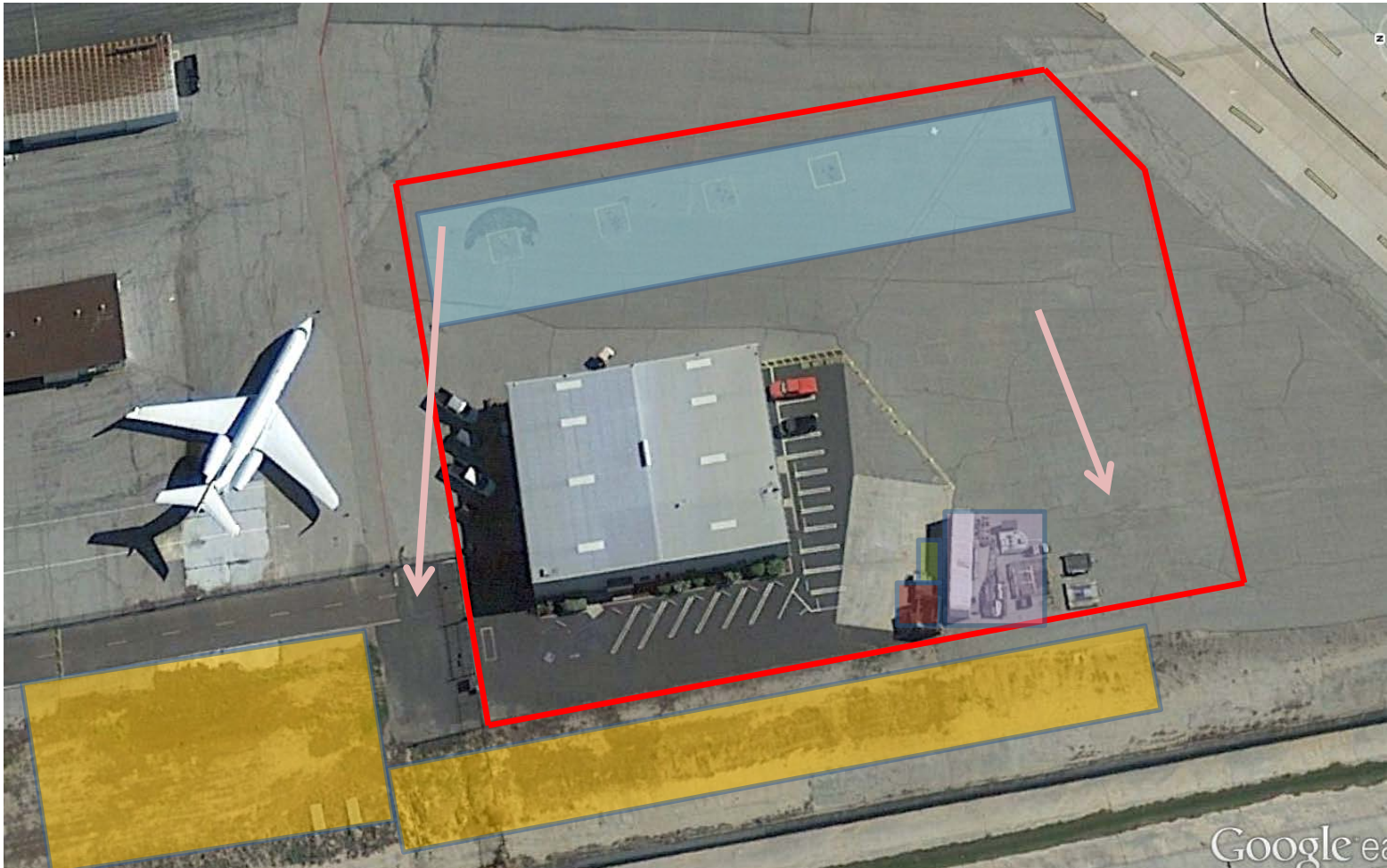
16750 Roscoe Blvd
Van Nuys, CA 91406

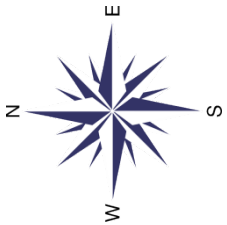
SWPPP Site Map

National Helicopter Service

16750 Roscoe Blvd
Van Nuys, CA 91406

- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Outdoor Hazardous Substances Storage
- Non-Impervious Areas



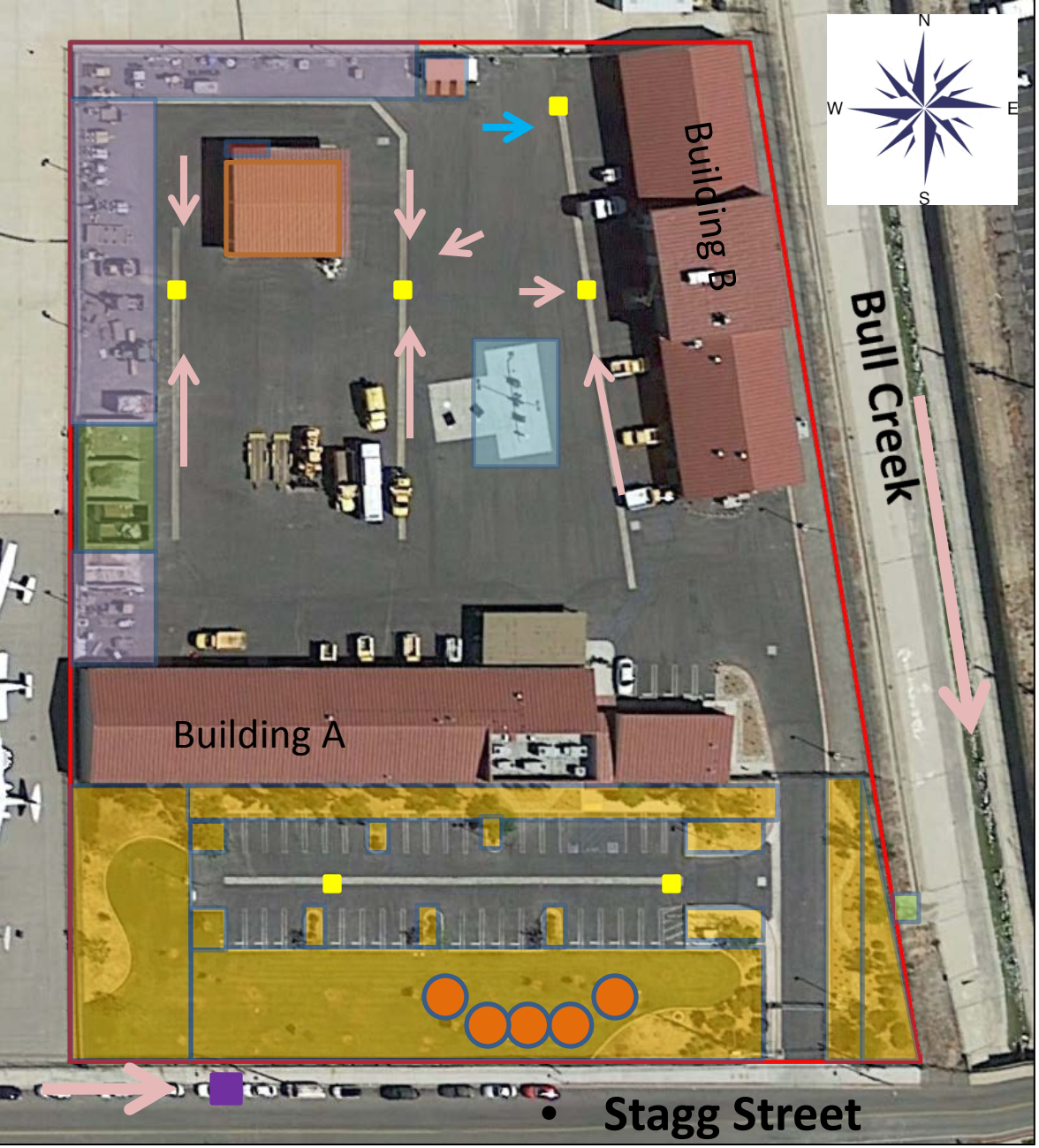


SWPPP Site Map

LAWA VNY

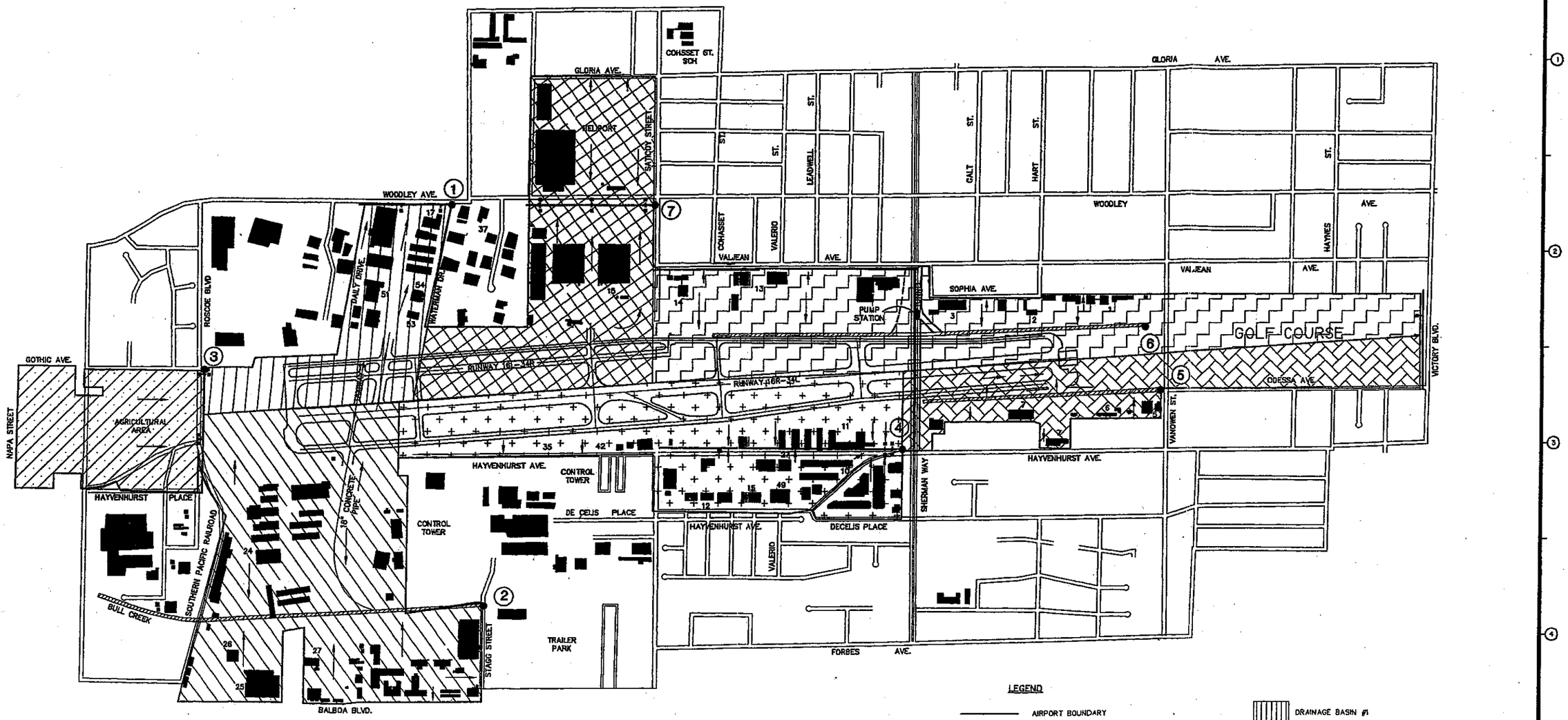
Construction & Maintenance Yard

16813 Stagg Street
Van Nuys, CA 91406



- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Non-Impervious Areas
- Authorized Discharge Location
- Stormwater Interceptor
- Area Drains
- MS4 Inlet
- Outdoor Washing Area
- Outdoor Hazardous Substance Storage

Note 1: Area drains connect to the Storm Water Interceptor for sediment and oil & grease treatment before connecting to MS4 storm drain line.



LEGEND

- AIRPORT BOUNDARY
- STORM DRAIN
- TUNNEL
- CATCH BASIN
- DRAINAGE DITCH
- (2) DISCHARGE POINT FROM AIRPORT PROPERTY
- DIRECTION OF DRAINAGE FLOW

- DRAINAGE BASIN #1
- DRAINAGE BASIN #2
- DRAINAGE BASIN #3
- DRAINAGE BASIN #4
- DRAINAGE BASIN #5
- DRAINAGE BASIN #6
- DRAINAGE BASIN #7

1000 0 1000 2000
SCALE IN FEET

TENANT ID NO.	TENANT NAME	TENANT ID NO.	TENANT NAME	TENANT ID NO.	TENANT NAME	TENANT ID NO.	TENANT NAME
24	Air Sources Inc.	37	Federal Express	27	Pacific Holding	14	Skytrails
53	Brites Wing & Helicopter	17	Fire Station No. 90	3	Petersen Aviation	1	Skytrails Aviation
35	Civil Air Patrol #135	8	Green Hornets	11	Raytheon Aircraft Services	7	Southwest Aviation
25	City of Los Angeles	15	Hughes Aircraft	5	Schaefer Air Ambulance	49	The Air Group
	Van Nuys Heliport	42	MPG Aviation	54	Stiwa Aviation	51	The Jet Center
13	Clay Lacy	26	National Helicopter			12	Thornton Corporation.
2	DOA Maintenance Yard						

FIGURE 4

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY:
DRAWN BY:
SHEET CHK'D BY:
CROSS CHK'D BY:
APPROVED BY:
DATE: 12/27/95

CAMP DRESSER & McKEE INC.
18881 Von Karman Avenue, Suite 650
Irvine, California 92612
(714) 752-5452
environmental engineers, scientists, planners, & management consultants
CDM

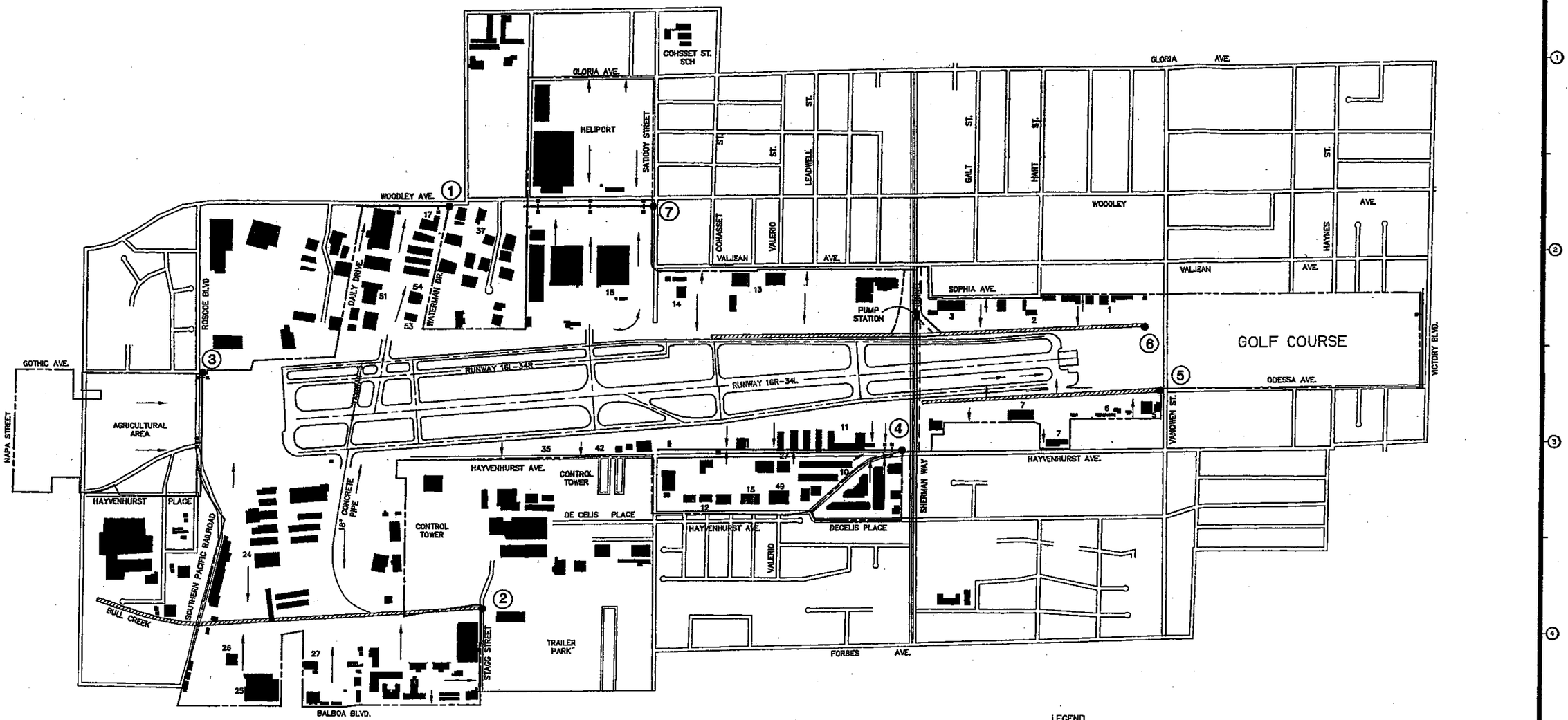
LOS ANGELES WORLD AIRPORTS
VAN NUYS AIRPORT

