

# INDUSTRIAL ACTIVITIES STORMWATER POLLUTION PREVENTION PLAN

**For**

Metal Movers LLC – DBA Genesis 1

**Facility Address:**

10312 Almond Avenue  
Fontana, California 92335

**Waste Discharge Identification (WDID):**

TBD

**Standard Industrial Classification (SIC) Code**

5093 – Scrap and Waste Materials

**Exceedance Response Action (ERA) Status:**

Baseline

**Legally Responsible Person (LRP):**

Adam Cohen  
(831) 888-4361

**Duly Authorized Representatives (DAR):**

Adam Cohen  
(831) 888-4361

Adrian Gutierrez  
(909) 297-9491

**SWPPP Prepared by:**

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**SWPPP Preparation Date**

06/05/2025

# Table of Contents

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LEGALLY RESPONSIBLE PERSON.....	6
AMENDMENT LOG.....	7
Section 1 SWPPP Requirements.....	8
1.1 INTRODUCTION.....	8
1.2 PERMIT REGISTRATION DOCUMENTS.....	9
1.3 SWPPP AVAILABILITY AND IMPLEMENTATION.....	9
1.4 POLLUTION PREVENTION TEAM.....	9
1.5 DULY AUTHORIZED REPRESENTATIVES.....	10
1.6 PERMITS AND GOVERNING DOCUMENTS.....	10
1.7 SWPPP AMENDMENTS.....	11
1.8 RETENTION OF RECORDS.....	11
1.9 EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS.....	12
1.10 TOTAL MAXIMUM DAILY LOADS (TMDLS) APPLICABILITY.....	13
1.11 NEW DISCHARGER AND 303(D) LISTED RECEIVING WATERS.....	13
1.12 ANNUAL COMPREHENSIVE FACILITY COMPLIANCE EVALUATION.....	14
1.13 ANNUAL REPORT.....	15
1.14 TERMINATION AND CHANGES TO GENERAL PERMIT COVERAGE.....	15
2.1 FACILITY DESCRIPTION.....	16
2.1.1 Facility Location.....	16
2.1.2 Facility Operations.....	17
2.1.3 Existing Conditions.....	17
2.1.4 Description of Drainage Area.....	18
2.1.5 Stormwater Run-On from Offsite Areas.....	19
2.1.6 Geology and Groundwater.....	19
2.2 OPERATIONS SCHEDULE.....	19
2.3 POLLUTANT SOURCE ASSESSMENT.....	20
2.3.1 Description of Pollutant Source Assessment.....	20
2.3.2 Significant Spills and Leaks.....	24
2.4 IDENTIFICATION OF NON-STORMWATER DISCHARGES (NSWDs).....	24
2.5 REQUIRED SITE MAPS INFORMATION.....	25
Section 3 Best Management Practices (BMPs).....	27
3.1 MINIMUM BMPs.....	27

3.1.1	Good Housekeeping.....	29
3.1.2	Preventative Maintenance .....	30
3.1.3	Spill and Leak Prevention and Response .....	31
3.1.4	Material Handling and Waste Management .....	31
3.1.5	Erosion and Sediment Controls .....	32
3.1.6	Preventative Measures for Phase I Facilities: .....	33
3.1.8	<b>Employee Training Program .....</b>	<b>35</b>
3.1.9	<b>Quality Assurance and Record Keeping: .....</b>	<b>36</b>
3.2	ADVANCED BMPs .....	37
3.2.1	Exposure Minimization BMPs .....	37
3.2.2	Stormwater Containment and Discharge Reduction BMPs.....	37
3.2.3	Treatment Control BMPs .....	39
3.2.4	Other Advanced BMPs.....	39
3.3	BMP SUMMARY TABLE.....	41
Section 4	BMP Implementation.....	44
4.1	BMP IMPLEMENTATION SCHEDULE .....	44
4.2	BMP INSPECTION SCHEDULE AND MAINTENANCE.....	45
Section 5	Monitoring Implementation Plan .....	46
5.1	PURPOSE.....	46
5.2	WEATHER AND RAIN EVENT TRACKING .....	46
5.3	MONITORING LOCATIONS.....	46
5.4	SAMPLE COLLECTION AND VISUAL OBSERVATIONS EXCEPTIONS .....	47
5.5	VISUAL OBSERVATION PROCEDURES .....	47
5.5.1	Monthly Visual Observations.....	48
5.5.1.1	Outdoor Facility Operations Observations .....	48
5.5.1.2	BMP Observations .....	48
5.5.1.3	Non-Stormwater Discharge Observations .....	48
5.5.2	Rain Event Action Plan (REAP) .....	49
5.5.3	Sampling Event Visual Observations.....	49
5.5.4	Visual Monitoring Procedures .....	50
5.5.5	Visual Monitoring Follow-up and Reporting.....	50
5.5.6	Visual Monitoring Locations .....	50
5.6	SAMPLING AND ANALYSIS PROCEDURES .....	51

5.6.1	Sampling Schedule .....	52
5.6.2	Sampling Locations .....	52
5.6.3	Monitoring Preparation .....	53
5.6.4	Analytical Constituents .....	53
5.6.5	Sample Collection .....	54
5.6.6	Sample Analysis .....	55
5.6.7	Data Evaluation and Reporting.....	58
5.7	TRAINING OF SAMPLING PERSONNEL.....	58
5.8	SAMPLE COLLECTION AND HANDLING.....	58
5.8.1	Sample Collection .....	58
5.8.2	Sample Handling .....	60
5.8.3	Sample Documentation Procedures.....	60
5.9	QUALITY ASSURANCE AND QUALITY CONTROL .....	61
5.9.1	Field Logs .....	61
5.9.2	Clean Sampling Techniques .....	62
5.9.3	Chain of Custody .....	62
5.9.4	QA/QC Samples.....	62
5.9.4.1	Field Duplicates.....	62
5.9.4.2	Equipment Blanks .....	62
5.9.4.3	Field Blanks .....	62
5.9.4.4	Travel Blanks .....	62
5.9.5	Data Verification .....	62
5.10	RECORDS RETENTION .....	63
MIP Attachment 1	Weather Reports.....	65
MIP Attachment 2	Monitoring Records .....	66
MIP Attachment 3	Example Forms.....	67
MIP Attachment 4	Field Meter Instructions.....	73
MIP Attachment 5	Other Regulatory Documents .....	74
Section 6	References .....	75
Appendix A:	Site Maps.....	76
Appendix B:	Permit Registration Documents .....	82
Appendix C:	Training Reporting Form.....	83
Appendix D:	Responsible Parties .....	85