GENERAL INDUSTRIAL STORMWATER PERMIT

DRAINAGE BASIN MAP

PROJECT NO. 2232-112

FIGURE 2-3



TENANT ID NO.	TENANT NAME	TENANT ID NO.	TENANT NAME	TENANT ID NO.	TENANT NAME	TENANT ID NO.	TENANT NAME
24	Air Sources Inc.	37	Federal Express	27	Pacific Holding	14	Skytrails
53	Brites Wing & Helicopter	17	Fire Station No. 93	3	Petersen Aviation	1	Skytrails Aviation
35	Civil Air Patrol #135	6	Green Hornets	11	Raytheon Aircraft Services	7	Southwest Aviation
25	City of Los Angeles	15	Hughes Aircraft	9	Schaefer Air Ambulance	48	The Air Group
	Van Nuys Heliport	42	MPG Aviation	54	Silva Aviation	51	The Jet Center
13	Clay Lacy	26	National Helicopter			12	Thornton Corporation
2	DOA Maintenance Yard						

1000 0 1000 2000
SCALE IN FEET

LEGEND

- AIRPORT BOUNDARY
- STORM DRAIN
- TUNNEL
- CATCH BASIN
- DRAINAGE DITCH
- (5) DISCHARGE POINT FROM AIRPORT PROPERTY
- DIRECTION OF DRAINAGE FLOW

FIGURE 5

REV. NO.	DATE	DRAWN	CHKD	REMARKS

DESIGNED BY:
DRAWN BY: J. La Madrid
SHEET CHK'D BY:
CROSS CHK'D BY:
APPROVED BY:
DATE: 7-25-97

CAMP DRESSER & McKEE INC.
18881 Von Karman Avenue, Suite 650
Irvine, California 92612
(714) 752-5452
environmental engineers, scientists, planners, & management consultants
CDM

LOS ANGELES WORLD AIRPORTS
VAN NUYS AIRPORT

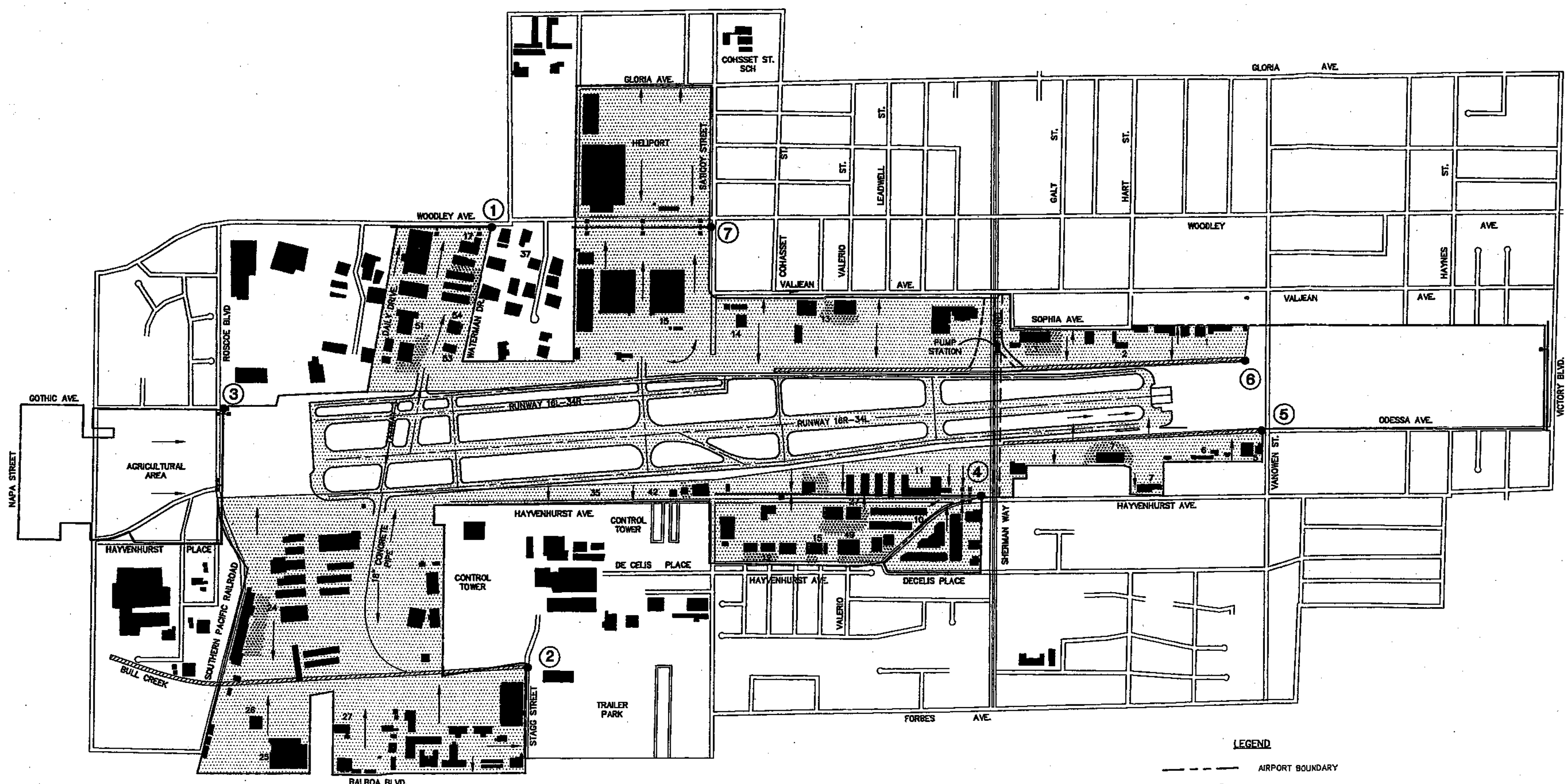
GENERAL INDUSTRIAL STORMWATER PERMIT

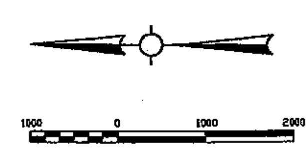
CATCH BASIN AND STORM DRAIN MAP

PROJECT NO. 2232-112

FIGURE 2-2

J. La Madrid 09/25/97 14:21:46 I:\DOSDATA\PROJECT\2232-112\CAD_1995\VNY\SWPPS\GISP2-2





LEGEND

- AIRPORT BOUNDARY
- AIRCRAFT/VEHICLE MAINTENANCE AREA
- POTENTIAL OR ACTUAL AREAS OF POLLUTANT CONTACT
- STORM DRAIN
- TUNNEL
- CATCH BASIN
- DRAINAGE DITCH
- ② ● DISCHARGE POINT FROM AIRPORT PROPERTY
- INDICATES DIRECTION OF DRAINAGE FLOW

TENANT ID NO.	TENANT NAME	TENANT ID NO.	TENANT NAME	TENANT ID NO.	TENANT NAME	TENANT ID NO.	TENANT NAME
24	Air Sources Inc.	37	Federal Express	27	Pacific Holding	14	Skytrails
53	Bries Wing & Helicopter	17	Fire Station No. 90	3	Petersen Aviation	1	Skytrails Aviation
35	Civil Air Patrol #135	6	Green Hornets	11	Raytheon Aircraft Services	7	Southwest Aviation
25	City of Los Angeles	15	Hughes Aircraft	5	Schaefer Air Ambulance	49	The Air Group
	Van Nuys Heliport	42	MPG Aviation	54	Silva Aviation	51	The Jet Center
13	Clay Lacy	26	National Helicopter			12	Thornton Corporation
2	DOA Maintenance Yard						

FIGURE 6

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY:
DRAWN BY: J. La Madrid
SHEET CHK'D BY:
CROSS CHK'D BY:
APPROVED BY:
DATE: 7-25-97

CAMP DRESSER & McKEE INC.
18881 Von Karman Avenue, Suite 650
Irvine, California 92612
(714) 752-5452
environmental engineers, scientists, planners, & management consultants
CDM

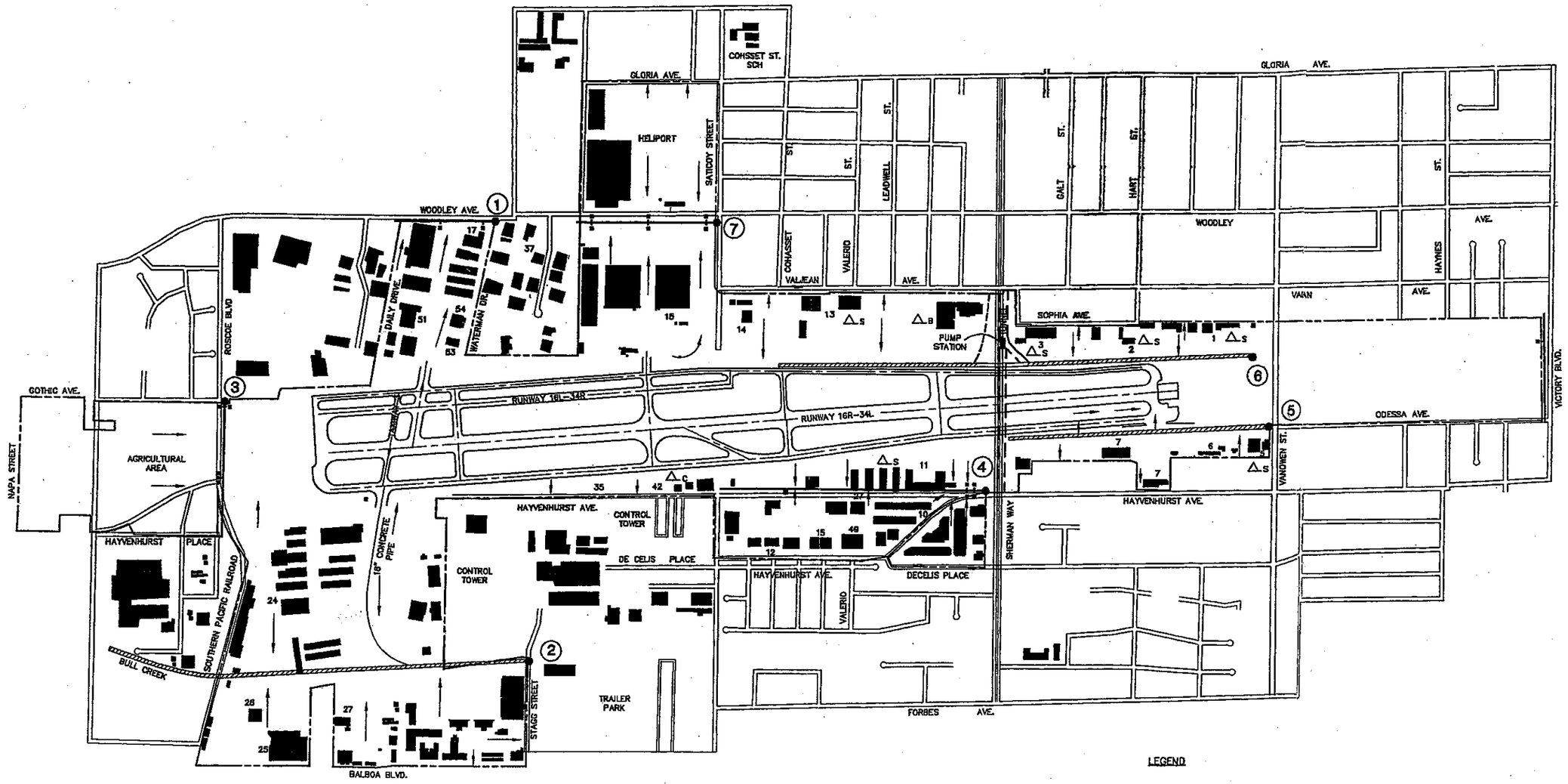
LOS ANGELES WORLD AIRPORTS
VAN NUYS AIRPORT

GENERAL INDUSTRIAL STORMWATER PERMIT

AREA OF POLLUTANT CONTACT

PROJECT NO. 2232-112
FIGURE 3-1

Camp Dresser & Mckee Inc.
0:50:01
2-112\CADD\SP95\VNY\WLNTCRK 08/28/97 16:42:54
OSDATA\PROJECTS



LEGEND

- AIRPORT BOUNDARY
- STORM DRAIN
- TUNNEL
- CATCH BASIN
- △S SEPARATOR △B BERM △C STRUCTUAL COVERING
- DRAINAGE DITCH
- (2) ● DISCHARGE POINT FROM AIRPORT PROPERTY
- DIRECTION OF DRAINAGE FLOW

TENANT ID NO.	TENANT NAME	TENANT ID NO.	TENANT NAME	TENANT ID NO.	TENANT NAME	TENANT ID NO.	TENANT NAME
24	Air Sources Inc.	37	Federal Express	27	Pacific Holding	14	Skytrails
53	Brites Wing & Helicopter	17	Fire Station No. 90	3	Petersen Aviation	1	Skytrails Aviation
35	Civil Air Patrol #135	8	Green Hornets	11	Raytheon Aircraft Services	7	Southwest Aviation
25	City of Los Angeles	15	Hughes Aircraft	5	Schaefer Air Ambulance	49	The Air Group
	Van Nuys Heliport	42	MPD Aviation	54	Silva Aviation	51	The Jet Center
13	Clay Lacy	26	National Helicopter			12	Thornton Corporation
2	DOA Maintenance Yard						

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY:
DRAWN BY:
SHEET CHK'D BY:
CROSS CHK'D BY:
APPROVED BY:
DATE: 12/27/95

CAMP DRESSER & McKEE INC.
18881 Von Karman Avenue, Suite 650
Irvine, California 92612
(714) 752-5452
environmental engineers, scientists, planners, & management consultants
CDM

LOS ANGELES WORLD AIRPORTS
VAN NUYS AIRPORT

GENERAL INDUSTRIAL STORMWATER PERMIT

STRUCTURAL MANAGEMENT CONTROLS

PROJECT NO. 2232-112

FIGURE 5-1

FIGURE 7

Van Nuys
Los Angeles World Airports

INDUSTRIAL AND NON-INDUSTRIAL ACTIVITY AREAS

As of 8/11/2016

Office of Airport Technology & Business Systems

FIGURE 8

Activity Areas

- Industrial Activity Area - 169.49 Acres
- Non-Industrial Activity Area within Industrial Activity Site - 50.25 Acres
- Non-Industrial Activity Area - 22.80 Acres
- VNY Boundary

0 350 700 1,400 2,100 Feet

N

MAP PROVIDED BY LAWA IMTG GIS SUPPORT SERVICE DIVISION

Document Path: S:\Maps\LAX\Elevators_Escalators\VNY_ActivityAreas_20160811.mxd

APPENDIX A

Permit Registration Documents (PRDs)

CALIFORNIA Water Boards

State Water Resources Control Board

NOTICE OF INTENT

GENERAL PERMIT TO DISCHARGE STORM WATER
ASSOCIATED WITH INDUSTRIAL ACTIVITY (WQ ORDER No. 2014-0057-DWQ)
(Excluding Construction Activities)

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

WDID: 4 19I004994 Status: Active

Operator Information

Type:

Name: Los Angeles World Airports
Address: 7301 World Way West
Address 2: Rm 312
City/State/Zip: Los Angeles CA 90045
Federal Tax ID:

Contact Name: Robert Freeman
Title: Airport Environmental Manager
Phone Number: 424-646-6474
Email Address: rfreeman@lawa.org

Facility Information

Level:

Contact Name: Robert Freeman
Title: Airport Environmental Manager
Site Name: Van Nuys Airport
Address: 16461 Sherman Wy
City/State/Zip: Van Nuys CA 91406
County: Los Angeles
Latitude: 34.20153 Longitude: -118.49187

Site Phone #: 424-646-6474
Email Address: rfreeman@lawa.org
Site Size: 723 Acres
Industrial Area Exposed to Storm Water: 723 Acres
Percent of Site Impervious (Including Rooftops): 0 %

SIC Code Information

1. 4581 Airports, Flying Fields, and Airport Terminal Services
2.
3.

Additional Information

Receiving Water: LA River
Flow: Indirectly
Storm Drain System: City of Los Angeles
Compliance Group:

RWQCB Jurisdiction: Region 4 - Los Angeles
Phone: 213-576-6600
Email: r4_stormwater@waterboards.ca.gov

Certification

Name: Robert Freeman
Date: June 22, 2015
Title: Airport Environmental Manager

APPENDIX B

VNY Tenant Pollution Prevention Team

Tenant Pollution Prevention Team

Address	Master Leaseholder	PPT Contact/Alternate	Title	Phone Number
7035 Sophia Avenue	Signature Flight Suport - East & South	Brian "Woody" Woodruff	Facility Manager	Office: (818) 989-2300 Cell: (818) 321-2795
7155 Valjean Avenue				
7535 Valjean Avenue				
16233 Vanowen Street				
7150 Hayvenhurst Avenue	Southwest Aviation	Nick Mosich	Business Owner	Office: (818) 780-0086 Cell: (949) 300-5029
16425 Hart Street				
7240 Hayvenhurst Avenue	Signature Flight Support - West	Noe Gonzalez	Facility Manager	Office: (818) 464-9500 Other: (818) 464-9539
7430 Hayvenhurst Place				
7440 Hayvenhurst Place				
7356 Hayvenhurst Avenue	Aerolease West	Ian Bell (Primary)	Facility Manager	Office: (562) 981-2659 Fax: (562) 426-8236 Cell: (818) 515-9423
7366 Hayvenhurst Avenue				
7402 Hayvenhurst Avenue				
7410 Hayvenhurst Avenue				
7426 Hayvenhurst Avenue				
7436 Hayvenhurst Avenue		Justin Castagna, C.M. (Alternate)	Operations and Project Manager	Office: (562) 981-2659 Fax:(562) 426-8236 Cell: (562) 881-5360
7458 Hayvenhurst Avenue				
7335 Hayvenhurst Place				
7345 Hayvenhurst Place				
7405 Hayvenhurst Place				
7520 Hayvenhurst Avenue	Castle and Cooke Aviation	Ray Campos (Primary)	Line Service Manager	Office: (818) 389-2401 Cell: (818) 988-8385
7530 Hayvenhurst Avenue				
7614 Hayvenhurst Avenue				
7415 Hayvenhurst Place				
7501 Hayvenhurst Place				
7525 Hayvenhurst Place				
7435 Valjean Avenue	Clay Lacy Aviation	Brian DeCoudres (Primary)	Facility Manager	Office: (818) 989-2900 Cell: (661) 755-1119
		Jose Manzo (Alternate)	Facility Supervisor	Office: (818) 314-4329

7646 Hayvenhurst Avenue	MPG Aviation	Margie Oldencamp	Business Owner	Cell: (787) 742-0352
		Cecille Rubiales	Facility Manager	Office: (818) 782-2788
		Sheila Davis	Facility Manager	Office: (818) 782-2788
7701 Woodley Avenue	MP Aero	Lety Miranda (Primary)	HR Manager	Office: (818) 901-9828
		Marco Vargas (Alternate)	Manufacturing Manager	
7800 Hayvenhurst Avenue	Civil Air Patrol (Condor Squadron)	Tony Farmer (Primary)	Facility Manager	Office: (818) 894-0066 Cell: (818) 667-4991
		Chris Rushing (Alternate)	President	Office: (805) 816-5970
7900 Balboa Boulevard	Prop Park	Ryan Sanders	Facility Manager	Office: (818) 834-1085 Cell: (949) 584-9395
7943 Woodley Avenue	Aerolease Associates	Ian Bell (Primary)	Facility Manager	Office: (562) 981-2659 Fax: (562) 426-8236 Cell: (818) 515-9423
7945 Woodley Avenue				
7947 Woodley Avenue				
16135 Waterman Drive				
13139 Waterman Drive				
13141 Waterman Drive		Justin Castagna, C.M. (Alternate)	Operations and Project Manager	Office: (562) 981-2659 Fax:(562) 426-8236 Cell: (562) 881-5360
16143 Waterman Drive				
16155 Waterman Drive				
16201 Waterman Drive				
16209 Waterman Drive				
Address	**Master Leaseholder**	**PPT Contact/Alternate**	**Title**	**Phone Number**
16101 Saticoy Street	Western Jet Aviation	Josue Vazquez (Primary)	Parts Dept/Facility Maintenance Manager	Office: (818) 785-2250 Cell: (562) 277-0595
		Jim Hansen (Alternate)	General Manager	Office: (818) 785-2250
16231 Waterman Drive	Air Center Aviation	Duane "Larry" Feuerhelm (Primary)	Business Owner	Office: (818) 785-9014 Office: (818) 698-6430

16303 Waterman Drive		Lawrence "Laurent" Feuerhelm (Alternate)	Business Owner	Office: (661) 478-6014
16550 Saticoy Street	LAUSD North Valley Occupational Center - Aircraft Maintenance School	Edward "Ed" Holyoke (Primary)	Instructor	Office: (818) 675-8918
		Juan Urdiales (Alternate)		Office: (818) 785-7511 Office: (818) 785-0781
16617 Arminta Street	LA City GSD - LAFD Fire Station #114 Air Operations	Capt. David Peters (Primary)	Captain	Office: (818) 756-8635
		Capt. Robert Aragon (Alternate)	Captain	
	LA City GSD - Fuel Services Division	Sean Sullivan	Supervisor	Office: (213) 978-3781 Cell: (213) 272-8051
16621 Arminta Street	LA City GSD - Aircraft Maintenance	Angel Colon	Mechanic	Office: (818) 756-8125 Cell: (951) 532-3989
16623 Arminta Street	LA City GSD - Air Support	Officer Kevin Standage	Facility Manager	Office: (818) 756-8572 Cell: ((805) 432-6400
16644 Roscoe Boulevard	Basenet	Ryan Sanders	Facility Manager	Office: (818) 834-1085 Cell: (949) 584-9395
16700 Roscoe Boulevard	Signature Flight Support - North	Noe Gonzalez	Facility Manager	Office: (818) 464-9500 Other: (818) 464-9539
16750 Roscoe Boulevard	National Helicopter Service	Richard Hart (Primary)	Business Owner	Office: (818) 345-5222
		Helen Kosmala (Alternate)		
16813 Stagg Street	LAWA C&M Yard	Keith Smith (Primary)	Airports Maintenance Supervisor	Office: (818) 442-6601
		Rodney McElhone (Alternate)	Plumber	Office: (818) 442-6600

APPENDIX C

Training Records

STORMWATER TRAINING

Facility Name: _____

WDID #: _____

Stormwater Management Topic: (check as appropriate)

- ☐ Good Housekeeping
- ☐ Preventative Maintenance
- ☐ Spill and Leak Prevention and Response
- ☐ Material Handling and Waste Management
- ☐ Erosion and Sediment Controls
- ☐ Quality Assurance and Record Keeping
- ☐ Advanced BMPs
- ☐ Visual Monitoring
- ☐ Stormwater Sampling and Analysis

Specific Training Objective: _____

Location: _____ Date: _____

Instructor: _____ Telephone: _____

Course Length (hours): _____

Attendee Roster

(Attach additional forms if necessary)

Name	Company	Phone

As needed, add proof of external training (e.g., course completion certificates, etc.)

2015-2016 LAWA ANNUAL SWPPP TRAINING

10/27/2015 09:30 - 11:30 AM 10/27/2015 01:30 - 03:30 PM
1 World Way, LA CA 90045 (Admin East – Samuel Greenberg Board Room)

10/28/2015 09:30 - 11:30 AM
1923 East Avion Street
Ontario, CA 91761 (Administration Conference Room)

10/29/2015 09:30 - 11:30 AM
7610 Woodley Avenue
Van Nuys, CA 91406
(FlyAway Bus Terminal Conference Room)

Instructor: Kislev Ang
Environmental Specialist
LAWA Storm Water Group

APPENDIX D

Spills and Leaks within the Previous Five-Year Period

APPENDIX E

BMP Fact Sheets

LOS ANGELES WORLD AIRPORTS

SC1 ELIMINATION OF NON-STORM WATER DISCHARGES TO STORM DRAINS

PURPOSE:

***Existing discharges**:* Eliminate non-storm water discharges to the storm water collection system. Non-storm water discharges can be classified as follows: 1) *Activity-based* (subtle), and 2) *Overt* (hard pipe connection). Activity-based non-storm water discharges may include: wash water, deicing fluids, and spillage. Overt non-storm water discharges may include: process wastewater, treated cooling water, and sanitary wastewater.

Prevention of illicit connections: Prevent improper physical connections to the storm drain system from sanitary sewers, floor drains, industrial process discharge lines, and wash racks through education, developing project approval conditions, and performing both construction phase and post-construction inspections.

GENERAL APPROACH:

Identification of Activity-Based (Subtle) Discharges:

The following techniques may be used to identify activity-based non-storm water discharges to the storm water collection system:

- Perform frequent activity inspections to identify non-storm water discharges - stagger inspection times to cover all work periods.
- Perform visual inspections of discharge points to the storm drain system - observe uncharacteristic volumes, colors, turbidity, odors, deposition, staining, floatables, and foaming characteristics of any flow.

APPROACH TO FUTURE FACILITIES AND UPGRADES:

Design of New Facilities and Existing Facility Upgrades

- Perform inspections during the design review and project construction phases to ensure drainage, wastewater, and water supply connections are correct (no cross connections or illicit hookups).
- Develop a set of as-built prints for all projects. Keep a set of the prints at the facility.
- Design projects to include adequate waste repositories at locations near waste origin points.
- Provide adequate and appropriately designed facilities for functions such as steam cleaning, degreasing, painting, mechanical maintenance, chemical/fuel storage and delivery, material handling, waste handling and storage, lavatory service, and food preparation.

TARGETED ACTIVITIES

All Maintenance
All Fueling
All Washing
Equipment Cleaning
Cargo Handling
All Storage
Painting/Stripping
Floor Washdowns
Aircraft Deicing/Anti-Icing
Garbage Collection
Aircraft Lavatory Service
Fire Fighting Equip. Testing
Potable Water System Flush
Runway Rubber Removal

TARGETED POLLUTANTS

Oil and Grease
Vehicle Fluids
Fuel
Solvents/Cleaning Sol.
Deicing/Anti-Icing Fluid
Battery Acid
Pesticides/Herbicides/ Fertilizers
Paint
Aircraft Fire Fighting Foam
Metals
Dumpster Wastes
Sediment
Landscape Waste
Floatables
Lavatory Chem. Wastes
Potable Water System Chemicals
Rubber Particles

KEY APPROACHES

Perform inspections and enforcement
Provide training for employees
Promote education of vendors/public

LOS ANGELES WORLD AIRPORTS

SC1 ELIMINATION OF NON-STORM WATER DISCHARGES TO STORM DRAIN

APPROACH TO EXISTING FACILITY ACTIVITIES:

Operational Considerations

- Use "dry" cleaning and surface preparation techniques where feasible.
- Limit the availability of outdoor water supplies (hose bibs).
- Post signs at outdoor water sources stating the appropriate uses and discouraging uses which would introduce pollutants to the storm drain system/receiving waters.

Contingency Response

- Develop and implement a Spill Prevention Control and Countermeasure (SPCC) Plan, if required under guidelines set forth in 40 CFR, Section 112.3(a), (b).
- Maintain adequate supplies of spill response equipment and materials in accessible locations near areas where spills may be likely to occur.

Inspection and Training

- Inspect waste containers frequently for leaks and proper closure seal.
- Develop employee training programs which emphasize the proper disposal procedures for operations-derived wastes.
- Provide the appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention education (see SC-10 for storm water pollution education approaches), right-to-know awareness training, and hazardous materials management.

REQUIREMENTS:

- Capital and O&M costs associated with the elimination of non-storm water discharges can be high.

LIMITATIONS:

- Storm drain documentation for many facilities is not up-to-date.
- Activity-based (subtle) non-storm water discharges from a particular facility are typically sporadic, transient, and often require frequent inspections to detect.

RELEVANT RULES AND REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 110.3 Discharge of Oil
.40 CFR 112 Oil Pollution Prevention (SPCC/OPA Plans)
.40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
.40 CFR 122-124 NPDES Regulations for Storm water Discharges
.40 CFR 401 Effluent Limitation Guidelines

LOS ANGELES WORLD AIRPORTS

SC2 AIRCRAFT, GROUND VEHICLE AND EQUIPMENT MAINTENANCE

PURPOSE:

Prevent or reduce the discharge of pollutants to storm water from aircraft, vehicle, and equipment maintenance and repair, including ground vehicle and equipment painting/stripping and floor washdowns.

APPROACH TO FUTURE FACILITIES AND UPGRADES:

Design of New Facilities and Existing Facility Upgrades

- Provide covered maintenance areas when designing new facilities or upgrading existing facilities. Utilize indoor areas, lean-tos, or portable covers.
- Locate outdoor maintenance areas so minimal quantities of runoff cross the site.
- Include appropriate storm water quality structures (oil/water separators, sumps, first flush diversion basins, etc. - see TC-1 for further information regarding treatment control BMPs) in the design of outdoor maintenance areas.

APPROACH TO EXISTING FACILITY ACTIVITIES:

Operational Considerations

Implement the following to the maximum extent practicable.

Good Housekeeping

- Use drip pans.
- Use absorbent materials at potential problem areas. Adequately collect/remove absorbent materials from area after use and dispose of them in an appropriate manner.
- Drain and crush oil filters (and oil containers) before recycling or disposal. Store crushed oil filters and empty lubricant containers in a leak-proof container - covered if outdoors.
- Label storm drain inlets to indicate they are to receive no wastes. Do not hose down work areas to the storm drainage system or use concrete cleaning products unless the storm drain inlet is blocked and wash water is collected and properly disposed of through a permitted sewer connection. As an alternative, use mops, dry sweeping compound, or contract professional cleaning services. Confirm the use of appropriate disposal practices by contract cleaning services.
- Drain and properly dispose of all fluids and remove batteries from salvage aircraft, vehicles, and equipment.

TARGETED ACTIVITIES

Aircraft Maintenance

Vehicle Maintenance

Equipment Maintenance

TARGETED POLLUTANTS

Oil and Grease

Vehicle Fluids

Solvents/Cleaning Solutions

Fuel

Battery Acid

Paint

KEY APPROACHES

Conduct maintenance indoors, or in covered area.

Prevent wash water discharges to the storm drain

Clean catch basins regularly

Collect and properly dispose of all fluids

LOS ANGELES WORLD AIRPORTS

SC2	AIRCRAFT, GROUND VEHICLE AND EQUIPMENT MAINTENANCE

Good Housekeeping, cont.

- Recycle or properly dispose of the following: greases, oils, antifreeze, brake fluid, cleaning solutions, hydraulic fluid, batteries, transmission fluid, and filters.
- Use biodegradable products and substitute materials with less hazardous properties where feasible.

Physical Site Usage

- Where feasible, move maintenance activities indoors or provide cover over work area.
- Use designated washing, steam cleaning, and degreasing areas to clean equipment.
- Store mechanical parts and equipment that may yield even small amounts of contaminants (e.g., oil or grease) under cover and away from drains.

Structural Controls

- Equip maintenance and cleaning areas with runoff controls that prevent discharge to storm sewers.
- Install and maintain catch basin filter inserts that assist in the removal of oil and grease, sediments and floatables.

Maintenance

- Maintain clean equipment by eliminating excessive amounts of external oil and grease buildup. Use water-based cleaning agents or non-chlorinated solvents to clean equipment.
- Regularly clean any catch basins that receive runoff from a maintenance area, especially after larger storms.
- Inspect, clean and maintain sump and oil/water separators, if necessary.

Contingency Response

- Maintain adequate supplies of spill response equipment and materials in accessible locations near areas where spills may be likely to occur.
- Furnish all maintenance vehicles with adequate supplies of spill response materials and appropriate spill response procedures.

Inspection and Testing

- Provide the appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention education (see SC-10 for storm water pollution education approaches), right-to-know awareness training, and hazardous materials management.
- Provide employee storm water quality awareness training.
- Develop regular maintenance and inspection programs for oil/water separators.
- Characterize wastes collected from oil/water separators. Provide appropriate employee training.

REQUIREMENTS:

- Capital and O&M costs should be low but will vary depending on the size of the facility. Costs associated with diversion basins can be high.
- Maintenance costs should be low.

LOS ANGELES WORLD AIRPORTS

SC2	AIRCRAFT, GROUND VEHICLE AND EQUIPMENT MAINTENANCE

LIMITATIONS:

- Size, space and time limitations may preclude all work being performed indoors.
- Identification of engine and equipment leakage points may require the use of solvents or other cleaners to remove external accumulations of oily grime.

RELEVANT RULES AND REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 110.3 Discharge of Oil
.40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
.40 CFR 122-124 NPDES Regulations for Storm Water Discharges
.40 CFR 401 Effluent Limitation Guidelines

LOS ANGELES WORLD AIRPORTS

SC3 AIRCRAFT, GROUND VEHICLE, AND EQUIPMENT FUELING

PURPOSE:

Prevent fuel spills and leaks, and reduce their impacts to storm water.

APPROACH TO FUTURE FACILITIES AND UPGRADES:

Design of New Facilities and Existing Facility Upgrades

- Design fueling areas to prevent the run-on of storm water and the runoff of spills by employing the following approaches:
  - Cover the fueling area if possible.
  - Use a perimeter drain or slope the fueling area to a dead-end sump or oil/water separator.
  - Pave the fueling area with concrete rather than asphalt.
- If storm water runoff from fueling areas is not collected, install an appropriately sized oil/water separator. Regulatory agency approvals are required.
- Install and maintain vapor recovery systems where required and/or appropriate.
- Existing underground fuel storage tanks should be upgraded with leak detection, spill containment, and overfill protection in advance of December 22, 1998, the federal regulatory deadline. This is relevant to storm water regulations due to the potential for contamination of surface soils or waters that could be transported by storm water runoff.
- Design facilities to include secondary containment where required and/or appropriate.

APPROACH TO EXISTING FACILITY ACTIVITIES:

Operational Considerations

Implement the following to the maximum extent practicable.

Good Housekeeping

- Fuel pumps intended for vehicular use (not aircraft) should be posted with signs stating "No Topping Off" to prevent overflow.
- Use absorbent materials and spot cleaning for small spills; do not hose down the area unless the storm drain is blocked and drainage is collected by vacuum truck and disposed of through a permitted connection to the sanitary sewer.
- Properly dispose of any fuel spills and leaks. Vacuum equipment/trucks are recommended for collection. Always dispose of materials in an approved manner; use an approved treatment facility through a permitted connection. Never discharge materials to a catch basin or storm drain.

TARGETED ACTIVITIES

Aircraft Fueling

Vehicle Fueling

Equipment Fueling

TARGETED POLLUTANTS

Fuel

KEY APPROACHES

Install berms or curbing around fueling areas

Use absorbent materials and/or vacuum equipment for spills

Install proper equipment for fuel dispensing and tank monitoring to prevent spills, leaks and overflows

SC3 AIRCRAFT, GROUND VEHICLE AND EQUIPMENT FUELING

Good Housekeeping (contd.)

- Use pigs/mats over catch basins during fueling activity.
- Manage the disposal of water that collects in fuel tanks and fueling hydrant sumps according to state and federal regulations.

Physical Site Usage

- Avoid mobile fueling of equipment wherever feasible; fuel equipment at designated fueling areas.

Structural Controls

- Cover the fueling area if possible.
- Divert storm water runoff away from fueling area to avoid storm water contact with contaminated surfaces through the use of berms or curbing.
- Install gate valves at catch basins for use during fueling activity.
- Employ secondary containment or cover when transferring fuel from a tank truck to a fuel tank.