Appendix E: SWPPP Amendment Certifications ..... 87  
Appendix F: Calculations..... 89  
Appendix G: CASQA Stormwater BMP Portal: Industrial and Commercial Fact Sheets ..... 90  
Appendix H: BMP Implementation Log ..... 91  
Appendix I: BMP Observation Forms..... 92  
Appendix J: 2018 Sector-Specific General Permit for Storm Water Runoff ..... 98



**LEGALLY RESPONSIBLE PERSON**

Approval and Certification of the Stormwater Pollution Prevention Plan

Facility Name: Metal Movers LLC – DBA Genesis 1  
Waste Discharge Identification (WDID): TBD

"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."

Adam Cohen  
Legally Responsible Person  
[Signature]  
Signature of Legally Responsible Person  
or Approved Signatory  
Adam Cohen  
Name of Legally Responsible Person or Approved  
Signatory

6/3/25  
Date  
909-969-0509  
Telephone



## Section 1 SWPPP Requirements

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### 1.1 INTRODUCTION

Metal Movers LLC – DBA Genesis 1 (referred to as Genesis 1) comprises of approximately 1.5 acres and is located at 10312 Almond Avenue, Fontana, California 92335, in the county of San Bernardino. Genesis 1 operates under the Standard Industrial Classification (SIC) Code 5093: Scrap and Waste Materials. Genesis 1 receives and provides wholesale ferrous and non-ferrous metals. The property is owned by Frank Paul and Mary Valenti (a Living Trust) and operated by Genesis 1. The facility location is shown on the Site Maps in Appendix A. The Facility’s WDID number is to be determined and will operate under the Region 8 Sector-Specific General Permit (often referred to as “Scrap Metal Permit” throughout this document).

This Stormwater Pollution Prevention Plan (SWPPP) is designed to comply with California’s General Permit for Stormwater Discharges Associated with Industrial Activities (2015 Industrial General Permit) Order No. 2014-0057-DWQ (NPDES No. CAS000001) issued by the State Water Resources Control Board (State Water Board). The Industrial General Permit (IGP) was amended in 2018 to include implementation of TMDLs and a Compliance Option. The amended Industrial General Permit is referred to as the “2018 IGP” and identified as Order 2018-0028-DWQ. *For Scrap Metal Facilities within the Santa Ana Regional Water Quality Control Board, they must obtain coverage from the Sector-Specific General Permit for Storm Water Runoff Associated with Industrial Activities from Scrap Metal Facilities. These are facilities listed under SIC Code 5093 and engaged in in the following types of activities: (1) automotive wrecking for scrap-wholesale; (2) iron and steel-scrap-wholesale; (3) junk and scrap metal-wholesale; (4) metal waste and scrap-wholesale.* This SWPPP will also comply with the 2018 Industrial General Permit.

This SWPPP has been prepared following the SWPPP Template provided on the California Stormwater Quality Association Stormwater *Best Management Practice Handbook: Industrial and Commercial* (CASQA 2014) but has been modified to meet the requirements of the 2018 IGP. 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 BMPs
- Advanced BMPs, if applicable
- Monitoring Implementation Plan (MIP)
- Annual Comprehensive Facility Compliance Evaluation (Annual Evaluation)

- 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 Multi Application and Report Tracking System (SMARTS) by the Legally Responsible Person (LRP), or authorized personnel (i.e., Approved Signatory) under the direction of the LRP. The project-specific PRDs include:

1. Notice of Intent (NOI)
  2. Signed Certification Statement (LRP Certification is provided electronically with SMARTS PRD submittal)
  3. Site Maps
  4. SWPPP
  5. Annual Fee
- The Site Maps can be found in Appendix A. Copies of the submitted PRDs are also kept in Appendix B of the SWPPP along with the Waste Discharge Identification (WDID) confirmation.
  - The SWPPP uploaded into SMARTS should not include a copy of the General Permit.
  - 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 all employees during all hours of operation (see Section 2.5 for the Operations Schedule) and will be made available upon request by a State or Municipal inspector. The SWPPP document is also available on the SMARTS website. The SWPPP will be implemented by July 1, 2025.

## **1.4 POLLUTION PREVENTION TEAM**

Facility staff that have been designated as Pollution Prevention Team members are listed below in Table 1.1, along with their responsibilities and duties. A list of alternate team members is also provided, and these personnel will perform SWPPP activities when regular members of the Pollution Prevention Team are absent or unavailable. This table will be updated as needed when there are changes to staff and staff responsibilities. All team members will be trained to perform the duties assigned to them. Employee training logs are provided in Appendix C.

**Table 1.1 Pollution Prevention Team**

Name	Title	Email	Responsibilities and Duties
Adam Cohen	Vice President	adam@gen1rss.com 909-969-0509	Legally Responsible Person; Responsible for SWPPP and BMP Implementation and certifying documents in SMARTS
Adrian Gutierrez	Yard Worker	adrian@gen1rss.com 909-297-9491	Duly Authorized Representative; Responsible for SWPPP and BMP Implementation and certifying documents in SMARTS on behalf of LRP
Adrian Gutierrez	Yard Worker	adrian@gen1rss.com 909-297-9491	Primary QSE Sample Collector; Visual Monitoring Observation
Isaiah Cohen	Office Personnel	isaiah@gen1rss.com 909-367-5827	Secondary QSE Sample Collector; Visual Monitoring Observation
Adrain Gutierrez	Yard Worker	adrian@gen1rss.com 909-297-9491	BMP Implementation; Sweeping and housekeeping
Rambod Mohseni	SM-QSD and SM-QSP	industrial@socalsrs.com (310) 803-3233	Ad Hoc Data Entry Person; Monthly Inspections, Annual Report preparation, SWPPP Training, ERA Reporting

### 1.5 DULY AUTHORIZED REPRESENTATIVES

Duly Authorized Representatives who are responsible for SWPPP implementation and have authority to sign PRDs are listed below in Table 1.2. Written authorizations from the LRP for these individuals are provided in Appendix D.