Equipment

- Provide appropriate monitoring for tanks containing fuel, such as:
  - Level indicators and gauges.
  - Overfill protection with alarms.
  - Interstitial leak detection for double-walled tanks.
  - Routine inspection/lockout for drainage valves for tank containment areas.
- Fuel dispensing equipment should be equipped with "breakaway" hose connections that will provide emergency shutdown of flow should the fueling connection be broken through movement.
- Automatic shut-off mechanisms should be in place on fuel tankers. These valves should remain in the closed position unless manually opened during fueling.

Maintenance

- Inspect, clean and maintain sumps and oil/water separators at appropriate intervals.

Contingency Response

- Develop and implement a Spill Prevention Control and Countermeasure (SPCC) Plan if required under guidelines set forth in 40 CFR, Sections 112.3(a), (b).
- Maintain adequate supplies of spill response equipment and materials in accessible locations near areas where spills may be likely to occur.
- Furnish adequate spill response information, equipment and materials on all fueling vehicles.

Inspection and Training

- Inspect fueling areas and storage tanks regularly. Record all maintenance activities and inspections relating to fueling equipment and containers in a logbook.
- Underground fuel storage tanks should be tested as required by federal and state laws. Provide the appropriate level of spill response training to personnel to address all types of potential spills.

LOS ANGELES WORLD AIRPORTS

SC3	AIRCRAFT, GROUND VEHICLE, AND EQUIPMENT FUELING

REQUIREMENTS:

- The cost of retrofitting existing fueling areas to minimize storm water contamination can be high. Practical design concepts such as incorporating extruded curb along the upstream side of facilities to prevent run-on of storm water can be of modest cost.

LIMITATIONS:

- Properly sized and installed oil/water separators must be regularly maintained to be effective (see TC-1 for a description of management practices relating to oil/water separator operations and maintenance).

RELEVANT RULES AND REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 110.3 Discharge of Oil
.40 CFR 112 Oil Pollution Prevention (SPCC OPA/Plans)
.40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
.40 CFR 122-124 NPDES Regulations for Storm Water Discharge
.40 CFR 401 Effluent Limitation Guidelines

LOS ANGELES WORLD AIRPORTS

SC4 AIRCRAFT, GROUND VEHICLE AND EQUIPMENT WASHING

PURPOSE:

Prevent or reduce the discharge of pollutants to storm water drains from aircraft, vehicle, and equipment washing, and equipment degreasing.

APPROACH TO FUTURE FACILITIES AND UPGRADES:

Design of New Facilities and Existing Facility Upgrades

- Consider off-site commercial washing where feasible. Using appropriate off-site facilities will decrease the waste generated on-site.
- Consider incorporating a wash water recycling system into the project design.
- Outdoor washing operations should have the following design characteristics:
  - Paved with Portland cement concrete.
  - Bermed and/or covered (if feasible) to prevent contact with storm water.
  - Sloped to facilitate wash water collection.
  - Wash water should be collected in a dead-end sump for removal or discharged to the sanitary sewer through a permitted connection.
  - Discharge piping serving uncovered wash areas should have a positive shut-off control valve that allows switching between the storm drain and the sanitary sewer.
  - Clearly designated.
  - Equipped with an oil/water separator designed to operate under storm water runoff conditions (treat storm water volumes and flow rates). Regulatory agency approvals are required.

APPROACH TO EXISTING FACILITY ACTIVITIES:

Operational Considerations

Implement the following to the maximum extent practicable.

Good Housekeeping

- Use "dry" washing and surface preparation techniques where feasible. Several products are presently marketed which are being used to clean even the largest aircraft. Remove all materials (i.e., drippings and residue) using vacuum methods. Dispose of properly.
- Provide secondary containment for containers of washing and steam cleaning additives.
- Use pigs/mats to cover catch basins during wash activity.
- Use biodegradable phosphate-free detergents.
- Keep washing area clean and free of waste.
- Include proper signage to prohibit the discharge of waste oils into the drains.
- Collect and discharge wash water to an approved treatment facility (sanitary sewer system) through a permitted connection.

TARGETED ACTIVITIES

Aircraft Washing

Vehicle Washing

Equipment Washing

Equipment Degreasing

TARGETED POLLUTANTS

Oil and Grease

Solvents

Vehicle Fluids

Cleaning Solutions

KEY APPROACHES

Use designated area

Use dry washing techniques

Recycle wash water or discharge appropriately

Cover catch basins

Provide training

LOS ANGELES WORLD AIRPORTS

SC4 AIRCRAFT, GROUND VEHICLE AND EQUIPMENT WASHING

Physical Site Usage

- Consider off-site commercial washing and steam cleaning where feasible. Using appropriate off-site facilities will decrease the waste generated on-site.
- Use designated wash areas indoors, or outdoors covered and bermed where feasible, to prevent contamination of storm water by contact with wastes.

Structural Controls

- Install gate valves at catch basins for use during washing activities to facilitate the collection of the wash water and prevent discharge to the storm drainage system.
- Filter and recycle wash water where practical.

Maintenance

- Conduct berm repair and patching.
- Inspect, clean, and maintain sumps, oil/water separators, and on-site treatment and recycling units.

Contingency Response

- Maintain adequate supplies of spill response equipment and materials in accessible locations near areas where spills may be likely to occur.

Inspection and Training

- Provide the appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention education (see SC-10 for storm water pollution education approaches), right-to-know awareness training, and hazardous materials management.
- Develop regular maintenance and inspection programs for oil/water separators.
- Characterize wastes derived from oil/water separators. Provide appropriate employee training.

REQUIREMENTS:

- Capital costs vary depending on measures implemented.
  - LOW COST: $500-1,000 for berm construction.
  - MEDIUM COST: $5,000-20,000 for plumbing modifications (including re-routing discharge to the sanitary sewer and installing a simple sump).
  - HIGH COST: $30,000-150,000 for on-site treatment and recycling.
- O&M costs increase with increasing capital investment.

LIMITATIONS:

- Some wastewater agencies may require pretreatment and monitoring of wash water discharges to the sanitary sewer.
- Steam cleaning and de-greasing operations can generate significant pollutant concentrations which may require permitting, monitoring, pretreatment, and inspections. These compliance issues will vary according to local agency jurisdiction.

LOS ANGELES WORLD AIRPORTS	
SC4	**AIRCRAFT, GROUND VEHICLE AND EQUIPMENT WASHING**

RELEVANT RULES AND REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 110.3 Discharge of Oil
.40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
.40 CFR 122-124 NPDES Regulations for Storm water Discharges
.40 CFR 401 Effluent Limitation Guidelines

LOS ANGELES WORLD AIRPORTS

SC5 AIRCRAFT DEICING/ANTI-ICING

PURPOSE:

Prevent or reduce the discharge of pollutants to storm water from aircraft deicing and anti-icing procedures.

APPROACH TO FUTURE FACILITIES AND UPGRADES:

Design of New Facilities and Existing Facility Upgrades

- When designing or modifying operating areas, consider the following characteristics:
  - Paved with Portland cement concrete.
  - Sloped to facilitate fluid collection.
  - Fluids could be collected in a dead-end sump for removal or discharged to the sanitary sewer through a permitted connection (check with local wastewater agency).
  - Clearly designated.
  - Equipped with an oil/water separator.
- Consider incorporating a closed loop recycling system into the design of deicing/anti-icing stations.

APPROACH TO EXISTING FACILITY ACTIVITIES:

Operational Considerations

- Perform anti-icing and deicing operations only in areas designated by LAWA as appropriate for such activities.
- Depending on conditions, apply only enough fluid to surfaces to ensure the safe operation of the aircraft. Excess fluid dripped to the ground contaminates soil and water if not properly contained.
- Clean ramp areas following deicing/anti-icing operations. Wet-type sweepers are effective in removing deicing fluids from paved areas. Dispose of or recycle the fluids in accordance with local, state, and federal regulations.
- Implement forthcoming recommendations of the FAA technical committee on deicing.
- Inspect, clean and maintain sumps and oil/water separators.

Contingency Response

- Maintain adequate supplies of spill response equipment and materials in accessible locations near areas where spills may be likely to occur.

Inspection and Training

- Monitor deicing and anti-icing operations regularly to ensure quantities of fluids used are at a minimum while not jeopardizing aircraft safety.
- Provide the appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention education (see SC-10 for storm water pollution education approaches), right-to-know awareness training, and hazardous materials management.

TARGETED ACTIVITIES

Aircraft Deicing

Aircraft Anti-Icing

TARGETED POLLUTANTS

Ethylene glycol

Propylene glycol

KEY APPROACHES

Perform in designated areas only

Apply only required amounts of fluid

Clean ramp area when done

Implement forthcoming recommendations of FAA

LOS ANGELES WORLD AIRPORTS	
SC5	**AIRCRAFT DEICING/ANTI-ICING**

REQUIREMENTS:

- Costs associated with the collection and proper disposal of anti-icing fluids can be high.

LIMITATIONS:

- Wastewater agencies may ban conventional anti-icing chemicals, such as ethylene glycol, from the sanitary sewer system or may require extensive pretreatment and monitoring of deicing and anti-icing fluid discharges to the sanitary sewer.

RELEVANT REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
.40 CFR 122-124 NPDES Regulations for Storm Water Discharges
.40 CFR 401 Effluent Limitation Guidelines

LOS ANGELES WORLD AIRPORTS

SC6 OUTDOOR MATERIAL HANDLING

PURPOSE:

Prevent or reduce the discharge of pollutants to storm water from loading and unloading of material and cargo.

APPROACH TO FUTURE FACILITIES AND UPGRADES:

Design of New Facilities and Existing Facility Upgrades

- Design loading/unloading areas to prevent storm water run-on through the use of the following practices:
  - Grading or berming.
  - Positioning roof downspout to direct storm water away from loading/ unloading areas.
- Design facilities so that materials which may contribute pollutants to storm water may be stored indoors or under cover.
- Incorporate oil/water separators into exposed loading dock designs.

APPROACH TO EXISTING FACILITY ACTIVITIES:

Operational Considerations

Good Housekeeping

- Use seals or door skirts between vehicles and structures to prevent material exposure to rainfall.
- Contain and adsorb leaks during transfers and spillage from hose disconnections; dispose of residue properly.
- Avoid transferring materials in close proximity to storm drain inlets.
- Use drip pans under hoses.
- Transfer liquids only in paved areas. Portland cement paving should be used if the liquid is asphalt reactive.
- Provide contractors and haulers with copies of pertinent BMPs. Require contractors/haulers adherence to BMP specifications.
- Consider contracting maintenance operations for material handling equipment. Designate an appropriate area for contractors to perform maintenance activities. Verify proper waste disposal practices of contractors.

Physical Site Usage

- Protect all loading/unloading activities from rainfall, run-on and wind dispersal to the maximum extent practicable. Viable options include conducting loading/unloading under existing cover, or moving indoors.
- Position tank trucks or delivery vehicles so that possible spills or leaks can be contained.

TARGETED ACTIVITIES

Cargo Handling

Fuel Storage

Chemical Storage

Equipment Storage

TARGETED POLLUTANTS

Fuel

Pesticides/ Herbicides/ Fertilizers

Oil and Grease

Solvents/Cleaning Solutions

Battery Acid

KEY APPROACHES

Conduct loading/ unloading under cover

Transfer materials in paved areas, away from storm drain inlets

Contain and absorb leaks/spills that occur during material transfer

LOS ANGELES WORLD AIRPORTS

SC6	OUTDOOR MATERIAL HANDLING

Structural Controls

- Cover loading/unloading areas/docks to reduce exposure of materials to rain. Construct roofing structure over material handling area, or move indoors.
- Consider relocating storm drain inlets in areas away from fuel hydrants.

Maintenance

- Conduct berm repair and patching.
- Inspect, clean and maintain oil/water separators.

Contingency Response

- Maintain adequate supplies of spill response equipment and materials in accessible locations near areas where spills may be likely to occur.
- Include spill kits on appropriate material handling vehicles and equipment.

Inspection and Training

- Conduct regular inspections and make repairs as necessary.
- Check loading/unloading equipment (valves, pumps, flanges, and connections) regularly for leaks.
- Develop and implement a written operations plan which describes loading/unloading procedures.
- Provide proper training for material handling equipment operators.
- Provide the appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention education (see SC-10 for storm water pollution education approaches), right-to-know awareness training, and hazardous materials management.

REQUIREMENTS:

- Capital and O&M costs should be low except when covering large loading/unloading areas.

LIMITATIONS:

- Space and time limitations may preclude the indoor or covered transfer of cargo and materials.

RELEVANT RULES AND REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 110.3 Discharge of Oil
.40 CFR 112 Oil Pollution Prevention (SPCC/OPA Plans)
.40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
.40 CFR 122-124 NPDES Regulations for Storm water Discharges

LOS ANGELES WORLD AIRPORTS

SC7 OUTDOOR STORAGE OF SIGNIFICANT MATERIAL

PURPOSE:

Prevent or reduce the discharge of pollutants to storm water from outdoor storage areas for significant material (e.g., fuels, chemicals, bagged material on pallets, soils or asphalt material bulk storage, deicing compounds, etc.).

APPROACH TO FUTURE FACILITIES AND UPGRADES:

Design of New Facilities and Existing Facility Upgrades

- Require the use of appropriate water quality control structures for fuel and chemical storage areas such as detention/retention basins and sumps. Develop appropriate minimum performance standards for these water quality control structures and implement a reporting program to monitor the performance and maintenance of these structures.
- Chemical, fuel, and oil dispensing (non-aircraft) areas should be covered, if possible.
- Develop standard guidelines for the management of storm water which collects in secondary containment areas.

APPROACH TO EXISTING FACILITY ACTIVITIES:

Operational Considerations

Good Housekeeping

- Avoid dispensing from drums positioned horizontally in cradles. Dispensing materials from upright drums equipped with hand pumps is preferred. Always use drip pans and self closing spigots if dispensing from horizontally positioned drums.
- Store drums and containers on pallets or other structures to keep the container out of contact with storm water.
- Use drum lids to prevent rainfall from washing materials and drippage from the top of containers to the storm drain system.
- Discharge collected storm water from secondary containment areas according to guidelines developed by the federal government and applicable state and local regulations.
- Store all materials in their original containers or containers approved for that use. Ensure that all containers are appropriately sealed. Store empty containers indoors or under cover or move them off-site.

TARGETED ACTIVITIES

Aircraft/Vehicle/ Equipment Maintenance

Aircraft/Vehicle Fueling

Fuel/Chemical/ Equipment Storage

Cargo Handling

TARGETED POLLUTANTS

Fuel

Solvents/Cleaning Solutions

Deicing/Anti-Icing Fluids

KEY APPROACHES

Store materials indoors or under cover

Store drums/ containers on pallets

Provide berming or secondary containment

Develop/implement an SPCC, if required

Perform and document periodic inspections

LOS ANGELES WORLD AIRPORTS

SC7 OUTDOOR STORAGE OF SIGNIFICANT MATERIAL

REQUIREMENTS:

- Capital and O&M costs will vary widely depending on the size of the facility and the necessary controls. Costs associated with on-site detention/retention facilities could be high.

LIMITATIONS:

- Storage structures must meet local building and applicable local Uniform Fire Code (UFC) requirements. However, spills and releases are frequently caused by improper handling rather than structural deficiencies.

RELEVANT RULES AND REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 110.3 Discharge of Oil
.40 CFR 112 Oil Pollution Prevention (SPCC/OPA Plans)
.40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
.40 CFR 122-124 NPDES Regulations for Storm Water Discharges
.40 CFR 401 Effluent Limitation Guidelines

LOS ANGELES WORLD AIRPORTS

SC8 WASTE/GARBAGE HANDLING AND DISPOSAL

PURPOSE:

Prevent or reduce the discharge of pollutants to storm water from waste handling and disposal by tracking waste generation, storage, and disposal; reducing waste generation and disposal through source reduction, re-use, and recycling; and preventing run-on and runoff from waste management areas, including garbage collection areas.

APPROACH TO FUTURE FACILITIES AND UPGRADES:

Design of New Facilities and Existing Facility Upgrades

- If possible, avoid the following characteristics when examining candidate sites for storing wastes:
  - Excessive slope.
  - High water table.
  - Locations near storm drain inlets.
  - Locations near public access areas.
- Waste handling and storage areas should be covered, if possible.
- Develop standard guidelines for the management of storm water which collects in secondary containment areas.
- Incorporate sanitary sewer drains into bermed, outdoor, non-hazardous waste storage areas, if approved by the local wastewater treatment agencies/regulations.

APPROACH TO EXISTING FACILITY ACTIVITIES:

Operational Considerations

Good Housekeeping

- Perform regular housekeeping activities in waste storage areas and surroundings.
- Recycle materials whenever possible.
- Inspect waste management areas for spills and waste management containers for leaks.
- Ensure that sediments and wastes are prevented from being washed, leached, or otherwise carried off-site.

TARGETED ACTIVITIES

Fuel/Chemical Storage

Painting/Stripping

Garbage Collection

TARGETED POLLUTANTS

Oil and Grease

Vehicle Fluids

Solvents/Cleaning Solutions

Dumpster Wastes

KEY APPROACHES

Cover waste storage areas

Recycle materials

Regularly inspect and clean waste storage areas

Berm waste storage areas to prevent contact with run-on or runoff

Perform dumpster cleaning in designated areas

Properly dispose of all fluids

SC8 WASTE/GARBAGE HANDLING AND DISPOSAL

Good Housekeeping (contd)

- Schedule waste pickup as frequently as necessary to keep storage of waste to a minimum and to avoid overloaded/overfilled disposal containers.
- Minimize spills and fugitive losses such as dust or mist from loading areas.
- Maintain a minimal inventory of required chemicals to reduce the magnitude of potential spills and limit waste generation.
- Track waste generated:
  - Characterize waste streams.
  - Evaluate the process generating the waste.
  - Prioritize the waste streams using: manifests, bills of lading, biennial reports, permits, environmental audits, SARA Title III reports, emission reports, Material Safety Data Sheets (MSDS), NPDES discharge monitoring reports.
  - Inventory reports.
  - Data on chemical spills.
  - Emissions.
- Find substitutes for harmful chemicals; properly dispose of unusable chemical inventory.

Physical Site Usage

- Segregate and separate wastes.
- Avoid locating waste handling and storage in areas with storm drain inlets/catch basins.
- Locate waste storage areas beneath existing cover, if possible.

Structural Controls

- Enclose or berm waste storage areas, if possible, to prevent contact with run-on or runoff.

Garbage Collection Areas

- Design facilities to provide shelter and secondary containment for dumpsters.
- Use covered dumpsters and keep them closed and locked.
- Use only dumpsters with plugged drain holes to prevent leaks from waste materials.
- Do not dispose of liquid wastes such as oils or hazardous materials into dumpsters.
- Perform dumpster cleaning in designated areas that are bermed to contain wash water for a subsequent disposal or discharge to the sanitary sewer. Ramp scrubbers are effective in removing wash water from paved areas. Dispose of or recycle all fluids collected.

Contingency Response

- Maintain adequate supplies of spill response equipment and materials in accessible locations near areas where spills may be likely to occur.
- Equip waste transport vehicles with spill containment equipment.

LOS ANGELES WORLD AIRPORTS

SC8	WASTE/GARBAGE HANDLING AND DISPOSAL

Inspection and Training

- Provide the appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention education (see SC-10 for storm water pollution education approaches), right-to-know awareness training, and hazardous materials management.
- Perform and document in a log book periodic inspections of hazardous and non-hazardous waste storage areas. Inspection items should include the following:
  - Check for external corrosion and structural failure.
  - Check for spills and overfills due to operator failure.
  - Check for failure of piping system (pipes, pumps, flanges, couplings, hoses, and valves).
  - Check for leaks or spills during pumping of liquids or gases.
  - Visually inspect new tanks or containers for loose fittings, poor welds, and improper or poorly fitted gaskets.
  - Inspect tank foundations and storage area coatings.
  - Inspect dumpster areas for signs of leakage.

REQUIREMENTS:

- Capital and O&M costs for these programs will vary substantially depending on the size of the facility and the types of wastes handled.

LIMITATIONS:

- Hazardous waste that cannot be re-used or recycled must be disposed of by a licensed hazardous waste hauler.

RELEVANT RULES AND REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 110.3 Discharge of Oil
.40 CFR 112 Oil Pollution Prevention (SPCC/OPA Plans)
.40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
.40 CFR 122-124 NPDES Regulations for Storm water Discharges
.40 CFR 401 Effluent Limitation Guidelines

LOS ANGELES WORLD AIRPORTS

SC9 BUILDING AND GROUNDS MAINTENANCE

PURPOSE:

Prevent or reduce the discharge of pollutants to storm water from building and grounds maintenance by washing and cleaning up with as little water as possible, preventing and cleaning up spills immediately, keeping debris from entering storm drains, and maintaining the storm water collection system.

APPROACH TO FUTURE FACILITIES AND UPGRADES:

Design of New Facilities and Existing Facility Upgrades

- Incorporate areas of landscape into project design. Landscape areas are pervious and will result in less runoff discharge from a site.
- Incorporate design considerations such as leaving or planting native vegetation to reduce irrigation, fertilizer, and pesticide needs.
- Select landscaping plants which require little maintenance and/or pest control.
- Incorporate storm water detention/retention to reduce peak runoff flows and for water quality control.

APPROACH TO EXISTING FACILITY ACTIVITIES:

Operational Considerations

Good Housekeeping

- Collect outdoor washdown water and properly dispose of it through a permitted connection to the sanitary sewer. Approval from treatment facility required for discharge.
- Clean any catch basins that receive runoff from maintenance areas on a regular basis. Use a vacuum truck to remove accumulated materials. Do not simply flush wastes into the storm drain system.
- Minimize use of pesticides, herbicides, and fertilizers. Use according to directions. Seek less harmful/toxic products to replace ones currently used.
- Utilize integrated pest management where appropriate.
- Properly dispose of landscape waste, wash water, sweepings, and sediments.
- Regularly clean paved surfaces that are exposed to industrial activity. Use A “dry” cleaning techniques, such as sweeping, whenever possible.

TARGETED ACTIVITIES

Building Maintenance

Grounds Maintenance

TARGETED POLLUTANTS

Pesticides/Herbicides/ Fertilizers

Oil and Grease

Sediment

Landscape Waste

KEY APPROACHES

Keep paved surfaces cleaned and swept

Clean catch basins regularly using vacuum trucks

Manage use of pesticides/herbicides/ fertilizers

LOS ANGELES WORLD AIRPORTS

SC9	BUILDING AND GROUNDS MAINTENANCE

Structural Controls
- Provide landscaped areas where erosion is becoming a problem.

Contingency Response
- Maintain adequate supplies of spill response equipment and materials in accessible locations near areas where spills may occur.

Inspection and Training
- Provide the appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention education (see SC-10 for storm water pollution education approaches), right-to-know awareness training, and hazardous materials management.

REQUIREMENTS:

- Costs will vary depending on the type and size of the facility. Costs of on-site storm water detention/retention facility could be high.

LIMITATIONS:

- Alternative pest/weed controls may not be available, suitable, or effective in every case.

RELEVANT RULES AND REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substances
.40 CFR 122-124 NPDES Regulations for Storm Water Discharges
.40 CFR 401 Effluent Limitation Guidelines

LOS ANGELES WORLD AIRPORTS

SC10 STORM WATER POLLUTION PREVENTION EDUCATION

PURPOSE:

Prevent or reduce the discharge of pollutants to storm water from activities through implementing an education program targeting employees, vendors, and the public.

APPROACH TO FUTURE FACILITIES AND UPGRADES:

Design of New Facilities and Existing Facility Upgrades

- Work early on with design and construction engineers, and local storm water authorities to incorporate proactive storm water management features into projects such as decreased impervious areas, infiltration BMPs, biofilters, oil/water separators, etc.
- Inform all construction contractors of their responsibility to comply with adopted BMPs and with regulations prohibiting cross connections between sanitary sewers and storm drains. Provide contractors and subcontractors with copies of relevant BMPs during specification and bidding phases.

APPROACH TO EXISTING FACILITY ACTIVITIES:

Contingency Response

- Provide adequate implementation training for facilities with a Spill Prevention Control and Countermeasure (SPCC) Plan, if required developed under guidelines set forth in 40 CFR, Section 112.3(a), (b).
- Adequately train employees in the use of spill response equipment and materials.

Inspection and Training

- Perform and document in a logbook frequent inspections of work areas, waste storage facilities, maintenance areas, and contractor projects to examine compliance with BMPs. Follow up with additional training or enforcement as required. Incorporate inspection findings into subsequent training efforts.

- Design storm water pollution education programs to contain the following elements:
  - Promote the proper storage, use, and disposal of landscape maintenance chemicals and other potentially harmful chemicals.
  - Promote the use of safer alternative products such as: short-lived pesticides, non-chlorinated solvents, water-based paints, non-aerosol products.
  - Encourage the use of "dry" washing processes for aircraft, vehicles, and equipment.

TARGETED ACTIVITIES

All Maintenance
All Fueling
All Washing
Equipment Cleaning
Cargo Handling
All Storage
Painting/Stripping
Floor Washdowns
Aircraft Deicing/Anti-Icing
Garbage Collection
Aircraft Lavatory Service
Fire Fighting Equip. Testing
Potable Water System Flush.
Runway Rubber Removal

TARGETED POLLUTANTS

Oil and Grease
Vehicle Fluids
Fuel
Solvents/Cleaning Sol.
Deicing/Anti-Icing Fluid
Battery Acid
Pesticides/Herbicides/ Fertilizers
Paint
Aircraft Fire Fighting Foam
Metals
Dumpster Wastes
Sediment
Landscape Waste
Floatables
Lavatory Chem. Wastes
Potable Water System Chemicals
Rubber Particles

KEY APPROACHES

Perform inspections and enforcement
Provide training for employees
Promote education of vendors/public

SC 10 STORM WATER POLLUTION PREVENTION EDUCATION

Inspection and Training (contd)

- Design storm water pollution education programs to contain the following elements:
  - Encourage efficient and safe housekeeping practices in industrial activity areas.
  - Increase awareness of the detrimental environmental impacts that result when fuel, antifreeze, pesticides, lubricants, detergents, paints and other wastes are dumped onto the ground or into storm drains.
  - Promote source reduction and recycling of waste materials.
  - Increase awareness of possible penalties and fines associated with discharge of pollutants into storm drains.
  - Increase awareness of what is and what is not allowed to enter storm drains. Provide a mechanism for violations to be reported.

REQUIREMENTS:

- Capital and O&M costs are minimal for educational programs.
- Educational programs need to be ongoing. Information and training must be disseminated at regular intervals.

LIMITATIONS:

- The success of educational programs is difficult to measure. Acceptance and awareness are critical factors.

RELEVANT RULES AND REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 110.3 Discharge of Oil
.40 CFR 112 Oil Pollution Prevention (SPCC/OPA Plans)
.40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
.40 CFR 122-124 NPDES Regulations for Storm Water Discharges
.40 CFR 401 Effluent Limitation Guidelines

LOS ANGELES WORLD AIRPORTS

SC11 LAVATORY SERVICE OPERATIONS

PURPOSE:

Eliminate discharges to the storm drain system associated with ground servicing of aircraft lavatory facilities. The sanitary sewage and associated rinse waters produced during the servicing of aircraft lavatory facilities must be discharged to a wastewater treatment facility under appropriate permitting. Trucks or trailers equipped with bulk storage tanks are typically used to service lavatory facilities. Non-storm water discharges and residuals associated with servicing these facilities can be classified as follows:

- Discharges and residuals associated with diluting and mixing the surfactants and disinfectants used for servicing lavatory facilities.
- Discharges and residuals associated with transferring materials from the aircraft.
- Discharges and residuals associated with transporting and disposing materials to the sanitary sewer system.

APPROACH TO FUTURE FACILITIES AND UPGRADES:

Design of New Facilities and Existing Facility Upgrades

- If possible, design triturator facilities to be covered, with low roll-over type berming.
- Include a source of water at the triturator for clean up of lavatory service equipment.
- Coordinate permitting of the triturator sanitary sewer connection through the local storm water and sanitary sewering agencies.
- Triturator facilities should not be located near storm drains.

APPROACH TO EXISTING FACILITY ACTIVITIES:

Operational Considerations

- Do not discharge lavatory waste to sanitary sewer connections other than triturator facilities. Other industrial-type connections may be equipped with bypass gates which, if improperly maintained or defective, may discharge to the storm water collection system.
- Drain the aircraft connecting hose as completely as possible into the storage tank after servicing an aircraft. Properly secure all hoses, valves, and equipment when transporting waste to eliminate leakage and spills.
- Use only surfactants and disinfectants approved for discharge to the sanitary sewer system. Do not discharge or rinse other unapproved chemicals or materials into the triturator facility. Any change in the chemicals used in aircraft lavatory service operations must be approved by LAWA.

TARGETED ACTIVITIES

Aircraft Lavatory Service

Lavatory Truck Cleanout/ Backflushing

TARGETED POLLUTANTS

Lavatory Chemicals

Lavatory Waste

Lavatory Truck Wash Water

KEY APPROACHES

Do not discharge lavatory waste to sanitary sewer connections other than triturator facilities

Utilize buckets or pans to capture drippage from aircraft lavatory access fittings

Do not perform lavatory truck cleanout/backflushing at any location other than triturator facilities

Carry absorbent and other containment equipment on the lavatory service equipment

SC11	LAVATORY SERVICE OPERATIONS

Operational Considerations (contd)

- If possible, perform surfactant/disinfectant mixing and transfers in the triturator area or under cover. This will allow the rinsing of minor spills and splashes to enter the sanitary sewer system.
- Do not perform lavatory truck cleanout/back flushing at any location other than triturator facilities.
- Utilize buckets or pans to capture drippage from aircraft lavatory access fittings. Immediately dump the drippage into the bulk storage tank on the service cart or truck.
- Carefully handle chemicals and chemical concentrates. Immediately collect dry chemicals or absorb liquid chemicals for proper disposal. Do not hose down spills unless the discharge enters the sanitary sewer system through a permitted connection (triturator facility).
- Practice good housekeeping techniques at the triturator facility. Immediately clean spills of wastes and chemicals.

Contingency Response

- Carry absorbent and other containment equipment on the lavatory service equipment.
- Maintain adequate supplies of spill response equipment and materials in accessible locations near areas where spills may be likely to occur.

Inspection and Training

- Perform regular inspections of the hose and fittings used for transferring lavatory waste. Keep the equipment in good working order. Replace worn equipment before leaks develop. Notify appropriate ground service personnel if it is noticed that the aircraft lavatory fittings require maintenance.
- Provide the appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention education (see SC-10 for storm water pollution education approaches), right-to-know awareness training, and hazardous materials management.

REQUIREMENTS:

- Costs associated with the elimination of discharges resulting from aircraft lavatory servicing are generally low. Most management practices are based on careful material handling, good housekeeping, and awareness of maintenance requirements.

LIMITATIONS:

- Facilities may have a limited number of permitted sanitary sewer access points (triturator facilities) for a large quantity of lavatory service equipment.

RELEVANT RULES AND REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
.40 CFR 122-124 NPDES Regulations for Storm Water Discharges
.40 CFR 401 Effluent Limitation Guidelines

LOS ANGELES WORLD AIRPORTS

SC12 OUTDOOR WASHDOWN/SWEEPING

PURPOSE:

Prevent or reduce the discharge of pollutants to storm water from outdoor washdown and sweeping operations.

APPROACH TO FUTURE FACILITIES AND UPGRADES:

Design of New Facilities and Existing Facility Upgrades

- Consider contracting apron washing/sweeping services. Using appropriate contractors will decrease waste handling responsibilities. Inform contractors of their responsibilities regarding proper disposal of sweeper and scrubber waste. Supply contractors with pertinent BMPs and operating specifications. Follow up with contractor inspections frequently.
- Incorporate appropriate waste receiving facilities for sweepers and washing equipment. Coordinate sanitary sewer connection permitting through the local sanitary sewering agency.
- Incorporate oil/water separators or other water quality devices into project designs.
- Consider incorporating gate valves in areas where apron washing will occur. The gate valves will direct wash water to the sanitary sewer in dry weather and will direct storm water to the storm drain system during wet weather. Mechanical devices should be incorporated to ensure that valves are not left open (to sanitary sewer) during wet weather. Coordinate permitting and connections through the local sanitary sewering agency.
- Employ berms to minimize run-on to other areas.

APPROACH TO EXISTING FACILITY ACTIVITIES:

Operational Considerations

- Collect and discharge wash water to the sanitary sewer system through a permitted connection.
- Use designated and approved discharge facilities to dispose of waste derived from apron/ramp cleaning.
- Use "dry" sweeping techniques where feasible.
- Dispose of sweepings in an appropriate manner.
- Conduct berm repair and patching.
- Inspect, clean and maintain sumps and oil/water separators.

TARGETED ACTIVITIES

Apron Washing

Ramp Scrubbing

Outdoor Washdown

TARGETED POLLUTANTS

Oil and Grease

Solvents/Cleaning Solutions

Fuel

Aircraft Fire Fighting Foam

Deicing/Anti-Icing Fluids

Sediment

Floatables

KEY APPROACHES

Collect and discharge wash water to the sewer

Use "dry" sweeping techniques

Dispose of sweepings

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SC12	OUTDOOR WASHDOWN/SWEEPING

Contingency Response

- Maintain adequate supplies of spill response equipment and materials in accessible locations near areas where spills may be likely to occur.

Inspection and Training

- Provide the appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention education (see SC-10 for storm water pollution education approaches), right-to-know awareness training, and hazardous materials management.
- Develop regular maintenance and inspection programs for oil/water separators. Document inspections and maintenance in a log book.
- Characterize wastes derived from oil/water separators. Dispose of these wastes properly and provide appropriate employee training.

REQUIREMENTS:

- Capital costs vary depending on measures implemented.
  - LOW COST: $500-1,000 for berm construction.
  - MEDIUM COST: $5,000-20,000 for plumbing modification (including re-routing discharge to the sanitary sewer and installing a simple sump).
- O&M costs increase with increasing capital investment:

LIMITATIONS:

- Some wastewater agencies may require pretreatment and monitoring of wash water discharges derived from apron washing to the sanitary sewer.

RELEVANT RULES AND REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 110.3 Discharge of Oil
.40 CFR 122-124 NPDES Regulations for Storm Water Discharges
.40 CFR 401 Effluent Limitation Guidelines

LOS ANGELES WORLD AIRPORTS

SC13 FIRE FIGHTING FOAM DISCHARGE

PURPOSE:

Eliminate discharges to the storm drain system associated with flushing or testing of fire fighting foam systems.

APPROACH TO FUTURE FACILITIES AND UPGRADES:

Design of New Facilities and Existing Facility Upgrades

- Design testing facility with the following characteristics:
  - Located away from storm drain inlets, drainage facilities or water bodies.
  - Paved with concrete or asphalt, or stabilized with an aggregate base.
  - Bermed to contain foam and to prevent run-on.
  - Configure discharge area with a sump to allow collection and disposal of foam.
- Discharge foam waste to a sanitary sewer. Foam waste shall not be discharged to storm drains or water bodies.