**Table 1.2 Duly Authorized Representatives**

Name	Title	Email
Adrian Gutierrez	Yard Worker	adrian@gen1rss.com

### 1.6 PERMITS AND GOVERNING DOCUMENTS

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

- Regional Water Board requirements.
- Basin Plan requirements.
- TMDL requirements.
- Spill Prevention Control and Countermeasures Plan.
- Hazardous Material Business Plan.

- Hazardous Waste Regulations and Permits.
- Clean Water Act Section 401 Water Quality Certifications and 404 Permits.

### **1.7 SWPPP AMENDMENTS**

This SWPPP will be amended or revised as needed. A list of amendments (Amendment Log) is included in the front of this SWPPP (page 7), and amendment certifications are included in Appendix E. The Amendment Log will include the date of initial preparation and the date of each amendment. The SWPPP should be revised when:

- There is an Industrial General Permit violation.
- There is a reduction or increase in the total industrial area exposed to stormwater.
- BMPs do not meet the objectives of reducing or eliminating pollutants in stormwater 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.
- Otherwise deemed necessary by the QISP.

The following items will be included in each amendment:

- Who requested the amendment.
- The location of proposed change.
- The reason for change.
- The original BMP(s) proposed, if any.
- The new BMP(s) proposed.

Amendments will be logged at the front of the SWPPP, and certification kept in Appendix E. The SWPPP text will be revised replaced, and/or hand annotated as necessary to properly convey the amendment. SWPPP amendments must be certified and submitted by the LRP or their designated Duly Authorized Representative via SMARTS within 30 days whenever the SWPPP contains significant revisions. With the exception of significant revisions, SWPPP changes will be certified and uploaded to SMARTS once every three (3) months in the reporting year.

### **1.8 RETENTION OF RECORDS**

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

- Employee Training Records
- BMP Implementation Records
- Spill and Clean-up Related Records
- Records of Sampling and Analysis Information

- The date, exact location, and time of sampling or measurement
- The date(s) analyses were performed
- The individual(s) that performed the analyses
- The analytical techniques or methods used
- The results of such analyses
- Records of Visual Observations
  - The date
  - The industrial areas/drainage areas of the facility observed during the inspection (Location)
  - The approximate time of the observation
  - Presence and probable source of observed pollutants
  - Name of the individual(s) that conducted the observations
- Response to the observations including identification of SWPPP revisions if needed.
- Phase II Corrective Action Reports
- Phase III Corrective Action Reports
- Annual Reports from SMARTS (checklist and any explanations)

Copies of these records will be available for review by the RWQCB staff at the Facility during scheduled Facility operating hours. Upon written request by U.S. EPA or the local MS4 (City of San Diego), Dischargers will provide paper or electronic copies of requested records to the RWQCB, U.S. EPA, or local MS4 (County of San Diego, City of San Diego, etc.) within ten (10) working days from receipt of the request. The SWPPP document is also available to the public via SMARTS.

### **1.9 EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS**

Storm water runoff associated with industrial activities from the regulated Scrap Metal Facilities shall follow either Option 1 or Option 2 below.

#### **1. Option 1: Three-Phase Approach**

- a. The Permittees shall design the SWPPPs to document compliance with the numeric action limits in Table 1a of the Sector-Specific Permit. Any exceedance of a numeric action level is not considered a violation of the Permit; however, the Permittees are required to take additional steps to meet the numeric action levels as outlined under Phases I, II, and III.

#### **2. Option 2: Non-Phased Approach**

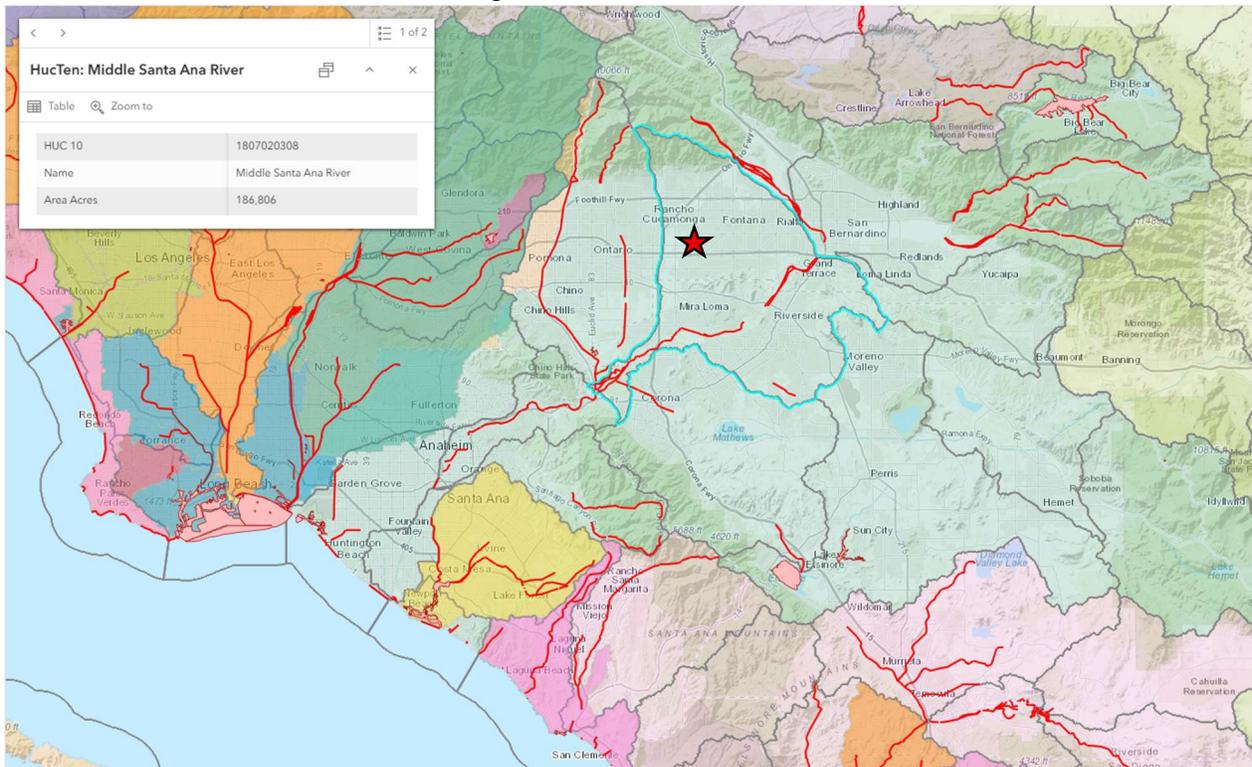
- a. The Permittees shall design the SWPPPs to document compliance with the numeric effluent limits in Table 1b of the Sector-Specific Permit.