APPROACH TO EXISTING FACILITY ACTIVITIES:

Operational Considerations

- Perform fire fighting foam testing operations only in areas designated by LAWA as appropriate for such activities.
- Properly dispose of, or recycle, foam discharge.
- Service sump regularly.
- Conduct berm repair and patching.
- Inspect, clean, and maintain sumps.

Contingency Response

- Maintain adequate supplies of spill response equipment and materials in accessible locations near area of activity.

Inspection and Training

- Inspect testing facility weekly or monthly, depending on frequency of use.
- Provide the appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention education (see SC-10 for storm water pollution education approaches), right-to-know awareness training, and hazardous materials management.

TARGETED ACTIVITIES

Fire Fighting Equipment Testing

Fire Fighting Equipment Flushing

TARGETED POLLUTANTS

Aircraft Fire Fighting Foam

KEY APPROACHES

Perform testing operations in designated areas

Properly dispose of, or recycle, foam discharge

Service sump regularly

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SC13	FIRE FIGHTING FOAM DISCHARGE

REQUIREMENTS:

- Capital costs vary depending on measures implemented.
  - LOW COST: $500-1,000 for berm construction.
  - MEDIUM COST: $5,000-20,000 for plumbing modifications (including re-routing discharge to the sanitary sewer and installing a simple sump.
- O&M costs increase with increasing capital investment.

LIMITATIONS:

- Some wastewater agencies may require pretreatment and monitoring of this type of discharge to the sanitary sewer.

RELEVANT RULES AND REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 122-124 NPDES Regulations for Storm water Discharges
.40 CFR 401 Effluent Limitation Guidelines

LOS ANGELES WORLD AIRPORTS

SC14 POTABLE WATER SYSTEM FLUSHING

Purpose:

Eliminate discharges to the storm drain system associated with flushing of aircraft potable water systems.

APPROACH TO FUTURE FACILITIES AND UPGRADES:

Design of New Facilities and Existing Facility Upgrades

- Design water truck flushing area with the following characteristics:
  - Located away from storm drain inlets or drainage facilities.
  - Paved with concrete or asphalt, or stabilized with an aggregate base.
  - Bermed to contain wastewater and to prevent run-on.
  - Configure discharge area with a sump to allow collection and disposal of water.
- Discharge water to a permitted sanitary sewer connection. Waste water shall not be discharged to storm drains.

APPROACH TO EXISTING FACILITY ACTIVITIES:

Operational Considerations

- Perform water truck flushing operations only in designated areas, designed with berms to prevent run-on and runoff. Do not perform flushing near storm drains.
- Collect all discharge from aircraft potable water flushing or water truck flushing containing Purine, chlorine bleach or other chemicals and properly discharge to a permitted sanitary sewer connection, or recycle the water.
- Conduct berm repair and patching.
- Inspect, clean and maintain sumps and on-site treatment and recycling units.

Contingency Response

- Maintain adequate supplies of spill response equipment and materials in accessible locations near area of activity.

TARGETED ACTIVITIES

Aircraft potable water system cleaning and flushing
Water truck cleaning and flushing

TARGETED POLLUTANTS

Purine

Chlorine Bleach

KEY APPROACHES

Perform water truck flushing in designated areas only

Collect all discharge from aircraft potable water flushing or water truck flushing and discharge to a permitted sanitary sewer connection

Do not discharge water to the ground or storm drain sanitary sewer connection

LOS ANGELES WORLD AIRPORTS

SC14	POTABLE WATER SYSTEM FLUSHING

Inspection and Training

- Provide the appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention education (see SC-10 for storm water pollution educational approaches), right-to-know awareness training, and hazardous materials management.
- Monitor flushing operations regularly to ensure that proper collection and disposal of discharge is being performed.

REQUIREMENTS:

- Capital costs are low for implementation of collection system for aircraft potable water flushing.
- For new facility, capital costs vary depending on measures implemented.
  - LOW COST: $500-1,000 for berm construction.
  - MEDIUM COST: $5,000-20,000 for plumbing modifications (including re-routing discharge to the sanitary sewer and installing a simple sump.
  - HIGH COST: $30,000-150,000 for on-site treatment and recycling.
  -

LIMITATIONS

- Some wastewater agencies may require pretreatment and monitoring of this type of discharge to the sanitary sewer.

RELEVANT RULES AND REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 122-124 NPDES Regulations for Storm Water Discharges
.40 CFR 401 Effluent Limitation Guidelines

LOS ANGELES WORLD AIRPORTS

SC15 RUNWAY RUBBER REMOVAL

PURPOSE:

Eliminate discharges to the storm drain of particulate rubber generated by runway rubber removal activities.

APPROACH TO FUTURE FACILITIES AND UPGRADES:

Design of New Facilities and Existing Facility Upgrades

- Design runway storm drain culverts to allow placement of particulate capture devices, such as hay bales or filter fabric that will capture rubber and dirt particles generated during periodic runway rubber removal activities.

APPROACH TO EXISTING FACILITIES ACTIVITIES:

Operational Considerations

- Place devices that will capture rubber particulates, such as haybales or filter fabric, over storm drain culverts or at other areas that will capture rubber particulates generated during periodic runway rubber removal activities.
- Use manual or mechanical cleaning methods (ordinary mechanical street sweepers) to remove rubber particulates from the runway and adjacent paved areas after periodic runway rubber removal activities.

Inspection and Training

- Provide the appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention education (see SC-10 for storm water pollution education approaches), right-to-know awareness training, and hazardous materials management.
- Inspect storm drain culverts or runway drainage areas after runway rubber removal activities.

REQUIREMENTS:

- Capital and O&M costs should be low.
- Maintenance costs should be low

TARGETED ACTIVITIES

Runway Rubber Removal

TARGETED POLLUTANTS

Rubber particles

Dirt particles

KEY APPROACHES

Use haybales or filter fabric over culverts

Use manual or mechanical cleaning methods (e.g., street sweepers) to remove particulates following normal removal process

LIMITATIONS:

Runway drainage patterns may not be suitable for the collection of rubber particulates in wash water run-off.

RELEVANT RULES AND REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 122-124 NPDES Regulations for Storm Water Discharges

LOS ANGELES WORLD AIRPORTS

TC1 OIL/WATER SEPARATORS

PURPOSE:

Oil/Water separators are baffled chambers designed to remove petroleum compounds and grease from storm water. Oil/water separators also remove
floatable debris and settled solids (sediment).

APPROACH TO FUTURE FACILITIES AND UPGRADES:

Design of New Facilities and Existing Facility Upgrades

Oil/water separators are typically used in areas where the concentrations of petroleum hydrocarbons, floatables, or sediment may be abnormally high and source control techniques are not very effective. There are two types of oil/water separators: the American Petroleum Institute (API) separator and the coalescing plate separator (CPS). Design, sizing, and placement of oil/water separators is dependent on several factors including: tributary area, type of activity, pollutant type and concentration, and water temperature. General sizing guidelines for API separators include the following:

- Horizontal velocity: 3 feet per minute.
- Depth of 3 to 8 feet.
- Depth-to-width ratio of 0.3 to 0.5.
- Width of 6 to 16 feet.
- Baffle height-to-depth ratios of 0.85 for top baffles and 0.15 for bottom baffles.

CPS separator sizing is more complex. Sizing calculations require the inclusion of information such as packing plate surface areas and plate angles. CPS separators can, due to their packed plate design, remove the same quantities of oils and greases while occupying less space than API separators.

APPROACH TO EXISTING FACILITIES ACTIVITIES:

Operational Considerations

- Separators must be inspected and cleaned frequently for accumulated oil, grease, floating debris and sediments to be effective storm water quality controls.
- Oil absorbent pads are to be replaced as needed, but will always be replaced prior to the wet season.

TARGETED ACTIVITIES

Aircraft/Vehicle/ Equipment Maintenance

Aircraft/Vehicle/ Equipment Fueling

Aircraft/Vehicle/ Equipment Washing

Equipment Maintenance/ Degreasing

Fuel/Chemical Storage

Cargo Handling

TARGETED POLLUTANTS

Oil and Grease

Fuel

Floatables

Sediment

KEY APPROACHES

Frequently inspect and clean separators

Replace absorbent pads as needed

TC1	OIL/WATER SEPARATORS

Operational Considerations (continued):

- The effluent valve will be closed during cleaning operations.
- Any standing water removed during the cleaning operation must be disposed of in accordance with federal, state, and local requirements.
- Any standing water removed during the cleaning operation must be replaced with clean water to prevent oil carry-over through the outlet.

Contingency Response

- Maintain adequate supplies of spill response equipment and materials in accessible location near areas where spills may be likely to occur.

Inspection and Training

- Provide the appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention education (see SC-10 for storm water pollution education approaches), right-to-know awareness training, and hazardous materials management.
- Perform and document in a log book all inspections and maintenance operations
- Develop a written operating, sampling and reporting procedure under local storm water authority guidelines. Train appropriate employees to implement these procedures.

REQUIREMENTS:

- Capital and O&M costs should be low.

LIMITATIONS:

- Oil/water separator installations should be designed and installed by experienced individuals. Little data on the characteristics of petroleum hydrocarbons in storm water leads to considerable uncertainty about separator performance.

RELEVANT RULES AND REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 110.3 Discharge of Oil
.40 CFR 112 Oil Pollution Prevention (SPCC/OPA Plans)
.40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
.40 CFR 122-124 NPDES Regulations for Storm Water Discharges

LOS ANGELES WORLD AIRPORTS

SR1 EMERGENCY SPILL CLEANUP PLANS

PURPOSE:

Prevent or reduce the discharge of pollutants to storm water resulting from petroleum products or other materials

GENERAL APPROACH:

Owners and operators of facilities that store, process, or refine oil or oil products may be required by federal law (40 CFR 112) to develop and implement a Spill Prevention Control and Countermeasure (SPCC) plan. Emergency spill cleanup plans should include the following information:

- A description of the facility including the owner's name and address, the nature of the facility activity, and the general types and quantities of chemicals stored at the facility.
- A site plan showing the location of storage areas for chemicals, the location of storm drains, site drainage patterns, fire water source locations, and the location and description of any devices used to contain spills such as positive shut-off control valves.
- Notification procedures to be implemented in the event of a spill, such as key company personnel and local, state, and federal agencies.
- Instructions regarding cleanup procedures
- Designated personnel with overall spill response cleanup responsibility.

APPROACH TO EXISTING FACILITY ACTIVITIES:

Operational Considerations

- **Post a summary of the plan at appropriate site locations, identifying the spill cleanup coordinators, location of cleanup equipment, and phone numbers of regulatory agencies to be contacted in the event of a spill.**
- **Maintain an inventory of appropriate cleanup materials on-site and strategically deploy cleanup materials based on the type and quantities of chemicals present.**
- **Make absorbent readily available in the fueling areas**

Contingency Response

- Perform the following notifications in the event of a spill:
  - Fire Department
  - Local Health Department
  - State Office of Emergency Services
  - National Response Center – if spill exceeds reportable quantity (RQ)
- Containment and cleanup of spills shall begin immediately

TARGETED ACTIVITIES

Aircraft/Vehicle/ Equipment Maintenance
Aircraft/Vehicle/ Equipment fueling
Aircraft/Vehicle/ Equipment Washing
Cargo Handling
Fuel/Chemical Storage
Equipment Degreasing

TARGETED POLLUTANTS

Fuel

Vehicle Fluids/Oils

Solvent/Cleaning Solutions

Pesticides/herbicides/ Fertilizers

Battery Acid

KEY APPROACHES

Develop/implement SPCC, if required

SPCC implementation training

Immediate containment/cleanup of spills

Availability of spill response equipment/materials

Required Agency Notification

LOS ANGELES WORLD AIRPORTS	
SR1	**EMERGENCY SPILL CLEANUP PLANS**

Inspection and Training

- Provide formal training in plan execution to key personnel, with additional training for first responder level personnel (29 CFR 1910.120). All employees should have basic knowledge of spill control procedures.

REQUIREMENTS:

- Capital and OEM costs should be small to moderate depending on the types and quantities of chemicals stored on-site.
- Maintenance costs include periodic training and equipment replacement.

LIMITATIONS:

- Spills occurring after work hours in confined areas may go undetected until they impact off-site areas.

RELEVANT RULES AND REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 110.3 Discharge of Oil
.40 CFR 122 Oil Pollution Prevention (SPCC/OPA Plan)
.40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
.40 CFR 122-124 NPDES Regulations for Storm Water Discharges

Contaminated or Erodible Areas SC-40

Description

Areas within an industrial site that are bare of vegetation or are subject to activities that promote the suppression of vegetation are often subject to erosion. In addition, they may or may not be contaminated from past or current activities. If the area is temporarily bare because of construction, see SC-42 Building Repair, Remodeling, and Construction. Sites with excessive erosion or the potential for excessive erosion should consider employing the soil erosion BMPs identified in the Construction BMP Handbook. Note that this fact sheet addresses soils that do not exceed hazardous waste criteria (see Title 22 California Code of Regulations for Hazardous Waste Criteria).

Approach

Reduce potential for pollutant discharge through source control pollution prevention and BMP implementation. Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

General Pollution Prevention Protocols

Implement erosion and sediment control BMPs to stabilize soils and reduce pollutant discharges from contaminated or erodible surfaces.

Erosion and Sediment Controls

- ☐ Preserve natural vegetation whenever possible. See also EC-2 Preservation of Existing Vegetation, in the Construction BMP Handbook.
- ☐ Analyze soil conditions.
- ☐ Remove contaminated soil and dispose of properly.
- ☐ Stabilize loose soils by re-vegetating whenever possible. See also EC-4 Hydroseeding, in the Construction BMP Handbook.

Objectives
■ *Cover*
■ *Contain*
■ *Educate*
■ *Reduce/Minimize*
■ *Product Substitution*

Targeted Constituents	
Sediment	✓
Nutrients	✓
Trash	
Metals	✓
Bacteria	✓
Oil and Grease	✓
Organics	✓

Minimum BMPs Covered	
Good Housekeeping	
Preventative Maintenance	
Spill and Leak Prevention and	
Material Handling & Waste Management	
Erosion and Sediment Controls	✓
Employee Training Program	✓
Quality Assurance Record Keeping	✓

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- Utilize non-vegetative stabilization methods for areas prone to erosion where vegetative options are not feasible. Examples include:
  - ✓ Areas of vehicular or pedestrian traffic such as roads or paths;
  - ✓ Arid environments where vegetation would not provide timely ground coverage, or would require excessive irrigation;
  - ✓ Rocky substrate, infertile or droughty soils where vegetation would be difficult to establish; and
  - ✓ Areas where vegetation will not grow adequately within the construction time frame.

  There are several non-vegetative stabilization methods and selection should be based on site-specific conditions. See also EC-16 Non-Vegetative Stabilization, in the Construction BMP Handbook.
- Utilize chemical stabilization when needed. See also EC-5 Soil Binders, in the Construction BMP Handbook.
- Use geosynthetic membranes to control erosion if feasible. See also EC-7 Geotextiles and Mats, in the Construction BMP Handbook.
- Stabilize all roadways, entrances, and exits to sufficiently control discharges of erodible materials from discharging or being tracked off the site. See also TC 1-3 Tracking Control, in the Construction BMP Handbook.
- Implement wind erosion control measures as necessary. See also WE-1 Wind Erosion Control, in the Construction BMP Handbook.

Employee Training Program

- Educate employees about pollution prevention measures and goals.
- Train employees how to properly install and maintain the erosion and sediment source control BMPs described above. Detailed information is provided in the Construction BMP Handbook.
- Use a training log or similar method to document training.

Quality Assurance and Record Keeping

- Keep accurate logs that document actions taken to maintain and improve the effectiveness of the erosion and sediment control BMPs described above.
- Keep accurate logs of spill response actions that document what was spilled, how it was cleaned up, and how the waste was disposed.
- Establish procedures to complete logs and file them in the central office.

Potential Capital Facility Costs and Operation & Maintenance Requirements

Facilities

- Many facilities do not have contaminated or erodible areas and will require no additional capital expenditures.
- For sites with contaminated or erodible areas, purchase and installation of erosion and sediment controls will require additional capital investments, and this amount will vary depending on site characteristics and the types of BMPs being implemented.
- Minimize costs by maintaining existing vegetation and limiting site operations on bare soils.

Maintenance

- The erosion and sediment control BMPs described above require periodic inspection and maintenance to remain effective. The cost of these actions will vary depending on site characteristics and the types of BMPs being implemented.
- Irrigation costs may be required to establish and maintain vegetation.

Supplemental Information

Stabilization of Erodible Areas

Preserving stabilized areas minimizes erosion potential, protects water quality, and provides aesthetic benefits. The most effective way to control erosion is to preserve existing vegetation. Preservation of natural vegetation provides a natural buffer zone and an opportunity for infiltration of stormwater and capture of pollutants in the soil matrix. This practice can be used as a permanent source control measure.

Vegetation preservation should be incorporated into the site. Preservation requires good site management to minimize operations on bare soils where vegetation exists. Proper maintenance is important to ensure healthy vegetation that can control erosion. Different species, soil types, and climatic conditions will require different maintenance activities such as mulching, fertilizing, liming, irrigation, pruning and weed and pest control.

The preferred approach is to leave as much native vegetation on-site as possible, thereby reducing or eliminating any erosion problem. However, assuming the site already has contaminated or erodible surface areas, there are four possible courses of action which can be taken:

- The area can be revegetated if it is not in use and therefore not subject to damage from site activities. In as much as the area is already devoid of vegetation, special measures are likely necessary. Lack of vegetation may be due to the lack of water and/or poor soils. The latter can perhaps be solved with fertilization, or the ground may simply be too compacted from prior use. Improving soil conditions may be sufficient to support the recovery of vegetation. Use process wastewater for irrigation if possible, and see the Construction BMP Handbook for further procedures on establishing vegetation.

- Watering trucks to prevent dust.

- Chemical stabilization can be used as an alternate method in areas where temporary seeding practices cannot be used because of season or climate. It can provide immediate, effective, and inexpensive erosion control. Application rates and procedures recommended by the manufacturer should be followed as closely as possible to prevent the products from forming ponds and creating large areas where moisture cannot penetrate the soil. See also EC-5, Soil Binders, in the Construction BMP Handbook for more information. Advantages of chemical stabilization include:

  - ✓ Applied easily to the surface;
  - ✓ Stabilizes areas effectively; and
  - ✓ Provides immediate protection to soils that are in danger of erosion.

- Contaminated soils should be cleaned up or removed. This requires determination of the level and extent of the contamination. Removal must comply with State and Federal regulations; permits must be acquired and fees paid.

- Non-vegetated stabilization methods are suitable for permanently protecting from erosion by water and wind. Non-vegetated stabilization should only be utilized when vegetation cannot be established due to soil or climactic conditions, or where vegetation may be a potential fire hazard.

  Examples of non-vegetative stabilization BMPs are provided below:

  - ✓ ***Decomposed Granite (DG) and Gravel Mulch*** are suitable for use in areas where vegetation establishment is difficult, on flat surfaces, trails and pathways, and when used in conjunction with a stabilizer or tackifier, on shallow slopes (i.e., 10:1 [H:V]). DG and gravel can also be used on shallow rocky slopes where vegetation cannot be established for permanent erosion control.
  - ✓ ***Degradable Mulches*** can be used to cover and protect soil surfaces from erosion both in temporary and permanent applications. In many cases, the use of mulches by themselves requires routine inspection and re-application. See EC-3 Hydraulic Mulch, EC-6 Straw Mulch, EC-8 Wood Mulch, or EC-14 Compost Blankets of the Construction BMP Handbook for more information.
  - ✓ ***Geotextiles and Mats*** can be used as a temporary stand-alone soil stabilization method. Depending on material selection, geotextiles and mats can be a short-term (3 months – 1 year) or long-term (1-2 years) temporary stabilization method. For more information on geotextiles and mats see EC-7 Geotextiles and Mats of the Construction BMP Handbook.
  - ✓ ***Rock Slope Protection*** can be used when the slopes are subject to scour or have a high erosion potential, such as slopes adjacent to flowing waterways or slopes subject to overflow from detention facilities (spillways).

- ✓ ***Soil Binders*** can be used for temporary stabilization of stockpiles and disturbed areas not subject to heavy traffic. See EC-5 Soil Binders for more information. References and Resources.

References and Resources

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Drainage System Maintenance SC-44

Description

As a consequence of its function, the stormwater drainage facilities on site convey stormwater that may contain certain pollutants either to the offsite conveyance system that collects and transports urban runoff and stormwater, or directly to receiving waters. The protocols in this fact sheet are intended to reduce pollutants leaving the site to the offsite drainage infrastructure or to receiving waters through proper on-site conveyance system operation and maintenance. The targeted constituents will vary depending on site characteristics and operations.

Approach

Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

General Pollution Prevention Protocols

- ☐ Maintain catch basins, stormwater inlets, and other stormwater conveyance structures on a regular basis to remove pollutants, reduce high pollutant concentrations during the first flush of storms, prevent clogging of the downstream conveyance system, restore catch basins' sediment trapping capacity, and ensure the system functions properly hydraulically to avoid flooding.
- ☐ Develop and follow a site specific drainage system maintenance plan that describes maintenance locations, methods, required equipment, water sources, sediment collection areas, disposal requirements, and any other pertinent information.

Good Housekeeping

Illicit Connections and Discharges

- ☐ Look for evidence of illegal discharges or illicit connections during routine maintenance of conveyance system and drainage structures:

Objectives
■ *Cover*
■ *Contain*
■ *Educate*
■ *Reduce/Minimize*

Targeted Constituents	
Sediment	✓
Nutrients	✓
Trash	✓
Metals	✓
Bacteria	✓
Oil and Grease	✓
Organics	✓

Minimum BMPs Covered	
Good Housekeeping	✓
Preventative Maintenance	✓
Spill and Leak Prevention and Response	✓
Material Handling & Waste Management	
Erosion and Sediment Controls	
Employee Training Program	✓
Quality Assurance Record Keeping	✓

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- ✓ Identify evidence of spills such as paints, discoloring, odors, etc.
- ✓ Record locations of apparent illegal discharges/illicit connections.
- ✓ Track flows back to potential discharges and conduct aboveground inspections. This can be done through visual inspection of upgradient manholes or alternate techniques including zinc chloride smoke testing, fluorometric dye testing, physical inspection testing, or television camera inspection.
- ✓ Eliminate the discharge once the origin of flow is established.

- ☐ Stencil or demarcate storm drains, where applicable, to prevent illegal disposal of pollutants. Storm drain inlets should have messages such as "Dump No Waste Drains to Stream" or similar stenciled next to them to warn against ignorant or intentional dumping of pollutants into the storm drainage system.
- ☐ Refer to fact sheet SC-10 Non-Stormwater Discharges for additional information.

Illegal Dumping

- ☐ Inspect and clean up hot spots and other storm drainage areas regularly where illegal dumping and disposal occurs.
- ☐ Establish a system for tracking incidents. The system should be designed to identify the following:
  - ✓ Illegal dumping hot spots;
  - ✓ Types and quantities (in some cases) of wastes;
  - ✓ Patterns in time of occurrence (time of day/night, month, or year);
  - ✓ Mode of dumping (abandoned containers, "midnight dumping" from moving vehicles, direct dumping of materials, accidents/spills); and
  - ✓ Responsible parties.
- ☐ Post "No Dumping" signs in problem areas with a phone number for reporting dumping and disposal. Signs should also indicate fines and penalties for illegal dumping.
- ☐ Refer to fact sheet SC-10 Non-Stormwater Discharges for additional information.

Preventative Maintenance

Catch Basins/Inlet Structures

- ☐ Staff should regularly inspect facilities to ensure compliance with the following:
  - ✓ Immediate repair of any deterioration threatening structural integrity.
  - ✓ Cleaning before the sump is 40% full. Catch basins should be cleaned as frequently as needed to meet this standard.

- Clean catch basins, storm drain inlets, and other conveyance structures before the wet season to remove sediments and debris accumulated during the summer.
- Conduct inspections more frequently during the wet season for problem areas where sediment or trash accumulates more often. Prioritize storm drain inlets; clean and repair as needed.
- Keep accurate logs of the number of catch basins cleaned.
- Store wastes collected from cleaning activities of the drainage system in appropriate containers or temporary storage sites in a manner that prevents discharge to the storm drain.
- Dewater the wastes if necessary with outflow into the sanitary sewer if permitted. Water should be treated with an appropriate filtering device prior to discharge to the sanitary sewer. If discharge to the sanitary sewer is not allowed, water should be pumped or vacuumed to a tank and properly disposed. Do not dewater near a storm drain or stream.

Storm Drain Conveyance System

- Locate reaches of storm drain with deposit problems and develop a flushing schedule that keeps the pipe clear of excessive buildup.
- Collect and pump flushed effluent to the sanitary sewer for treatment whenever possible.

Pump Stations

- Clean all storm drain pump stations prior to the wet season to remove silt and trash.
- Do not allow discharge to reach the storm drain system when cleaning a storm drain pump station or other facility.
- Conduct routine maintenance at each pump station.
- Inspect, clean, and repair as necessary all outlet structures prior to the wet season.

Open Channel

- Modify storm channel characteristics to improve channel hydraulics, increase pollutant removals, and enhance channel/creek aesthetic and habitat value.
- Conduct channel modification/improvement in accordance with existing laws. Any person, government agency, or public utility proposing an activity that will change the natural state of any river, stream, or lake in California, must enter into a Steam or Lake Alteration Agreement with the Department of Fish and Wildlife. The developer-applicant should also contact local governments (city, county, special districts), other state agencies (SWRCB, RWQCB, Department of Forestry, Department of Water Resources), and Army Corps of Engineers and USFWS.

Spill Response and Prevention Procedures

- Keep your spill prevention control plan up-to-date.

- Investigate all reports of spills, leaks, and/or illegal dumping promptly.
- Place a stockpile of spill cleanup materials where it will be readily accessible or at a central location.
- Clean up all spills and leaks using "dry" methods (with absorbent materials and/or rags) or dig up, remove, and properly dispose of contaminated soil.

Employee Training Program

- Educate employees about pollution prevention measures and goals.
- Train employees how to properly handle and dispose of waste using the source control BMPs described above.
- Train employees and subcontractors in proper hazardous waste management.
- Use a training log or similar method to document training.
- Ensure that employees are familiar with the site's spill control plan and/or proper spill cleanup procedures.
- Have staff involved in detection and removal of illicit connections trained in the following:
  - ✓ OSHA-required Health and Safety Training (29 CFR 1910.120) plus annual refresher training (as needed).
  - ✓ OSHA Confined Space Entry training (Cal-OSHA Confined Space, Title 8 and Federal OSHA 29 CFR 1910.146).
  - ✓ Procedural training (field screening, sampling, smoke/dye testing, TV inspection).

Quality Assurance and Record Keeping

- Keep accurate maintenance logs that document minimum BMP activities performed for drainage system maintenance, types and quantities of waste disposed of, and any improvement actions.
- Keep accurate logs of spill response actions that document what was spilled, how it was cleaned up, and how the waste was disposed.
- Keep accurate logs of illicit connections, illicit discharges, and illegal dumping into the storm drain system including how wastes were cleaned up and disposed.
- Establish procedures to complete logs and file them in the central office.

Potential Limitations and Work-Arounds

Provided below are typical limitations and recommended "work-arounds" for drainage system maintenance:

- Clean-up activities may create a slight disturbance for local aquatic species. Access to items and material on private property may be limited. Trade-offs may exist between channel hydraulics and water quality/riparian habitat. If storm channels or basins are recognized as wetlands, many activities, including maintenance, may be subject to regulation and permitting.

  - ✓ Perform all maintenance onsite and do not flush accumulated material downstream to private property or riparian habitats.

- Storm drain flushing is most effective in small diameter pipes (36-inch diameter pipe or less, depending on water supply and sediment collection capacity). Other considerations associated with storm drain flushing may include the availability of a water source, finding a downstream area to collect sediments, and liquid/sediment disposal.

  - ✓ Develop and follow a site specific drainage system maintenance plan that describes maintenance locations, methods, required equipment, water sources, sediment collection areas, disposal requirements, and any other pertinent information.

- Regulations may include adoption of substantial penalties for illegal dumping and disposal.

  - ✓ Do not dump illegal materials anywhere onsite.

  - ✓ Identify illicit connections, illicit discharge, and illegal dumping.

  - ✓ Cleanup spills immediately and properly dispose of wastes.

- Local municipal codes may include sections prohibiting discharge of soil, debris, refuse, hazardous wastes, and other pollutants into the sanitary sewer system.

  - ✓ Collect all materials and pollutants accumulated in drainage system and dispose of according to local regulations.

  - ✓ Install debris excluders in areas with a trash TMDL.

Potential Capital Facility Costs and Operation & Maintenance Requirements

Facilities

- Capital costs will vary substantially depending on the size of the facility and characteristics of the drainage system. Significant capital costs may be associated with purchasing water trucks, vacuum trucks, and any other necessary cleaning equipment or improving the drainage infrastructure to reduce the potential .

- Developing and implementing a site specific drainage system maintenance plan will require additional capital if a similar program is not already in place.

Maintenance

- Two-person teams may be required to clean catch basins with vactor trucks.
- Teams of at least two people plus administrative personnel are required to identify illicit discharges, depending on the complexity of the storm sewer system.
- Arrangements must be made for proper disposal of collected wastes.
- Technical staff are required to detect and investigate illegal dumping violations.
- Methods used for illicit connection detection (smoke testing, dye testing, visual inspection, and flow monitoring) can be costly and time-consuming. Site-specific factors, such as the level of impervious area, the density and ages of buildings, and type of land use will determine the level of investigation necessary.

Supplemental Information

Storm Drain Flushing

Flushing is a common maintenance activity used to improve pipe hydraulics and to remove pollutants in storm drainage systems. Flushing may be designed to hydraulically convey accumulated material to strategic locations, such as an open channel, another point where flushing will be initiated, or the sanitary sewer and the treatment facilities, thus preventing re-suspension and overflow of a portion of the solids during storm events. Flushing prevents "plug flow" discharges of concentrated pollutant loadings and sediments. Deposits can hinder the designed conveyance capacity of the storm drain system and potentially cause backwater conditions in severe cases of clogging.

Storm drain flushing usually takes place along segments of pipe with grades that are too flat to maintain adequate velocity to keep particles in suspension. An upstream manhole is selected to place an inflatable device that temporarily plugs the pipe. Further upstream, water is pumped into the line to create a flushing wave. When the upstream reach of pipe is sufficiently full to cause a flushing wave, the inflated device is rapidly deflated with the assistance of a vacuum pump, thereby releasing the backed up water and resulting in the cleaning of the storm drain segment.

To further reduce impacts of stormwater pollution, a second inflatable device placed well downstream may be used to recollect the water after the force of the flushing wave has dissipated. A pump may then be used to transfer the water and accumulated material to the sanitary sewer for treatment. In some cases, an interceptor structure may be more practical or required to recollect the flushed waters.

It has been found that cleansing efficiency of periodic flush waves is dependent upon flush volume, flush discharge rate, sewer slope, sewer length, sewer flow rate, sewer diameter, and population density. As a rule of thumb, the length of line to be flushed should not exceed 700 feet. At this maximum recommended length, the percent removal efficiency ranges between 65-75% for organics and 55-65% for dry weather grit/inorganic material. The percent removal efficiency drops rapidly beyond that. Water is commonly supplied by a water truck, but fire hydrants can also supply water. To make the best use of water, it is recommended that reclaimed water be used if allowed or that fire hydrant line flushing coincide with storm sewer flushing.

References and Resources

City of Seattle, Seattle Public Utilities Department of Planning and Development, 2009. *Stormwater Manual Vol. 1 Source Control Technical Requirements Manual.*

Knox County Tennessee *Stormwater Management Manual* Chapter 5 Drainage System Maintenance, 2008. Available online at: http://www.knoxcounty.org/stormwater/manual/Volume%201/knoxco_swmm_v1_chap5_jan2008.pdf.

US EPA. Storm Drain System Cleaning, 2012. Available online at: http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=102.

APPENDIX F

Dry Weather Inspection Forms

Los Angeles World Airports

MONTH AND YEAR _____

Monthly Dry Weather Visual Observation Form

(Form due by the 5th of the month following the observation month; submit to stormwater@lawa.org)

Facility Name: _____ **LAWA Follow-up Requested? ☐**

Facility Address: _____

Observer Name: _____ **PPT ☐ or Alternate ☐** **Phone/email:** _____

Signature: _____ **Change in PPT or Alternate? Yes ☐** **Observation Date/Time:** _____

Are all impervious surfaces assessed regularly for spills, stains and other debris? Yes ☐ or No ☐

Has there been a change in Onsite Chemical Inventory? Yes ☐ or No ☐ (If Yes, complete and include Stored Material Checklist)

Has a spill occurred since the previous observation? Yes ☐ or No ☐

Was a Spill/Incident Report Form submitted? Yes ☐ or No ☐ (If "no", complete and include Spill/Incident Report Form)

Is Facility Map up to date? Yes ☐ No ☐; Is Spill Response Plan up to date? No ☐ or Yes ☐

Part I . Non-StormWater Discharge (NSWD) Observations. (Check All Applicable)

	Discharge Type	**A.** Discharge Observed?	**B.** Evidence of prior/ current/ potential/ source of NSWD and/or source? (Y/N)	**C.** Discharge occured in the facility? (Y/N)	**D.** Describe Pollutant Characteristics (Check If Present)					E. BMPs In Place? (Y/N)	F. Dates of Discharge, BMPs Utilized, Describe Discharge Observation. Include supplemental photos if applicable.
					Sheen	Turbidity	Floating Material	Odor	Other		
AUTHORIZED	Fire Hydrant Flushing										
	Potable Water Sources										
	Drinking Fountain Water										
	Atmospheric Condensates										
	Irrigation Drainage/ Landscape										
	Others										
UNAUTHORIZED	Rinse/Wash Water										
	Improperly Disposed/ Dumped										
	Spilled Material										
	Leaked Material										
	Illicit Connection										
	Possible Illicit Connection										
	Food Waste										
	Other										

Comments and Observations

Comments/Questions? Email stormwater@lawa.org or call (424) 646-6500
Submit Report and photos to stormwater@lawa.org