Genesis 1 will choose to comply with Option 1 (Phased Approach with Numeric Action Levels).

### 1.10 TOTAL MAXIMUM DAILY LOADS (TMDLS) APPLICABILITY

The Sector-Specific General Permit requires implementation and enforcement of Total Maximum Daily Loads (TMDLs). The facility is located within the Middle Santa Ana River watershed, which does not have established TMDLs. The receiving waterbody is the East Etiwanda Creek, which is not listed in Attachment B (Table 1) of the Scrap Metal Permit and therefore does not have applicable TMDLs. Figure 1 below was taken from the *IGP Mapping Tool* and shows the location of the facility, indicated by the red star. The facility is located within the light green shaded area, which does not have applicable TMDLs according to the mapping tool.

Figure 1: HUC 10 and TMDLs



### 1.11 NEW DISCHARGER AND 303(D) LISTED RECEIVING WATERS

This section is reserved for New Dischargers that will be discharging to an impaired water body with a 303(d) listed impairment. A New Discharger is a facility from which there is a discharge, that did not commence the discharge at a particular site prior to August 13, 1979, which is not a new source as defined in 40 Code of Federal Regulations 122.29, and which has never received a finally effective NPDES permit for discharges at that site. From this definition, Genesis 1 would be considered a New Discharger. Bolsa Chica Channel is Clean Water Act 303(d) listed for impairments with ammonia and indicator bacteria. Genesis 1 is not a source of ammonia as it only had roll-off containers, ferrous metals, non-ferrous metals, forklifts, and trucks, none of which are sources of ammonia. The only liquid material handled on site is waste

oil from aluminum chips if received by the facility which is not a source of ammonia. Indicator bacteria is not associated with scrap metal, equipment, or oil, and therefore not associated with industrial stormwater runoff. From page 24 of the Scrap Metal Permit, New Dischargers proposing to discharge to a 303(d) listed waterbody are not eligible for coverage unless:

1. The facility provides verifiable documentation indicating that the listed pollutant will not be present in the discharges from the facility. This information shall be documented in the SWPPP.
2. The facility has implemented proper control measures to eliminate all exposure of the listed pollutant and documented the control measures in the SWPPP.
3. The facility provides verifiable information to indicate that the discharges from the facility will meet the in-stream water quality standard at the point of discharge to the waterbody or provides technical information to show that there is excess waste load allocation available in the waterbody to allow such discharges without violating the approved TMDLs/ waste load allocations.

Genesis 1 is not a source of ammonia or indicator bacteria. Indicator bacteria is sourced from animal droppings. Ammonia is not a chemical handled or stored at the facility. Ammonia is also commonly found in household cleaners, but no ammonia cleaning agents are used at the site. Genesis 1 qualifies as a New Discharger.

### **1.12 ANNUAL COMPREHENSIVE FACILITY COMPLIANCE EVALUATION**

The 2018 IGP (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 (8) months and not more than sixteen (16) months after the previous Annual Evaluation. The planned window for conducting the Annual Evaluation is between April and June of each year. 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 stormwater 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 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 stormwater discharges and authorized NSWDS.
- An assessment of any other factors needed to comply with the Annual Reporting requirements in General Permit Section XVI.B.

### **1.13 ANNUAL REPORT**

The Annual Report will be prepared, certified, and electronically submitted no later than July 15<sup>th</sup> 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 online forms.

### **1.14 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.
- The facility's operations have changed and are no longer subject to the General Permit.

The SWPPP and all of the provisions of the General Permit will be complied with 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.

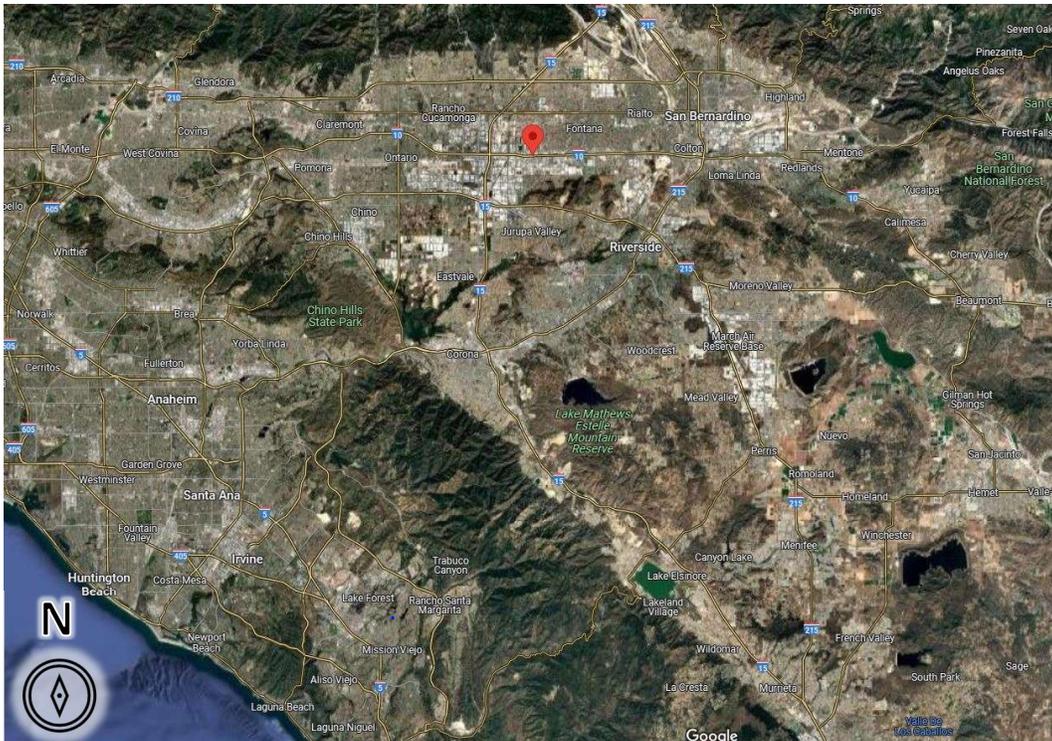
## 2.1 FACILITY DESCRIPTION

### 2.1.1 Facility Location

Genesis 1 comprises approximately 1.5 acres and is located at 10312 Almond Avenue, Fontana, California. The facility is located approximately 70 feet north of Interstate 10, 1.6 miles east of Interstate 15 and 11.3 miles west of Interstate 215. Genesis 1 is about 20 feet north of the local storm channel, about 1.2 miles east of the East Etiwanda creek, and 11 miles west of the Santa Ana River. The facility is located in an industrial business area at the coordinates 34.066111°N, 117.492222°W and is identified on the Site Maps in Appendix A.

Genesis 1 is also located within the Middle Santa Ana River (Reach 3) HucTen watershed boundary that has not adopted Total Maximum Daily Loads (TMDLs) and is not listed for water quality impairments on the most recent 303(d)-list for impairments.

**Figure 2: Regional Location**



The facility is located within the watershed (HUC10: 1807020308) Middle Santa Ana River. Stormwater leaves the site via two discharge locations via sheet flow toward the internal drain inlets located in the southwestern and southeastern sides of the Facility.

### **2.1.2 Facility Operations**

Operations at Genesis 1 includes wholesale of ferrous and non-ferrous metals, sorting, handling, loading, shipping/receiving, and waste management. There is some welding done on roll-off containers for as-needed repairs. Shearing is also done when a type of metal needs to be separated from another type of metal, although these activities are minimal.

A list of specific industrial activities is listed below:

- Ferrous and non-ferrous metal storage
- Sorting and Handling
- Equipment Operations
- Shipping/ Receiving
- Waste Management
- Shearing
- Welding
- Cardboard Bailing
- Truck Weighing

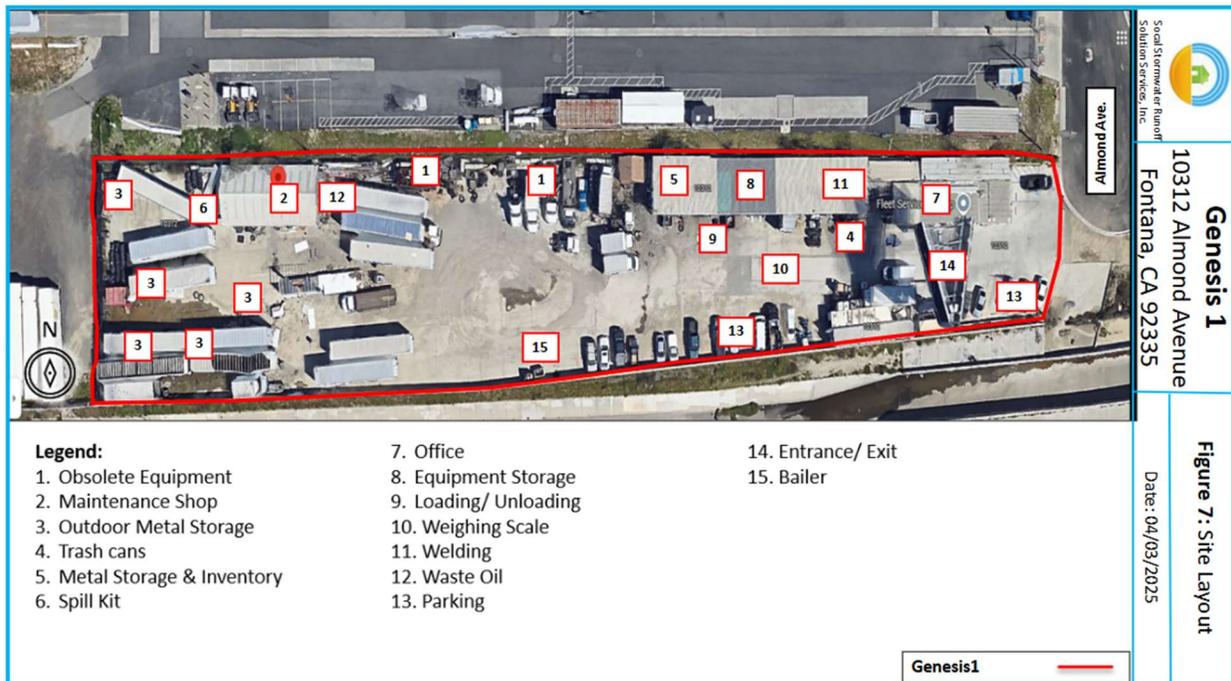
### **2.1.3 Existing Conditions**

This site covers a total of 1.5 acres and is covered with pavement, buildings and roof covered structures. The facility houses a bailer and a scale (see *Figure 3* below). Of the developed areas, about 1.25 acres of industrial activities are directly exposed to precipitation and stormwater runoff. There are three (3) buildings and covered areas identified below:

- Building A consists of administrative offices.
- Building B consists of a large roof-covered structure containing a metal storage area, an equipment storage area and a welding area.
- Building C contains a maintenance shop.

There are no known historic sources of contamination on site.