Los Angeles World Airports

MONTH AND YEAR _____

Part II BMP Observation, Implementation, Deficiencies and Corrective Actions

Description of BMPs (Reference BMP Fact Sheet Number); SWPPP Table 4.1 shows summary of the BMPs for each airport (List below shows BMPs implemented at LAWA and may not be airport specific.)	A. Facility BMPs (Check All Applicable); Previously reported BMPs are located in Table 4.2 of the SWPPP	B. Change in BMP use on facility? New or Elimiated Use	C. Implementation Location (Check all Applicable)				D. Implementation Frequency	E. BMP Deficient?	F. BMP Comments (Corrective Actions); Attach Any Supporting Photos (including description)
			Outdoor Industrial Activities Areas	Outdoor Industrial Equipment and Storage Areas	Chemical Storage Areas	Others (Describe all other potential source of industrial pollutants)	Routine (Describe: Daily, Weekly, Monthly, Others, or As Needed)	Yes (describe in "Comments") or No or Not Applicable - NA	
Elimination of NSWD (LAWA SC1); Illicit Connection									
Aircraft, Ground Vehicle, and Equipment Maintenance (LAWA SC2)									
Aircraft, Vehicle and Equipment Fueling (LAWA SC3)									
Aircraft, Vehicle and Equipment Washing (SC4)									
Aircraft Deicing (SC5)									
Outdoor Material Handling (SC6)									
Outdoor Storage of Significant Material (SC7); Storage Tanks and Uncovered Outdoor Storage									
Waste Handling and Disposal (SC8); Housekeeping and Uncovered Dumptsters									
Building and Grounds Maintenance (SC9); Housekeeping									
Storm Water Pollution Prevention (SC10); Employee awareness training and recordkeeping Education									
Lavatory Service Operations (SC11)									
Outdoor Washdown/Sweeping (SC12); Stains on pavement/concrete									
Fire Fighting Foam Discharge (SC13)									
Potable Water System Flushing (SC14)									
Runway Rubber Removal (SC15)									
Oil/Water Separators (LAWA TC1)									
Emergency Spill Cleanup Plan (LAWA SR1); Spill kits and Plan Posted									
Contaminated or Erodible Surfaces (CASQA SC-40)									
Drainage System Maintenance (CASQA SC-44)									
Wet Pond (CASQA - TC-20)									
Extended Detention Basin (CASQA TC-22)									
Media Filter (CASQA TC-40)									
Gravity Separator (CASQA MP-51)									

Van Nuys
Los Angeles World Airports

Monthly Dry Weather Visual Observation Form For VNY Discharge Locations and Erodible Areas

Month: _____
Year: _____

Inspector Name: _____
Title:_____
Signature: _____

DISCHARGE POINT 1	(Observed at SD inlet in front of 7921 Woodley Ave)				
	Discharge Observed:		Discharge Type/Source(s):		Discharge Characteristics:
Inspection Date:	□ Yes	□ No	Authorized	Unauthorized	Flow Rate:
	Corrective Actions:				Color:
Inspection Time:					Odors:
					Sheen:
					Turbity:
					Cloudiness:
					Suspended Material:
					Floating Material:

DISCHARGE POINT 2	(Observed at the east border of 16813 Stagg Street)				
	Discharge Observed:		Discharge Type/Source(s):		Discharge Characteristics:
Inspection Date:	□ Yes	□ No	Authorized	Unauthorized	Flow Rate:
	Corrective Actions:				Color:
Inspection Time:					Odors:
					Sheen:
					Turbity:
					Cloudiness:
					Suspended Material:
					Floating Material:

DISCHARGE POINT 4	(Observed at the junction between Hayvenhurst Ave and Hayvenhurst Place)				
	Discharge Observed:		Discharge Type/Source(s):		Discharge Characteristics:
Inspection Date:	□ Yes	□ No	Authorized	Unauthorized	Flow Rate:
	Corrective Actions:				Color:
Inspection Time:					Odors:
					Sheen:
					Turbity:
					Cloudiness:
					Suspended Material:
					Floating Material:

DISCHARGE POINT 5	(Observed at the SD inlet located at the northwestcorner of Odessa and Vanowen)				
	Discharge Observed:		Discharge Type/Source(s):		Discharge Characteristics:
Inspection Date:	□ Yes	□ No	Authorized	Unauthorized	Flow Rate:
	Corrective Actions:				Color:
Inspection Time:					Odors:
					Sheen:
					Turbity:
					Cloudiness:
					Suspended Material:
					Floating Material:

Van Nuys
Los Angeles World Airports

Monthly Dry Weather Visual Observation Form For VNY Discharge Locations and Erodible Areas

Month: _____
Year: _____

Inspector Name: _____
Title:_____
Signature: _____

DISCHARGE POINT 6	(Observed at the SD inletadjacent to the airfield gate located on the north side of Vanowen, halfway between Odessa and Valjean)				
	Discharge Observed:		Discharge Type/Source(s):		Discharge Characteristics:
Inspection Date:	□ Yes	□ No	Authorized	Unauthorized	Flow Rate:
	Corrective Actions:				Color:
Inspection Time:					Odors:
					Sheen:
					Turbity:
					Cloudiness:
					Suspended Material:
					Floating Material:

DISCHARGE POINT 7	(Observed at the northwest corner of Woodley and Saticoy)				
	Discharge Observed:		Discharge Type/Source(s):		Discharge Characteristics:
Inspection Date:	□ Yes	□ No	Authorized	Unauthorized	Flow Rate:
	Corrective Actions:				Color:
Inspection Time:					Odors:
					Sheen:
					Turbity:
					Cloudiness:
					Suspended Material:
					Floating Material:

Erodible Areas			
Evidence of Erosion:	□ Yes	□ No	Location 1:
			Location 2:
			Location 3:
Potential for Erosion:	□ Yes	□ No	Location 4:
			Location 5:
			Location 6:
BMP reccomendation:	Location _____:		
	Location _____:		
	Location _____:		

Other Areas of Concern:		
Location Description:		Issue:

Van Nuys
Los Angeles World Airports

Van Nuys Airport
Annual Inspection Form

Tenant's Name: _____

Tenant's Address: _____ Inspection Time: _____

Representative's Name: _____ Inspection Date: _____

Title: _____ SIC Code: _____

Inspector: _____ Phone/e-mail: _____

Signature: _____

Drainage Basin: ☐ NE ☐ Bullcreek ☐ N Agriculture ☐ W ☐ SW ☐ E-SE ☐ Woodley

Are SWPPP amendments necessary? ☐ Yes ☐ No

Approximate area of leasehold (acres): _____

Are all paved roads inspected regularly for spills, stains and other debris? ☐ Yes ☐ No

Onsite Features: ☐ Buildings ____ ☐ Washrack ___ ☐ USTs ___ ☐ ASTs ___ ☐ SW OWS ___ ☐ SS OWS ___ ☐ IWDP ____

Observed Issues: ☐ Drainage Issues ☐ Discharges From Other Properties ☐ Unknown Odors ☐ Erosion

1. Onsite Documents

A. Available Document		Maps/Plans/Reports	B. Available on Site?		C. Adequately Designed/ Implemented?			D. Maintained/ Effective?			Comments
Yes	No		Yes	No	Yes	No	N/A	Yes	No	N/A	
☐	☐	Facility Site Map	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	SWPPP	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	Spill Response Plan	☐	☐	☐	☐	☐	☐	☐	☐	
Yes	No	Permits	Yes	No	Yes	No	N/A	Yes	No	N/A	
☐	☐	Discharge to Storm Drains	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	Industrial Waste Discharge	☐	☐	☐	☐	☐	☐	☐	☐	

2. Non-Storm Water Discharges

A. Included in SWPPP?		Discharge Type	B. Occurs Onsite?		C. Contact with Pollutants?			D. BMPs In Place?			Comments
Yes	No	**Authorized**	Yes	No	Yes	No	N/A	Yes	No	N/A	
☐	☐	Fire Hydrant Flushing	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	Potable Water Sources	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	Drinking Fountain Water	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	Atmospheric Condensates	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	Irrigation Drainage/Landscaping	☐	☐	☐	☐	☐	☐	☐	☐	
Yes	No	**Un-Authorized**	Yes	No	Yes	No	N/A	Yes	No	N/A	
☐	☐	Rinse/Wash Water	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	Improperly Disposed/Dumped	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	Spilled Material	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	Leaked Material	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	Illicit Connection	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	Possible Illicit Connection	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	Food Waste	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	Other _____	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	Other _____	☐	☐	☐	☐	☐	☐	☐	☐	

3. Industrial Activities

A. Reported Activity On Leasehold.		Industrial Activity	B. Location of Activity? (Inside, Outside, Both, Outside Covered, Unknown)					C. BMPs Properly Deployed?			Comments	D. Verify Activity On Leasehold.	
Yes	No		I	O	B	C	X	Yes	No	N/A		Yes	No
☐	☐	Aircraft Deicing (AD)	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐
☐	☐	Aircraft Fueling (AF)	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐
☐	☐	Aircraft Maintenance (AM)	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐
☐	☐	Aircraft Painting/Stripping (AP)	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐
☐	☐	Aircraft Rental (AR)	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐
☐	☐	Aircraft Sanitary Services (AS)	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐
☐	☐	Aircraft Washing (AW)	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐
☐	☐	Cargo Handling (CH)	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐
☐	☐	Catering/Food Service (CA)	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐
☐	☐	Chemical Storage (CS)	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐
☐	☐	Equipment Degreasing/Washing (ED)	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐
☐	☐	Equipment Maintenance (EM)	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐
☐	☐	Equipment Storage (ES)	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐
☐	☐	Fuel Storage (FS)	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐
☐	☐	Floor Washdown (FW)	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐
☐	☐	Manufacturing (plating, grindings, etc.) (MF)	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐
☐	☐	Outdoor Apron Washdown (OA)	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐
☐	☐	Pesticide/Herbicide Usage (PH)	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐
☐	☐	Steam Cleaning (SC)	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐
☐	☐	Vehicle Fueling (VF)	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐
☐	☐	Vehicle Maintenance (VM)	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐
☐	☐	Vehicle Painting/Stripping (VP)	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐
☐	☐	Vehicle Washing (VW)	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐
☐	☐	Other (OT) _____	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐

Van Nuys
Los Angeles World Airports

Van Nuys Airport
Annual Inspection Form

4. SWPPP Identified BMPs

A. Existing BMPs?		BMP Description		B. Deployed on Site?		C. Is the BMP Effective?			Comments
Yes	No			Yes	No	Yes	No	N/A	
☐	☐	SC1	Elimination of Non-SW Discharge to Drains	☐	☐	☐	☐	☐	
☐	☐	SC2	Aircraft, Vehicle Maintenance	☐	☐	☐	☐	☐	
☐	☐	SC3	Aircraft, Vehicle Fueling	☐	☐	☐	☐	☐	
☐	☐	SC4	Aircraft, Vehicle Washing	☐	☐	☐	☐	☐	
☐	☐	SC5	Aircraft De-Icing	☐	☐	☐	☐	☐	
☐	☐	SC6	Outdoor Material Handling	☐	☐	☐	☐	☐	
☐	☐	SC7	Outdoor Storage of Significant Material	☐	☐	☐	☐	☐	
☐	☐	SC8	Waste/Garbage Handling/Disposal	☐	☐	☐	☐	☐	
☐	☐	SC9	Building and Grounds Maintenance	☐	☐	☐	☐	☐	
☐	☐	SC10	SWPPP Education	☐	☐	☐	☐	☐	
☐	☐	SC11	Lavatory Service Operations	☐	☐	☐	☐	☐	
☐	☐	SC12	Outdoor Washdown/Sweeping	☐	☐	☐	☐	☐	
☐	☐	SC13	Fire Fighting Foam Discharge	☐	☐	☐	☐	☐	
☐	☐	SC14	Potable Water System Flushing	☐	☐	☐	☐	☐	
☐	☐	SC15	Runway Rubber Removal	☐	☐	☐	☐	☐	
☐	☐	TC1	Oil/Water Separator	☐	☐	☐	☐	☐	
☐	☐	LAWA SR1	Emergency Spill Cleanup Plan	☐	☐	☐	☐	☐	
☐	☐	CASQA SC-40	Contaminated or Erodible Surface	☐	☐	☐	☐	☐	
☐	☐	CASQA SC-44	Drainage System Maintenance	☐	☐	☐	☐	☐	
☐	☐	CASQA TC-20	Wet Pond	☐	☐	☐	☐	☐	
☐	☐	CASQA TC-22	Extended Detention Basin	☐	☐	☐	☐	☐	
☐	☐	CASQA TC-40	Media Filter	☐	☐	☐	☐	☐	
☐	☐	CASQA MP-51	Gravity Separator	☐	☐	☐	☐	☐	

5. Potential Issues of Concern

A. Identified Concern?		BMP Description	B. Identified on Site?		C. Discharge Exposure Potential?			D. Follow-up Required?			Location/Deficiencies/Corrective Actions/Implementation Dates
Yes	No		Yes	No	Yes	No	N/A	Yes	No	N/A	
☐	☐	Distribution of Spill Kits	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	Employee Awareness/Training	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	Housekeeping	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	Illicit Connection	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	Oil/Water Separator	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	Non-Storm Water Discharges	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	Potential Pollutant Sources	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	Possible Illicit Connection	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	Record Keeping Practices	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	Secondary Containment	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	Storage Tanks	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	Uncovered Outdoor Storage	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	Uncovered Dumpsters	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	Stains on Pavement/Concrete	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	Other	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	Other	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	Other	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	Other	☐	☐	☐	☐	☐	☐	☐	☐	

Describe and attach any photos taken during the inspection, if any under the comments section below:

Comments:

Follow-up required? ☐ Yes ☐ No

APPENDIX G

Storm Event Forms

eurofins | Calscience

CHAIN OF CUSTODY RECORD

7440 Lincoln Way, Garden Grove, CA 92841-1427 • (714) 895-5494
For courier service / sample drop off information, contact us26_sales@eurofinsus.com or call us.

WO # / LAB USE ONLY

DATE: _____

PAGE: _____ OF _____

LABORATORY CLIENT:

ADDRESS:

CITY: STATE: ZIP:

TEL: E-MAIL:

CLIENT PROJECT NAME / NUMBER:

P.O. NO.:

PROJECT CONTACT:

SAMPLER(S): (PRINT)

REQUESTED ANALYSES

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

☐ COELT EDF

GLOBAL ID:

LOG CODE:

SPECIAL INSTRUCTIONS:

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	☐ TPH(g) ☐ GRO	☐ TPH(d) ☐ DRO	TPH ☐ C6-C36 ☐ C6-C44	TPH ____	BTEX / MTBE ☐ 8260 ☐ ____	VOCs (8260)	Oxygenates (8260)	Prep (5035) ☐ En Core ☐ Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs ☐ 8270 ☐ 8270 SIM	T22 Metals ☐ 6010/747X ☐ 6020/747X	Cr(VI) ☐ 7196 ☐ 7199 ☐ 218.6				

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

APPENDIX H

Field Equipment Instructions

WATER QUALITY TESTER (COMBO PEN)

(99720)

Supplied with :
Meter x1 , Batteries x2, manual x 1 , carrying pouch x1 , Hard carrying case x1 , wrist strip , soaking solution , pH solution , Conductivity solution x 1, Conductivity electrode , pH electrode (built-on)
Optional electrode: ORP electrode

FEATURES: 99702 Four (4) in one Con/TDS/Salt/Temp. combo pen

- A combo smart pen , buy one get 4 parameters with less cost
- Powered by AAA x 4 pcs batteries
- Dual display Conductivity or TDS or Salt and temperature readings
  Self-calibrate with supplied conductivity solution

Supplied with Meterx1 , Cond. solution x1 , Soak solution x 1 , batteries x 4 , manual and wrist strip, hard case.

Model No.	99702 (4 in one)		
Type	Cond.	TDS	Salt
Range	0~2000µS, 2.00~20.00mS	0~1300ppm 1.30~13.00ppt	0~1000ppm, 1.00~12.00ppt
Accuracy	±2%FS (Cond. TDS Salt)		
Resolution	1µS/ 0.01mS	1ppm/ 0.01ppt	1ppm/ 0.01ppt
ATC	0~50℃		
Calibration	Cond: 0µS/ 1413µS/ 12.88mS		

FEATURES :

- A very smart pen type combo water quality tester, buy one get more than 6 parameter measurement ,microprocessor based for fast and accurate display
- A new shape design powered by AAA DC1.5V x 4 pcs batteries
- Simple to calibrate by one button, may float on water
- Compact housing Ip57 water resistant design
- Large LCD display pH or ORP or Cond. or TDS or Salt and temperature simultaneously
- ATC stands for Automatic Temperature Compensation
- MSC stands for Manually salinity calibration
- MAC stands for Manually altitude compensation
- Data hold freezes current reading, Maximum/Minimum function
- Temp.C and F are selectable, battery low indication. Auto power off in 10 minutes
- Easy to replace with new electrode to maintain meter life
- Replacement electrode modules are easy to replace and the type of electrode would be recognized automatically and shown in display during insertion
- Wide range pH measurement from -2 to 16

Model No.	99720 (6 in one)		
Type	pH	ORP	Temp.
Range	-2~16.00	-1000~1000	0~90℃
Accuracy	±0.01+1dg	±2+1dg	±0.2℃+1dg
Resolution	0.01pH	1mV	0.1℃
ATC	0~90℃		
Calibration	pH: 4.00/ 7.00/ 10.01		
Type	Cond.	TDS	Salt
Range	0~2000µS, 2.00~20.00mS	0~1300ppm 1.30~13.00ppt	0~1000ppm, 1.00~12.00ppt
Accuracy	±2%FS (Cond. TDS Salt)		
Resolution	1µS/ 0.01mS	1ppm/ 0.01ppt	1ppm/ 0.01ppt
ATC	0~50℃		
Calibration	Cond: 0µS/ 1413µS/ 12.88mS		
Power	AAA batteries x 4 pcs		
Weight	Meter : 135 g (battery included), Kit: 780g		
Dimension	Meter : 195 X40x36mm (Kit: 230x205x50mm)		

APPENDIX I

Storm Event Log

Storm Event Log

Facility:_____

Name of Person Completing Log	Start of Storm (Date and Time)	End of Storm (Date and Time)	Total Precipitation (in)	Sample Date and Time (if applicable)	Pre-Storm BMPs Implemented? If yes, describe.

APPENDIX J

Storm Water Sampling and Analysis Plan

ATTACHMENT A

2014 Industrial General Permit

Available on-line at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/industrial.shtml.