Figure 3: Site Layout



Social Stormwater Runoff  
 Solution Services, Inc.  
**Genesis 1**  
 10312 Almond Avenue  
 Fontana, CA 92335  
 Date: 04/03/2025  
**Figure 7: Site Layout**

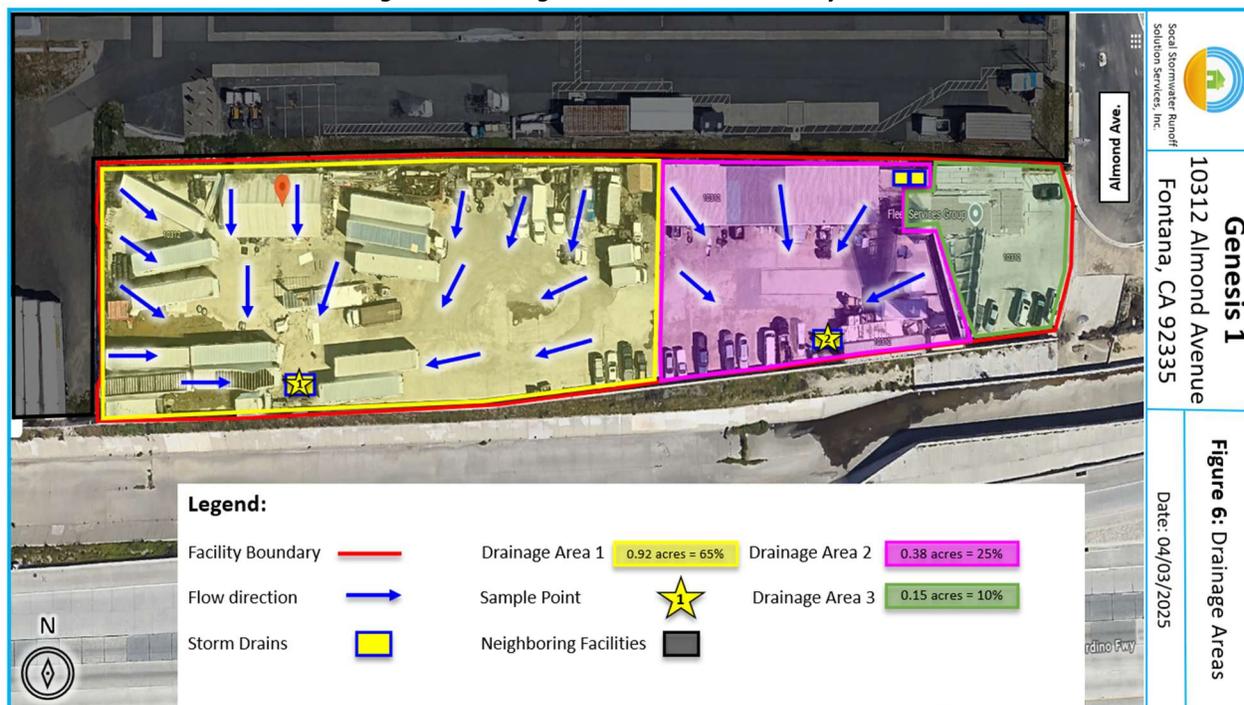
### 2.1.4 Description of Drainage Area

The facility is divided into three (3) drainage areas: Drainage Area 1, Drainage Area 2, and Drainage Area 3, which are depicted below in *Figure 4* (also included in the Site Maps in Appendix A). *Figure 4* shows the area layout, including the general site topography, storm drainage system, drainage inlets, its respective drainage area, and discharge locations.

The facility site is relatively level and slopes to the south. The elevation of the project site ranges from 1,009-1,012 feet above mean sea level (msl). Surface drainage at the site currently flows primarily in the south direction, towards drop-in storm drain inlets. Detailed descriptions of all drainage areas are provided below:

- Drainage Area 1 (DA-1)** flows overland in primarily the southern direction into the southwestern drop-in storm drain inlet. DA-1 consists of Building C (maintenance shop), outdoor material storage area, bailer, waste oil storage area, and outdoor metal storage areas.
- Drainage Area 2 (DA-2)** consists of the dumpsters area, scale, interior parking, and the loading/unloading area. Stormwater flows overland in the southwestern and southeastern direction into the southeastern drop-in storm drain inlet.
- Drainage Area 3 (DA-3)** is non-industrial and consists of employee parking, facility entrance/ exit, the office building, and drainage from the driveway. Stormwater flows to a drop-in catch basin located southeast of the facility.

Figure 4: Drainage Area and Storm Drain System



**2.1.5 Stormwater Run-On from Offsite Areas**

There is no anticipated offsite run-on to this site because the facility is walled at the boundaries of neighboring facilities and the canal, and graded sloped inward at the driveway entrance/exit.

**2.1.6 Geology and Groundwater**

The facility is completely paved and impervious. There are no infiltration BMPs in place, and therefore groundwater impacts are not foreseen.

**2.2 OPERATIONS SCHEDULE**

Genesis 1 operates eight (8) hours a day, five (5) days a week. There is one maintenance shift. Industrial activities during this time periods consist of shipping/receiving and material handling. Variations in actual operating hours may occur as necessary.

**Table 2.2 Facility Operations Schedule**

Day	Hours of Operations
Monday	08:00 to 16:00
Tuesday	08:00 to 16:00
Wednesday	08:00 to 16:00
Thursday	08:00 to 16:00
Friday	08:00 to 16:00
Saturday	Closed
Sunday	Closed

\*Facility is closed on federal holidays and some non-federal holidays.

This SWPPP will be implemented, and a copy made available to all facility staff at all times. Additionally, the SWPPP is available for public access on the SMARTS website. A copy will be available to regulatory agency personnel upon request.

If industrial activities are temporarily suspended for ten (10) or more consecutive calendar days during a reporting year, BMPs that are necessary to achieve compliance with the 2018 IGP during the temporary suspension of the industrial activity will be identified and incorporated into the SWPPP.

### 2.3 POLLUTANT SOURCE ASSESSMENT

This section presents a list of all industrial materials and potential pollutant sources at the Genesis 1 facility. It identifies specific pollutants associated with these sources and pollutant sources that are most susceptible to stormwater exposure. A summary of significant spills and leaks that have the potential to occur is provided in Section 2.3.2.

**Table 2.3 List of Identified Pollutants within the Impaired Watershed**

List of identified Pollutants within impaired watershed.	Pollutants	Present in Industrial Facility Storm Water Discharge?
Ammonia	Ammonia	No
Dioxin	Dioxin	No
Dissolved Oxygen	Oxygen, Dissolved	No
E. coli and enterococcus	Pathogens	No
E. coli and enterococcus	Indicator Bacteria	No
E. coli and enterococcus	Enterococcus	No
Metals Screen	Copper	Yes
Metals Screen	Lead	Yes
Metals Screen	Nickel	Yes
PCBs (Polychlorinated biphenyls)	PCBs	No
Total chlordane	Chlordane	No
pH	pH	Yes

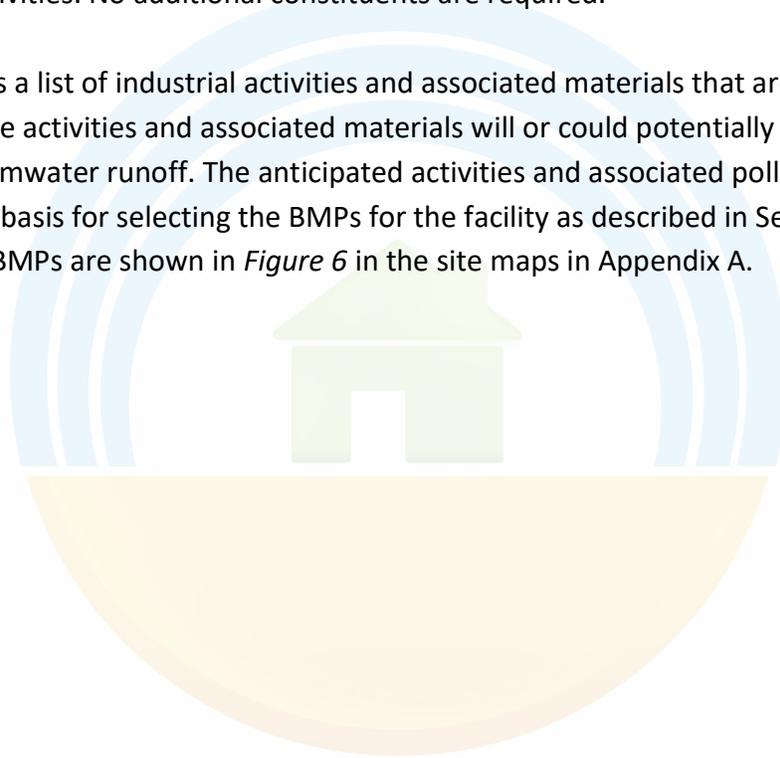
#### 2.3.1 Description of Pollutant Source Assessment

Table 2.1 includes a list of industrial activities and associated materials that are anticipated to be used onsite. These activities and associated materials will or could potentially contribute pollutants to stormwater runoff. The anticipated activities and associated pollutants provided in Table 2.1 are the basis for selecting the BMPs for the facility as described in Section 3. Locations of all material stockpiles, storage areas, anticipated pollutants, and associated BMPs are show on the Site Maps in Appendix A

The list of parameters to be analyzed for Permittees under the Scrap Metal Permit includes the

parameters listed in Table 2 of the Sector-Specific General Permit, as well as any other potential pollutant present on site. Genesis 1 mainly works with ferrous (steel, iron, and stainless steel) and non-ferrous (aluminum, brass, copper) wholesale metal. There is welding done to the roll-off containers to fix any holes on the bins. Shearing is also done to metal if there is a piece of unwanted metal with another type of metal (for example, a piece of steel is adhered to a piece of aluminum scrap). If the Facility receives aluminum chips, there are times where it contains waste oil, which is drained and properly disposed of. Waste oil consists of oil and traces of aluminum. Genesis 1 industrial activities and materials are not sources of ammonia, dioxin, oxygen, pathogens. From this assessment, the required analytical constituents in Table 2 address these materials and activities. No additional constituents are required.

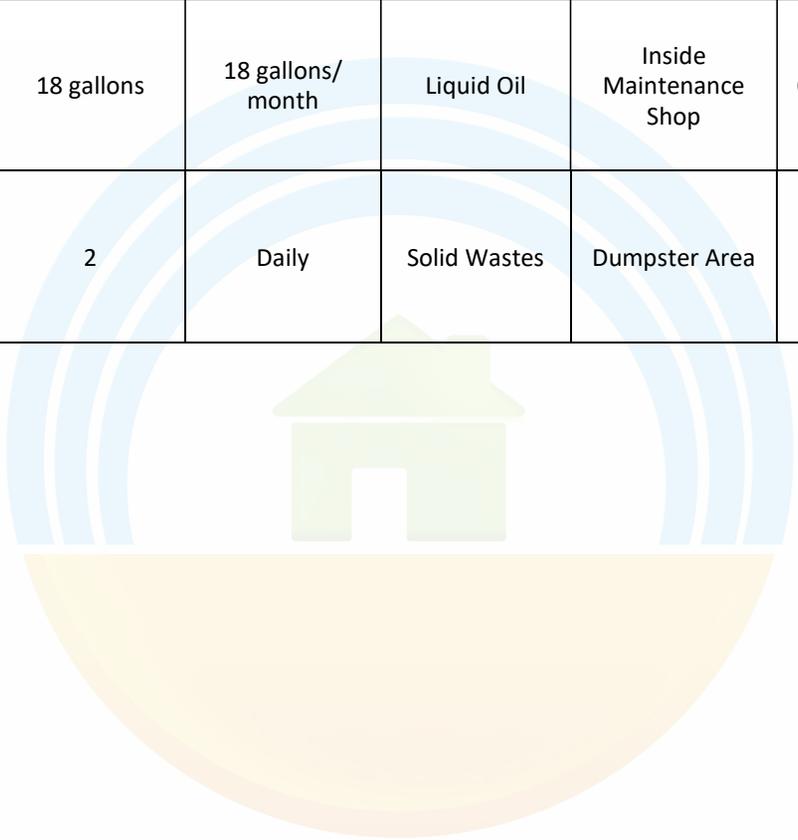
Table 2.5 includes a list of industrial activities and associated materials that are anticipated to be used onsite. These activities and associated materials will or could potentially contribute pollutants to stormwater runoff. The anticipated activities and associated pollutants provided in Table 2.5 are the basis for selecting the BMPs for the facility as described in Section 3. Locations of all associated BMPs are shown in *Figure 6* in the site maps in Appendix A.



**Table 2.5 Industrial Activities and Associated Materials**

Industrial Activity	Associated Industrial Materials	Maximum Material Quantity	Average Daily Handling Frequency	Material Physical Characteristics	Material Location	Associated Pollutants	Stormwater Exposure Pathway
Material Handling, Sorting, & Storage	Aluminum	20,000 lbs.	40,000 lbs./ month	Solid - Metal	Covered Metal Bin Outdoor Loading/ Unloading	Aluminum	Drainage Area 1 – Surface flows to the southwestern drain inlet.
Material Handling, Sorting, & Storage	Misc. Non-Ferrous Metals (copper, brass, insulated wires, stainless steel)	5,000 lbs.	60,000-100,000 lbs./ month	Solid - Metal	Covered Metal Bin Outdoor Loading/ Unloading Area	Copper, Iron, Zinc	Drainage Area 1 – Surface flows to the southwestern drain inlet.
Material Handling, Sorting, & Storage	Misc. Ferrous Metal (Steel, Iron)	20,000 lbs.	60,000-100,000 lbs./ month	Solid - Metal	Covered Outdoor Roll-Off Outdoor Loading/ Unloading Area	Iron	Drainage Areas 1 & 2 – Surface flows to the southwestern or southeastern drain inlets
Equipment Operations	Forklifts	2	Daily	Equipment	Shipping/ Receiving Stored in Roof Covered Area	TSS, O&G, Zinc	Drainage Areas 1 & 2 – Surface flows to the southwestern or southeastern drain inlets
Material Handling	Cardboard	10,000 lbs.	20,000 lbs./ month	Solid	Shipping/ Receiving Area Covered Roof Structure	Total Suspended Solids	Drainage Areas 1 & 2 – Surface flows to the southwestern or southeastern drain inlets.
Equipment Maintenance	Welding	1	Daily	Equipment	Welding Covered Roof Structure	Metals	No exposure unless welding debris tracks outside of covered roof area.

Industrial Activity	Associated Industrial Materials	Maximum Material Quantity	Average Daily Handling Frequency	Material Physical Characteristics	Material Location	Associated Pollutants	Stormwater Exposure Pathway
Waste Management	Waste Oil (if handling aluminum shavings)	18 gallons	18 gallons/month	Liquid Oil	Inside Maintenance Shop	O&G, aluminum	Drainage Area 2 – Surface flows to the southeastern drain inlet.
Waste Management	Roll Off Container Dumpster	2	Daily	Solid Wastes	Dumpster Area	TSS, dust	Drainage Area 2 – Surface flows to the southeastern drain inlet.



### 2.3.2 Significant Spills and Leaks

Table 2.6 includes a list of industrial materials where spills and leaks have potential to occur, and includes material characteristics, quantities, locations, and containers. Spills and leaks will be prevented by implementing the BMPs described in Section 3.

**Table 2.6 Potential Material Spills and Leaks**

Industrial Material	Material Physical Characteristics	Material Quantity	Material Container	Material Location
Oil leaks from trucks or forklifts	Liquid	<5 gal	Trucks & forklifts	Shipping/ Receiving
Waste Oil, Grease	Liquid	<18 gal	55-gallon drums	Warehouse, Shipping/ Receiving when hauled

**Table 2.7 Spills and Leaks within Previous Five-Year Period**

Industrial Material	Material Physical Characteristics	Location of Spill or Leak	Quantity Spilled or Leaked	Quantity Discharged from Site	Remaining Quantity with Potential for Discharge
None documented.					

### 2.4 IDENTIFICATION OF NON-STORMWATER DISCHARGES (NSWDs)

Non-stormwater discharges (NSWDs) consist of discharges which do not originate from precipitation events. The Industrial General Permit provides allowances for specified NSWDs provided they:

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

NSWDs into storm drainage systems or waterways, which are not authorized under the General Permit and listed in the SWPPP, or authorized under a separate NPDES permit, are prohibited.

Non-stormwater discharges that are **authorized** at this facility include the following:

- Atmospheric condensation

These authorized NSWDs will be managed with the stormwater and non-stormwater BMPs described in Section 3 of this SWPPP. These BMPs are implemented to:

- Reduce or prevent the contact of authorized NSWDs with materials or equipment that are potential sources of pollutants.
- Reduce, to the extent practicable, the flow or volume of authorized NSWDs.
- Ensure that authorized NSWDs do not contain quantities of pollutants that cause or contribute to an exceedance of water quality standards.

- Reduce or prevent discharges of pollutants in authorized NSWDs in a manner that reflects best industry practice considering technological availability and economic practicability and achievability.

Monthly visual observations will be conducted according to the General Permit (Section XI.A.1) for NSWDs and sources to ensure adequate BMP implementation and effectiveness. Monthly visual observations include observations for evidence of unauthorized NSWDs.

Activities at this site that may result in **unauthorized** non-stormwater discharges include:

- Spills from material handling of liquid chemicals.
- Oil leaks from vehicles or forklifts.

Steps will be taken, including the implementation of appropriate BMPs as defined in Section 3, to ensure that unauthorized NSWDS are eliminated, controlled, disposed off-site, or treated on-site. The following discharges are authorized by a Regional NPDES Permit:

- None.

## **2.5 REQUIRED SITE MAPS INFORMATION**

The facility's Site Maps are provided in Appendix A and include all information required by the General Permit. The maps include information regarding the facility boundary and stormwater drainage areas, nearby water bodies, locations of stormwater collection and conveyance systems including outfalls, locations and descriptions of all industrial activities and materials, and locations and descriptions of all structural control measures.

A summary of all information provided in the Site Maps is provided in Table 2.8 below.

**Table 2.8 Required Site Maps Information Checklist**

Required Element	Included in Site Map(s)
The facility boundary	✓
Stormwater drainage areas within the facility boundary	✓
Portions of any drainage area impacted by discharges from surrounding areas	N/A
Flow direction of each drainage area	✓
On-facility surface water bodies	N/A
Areas of soil erosion	N/A
Location(s) of nearby water bodies (such as rivers, lakes, wetlands, etc.)	✓
Location(s) of municipal storm drain inlets that may receive the facility's industrial stormwater discharges and authorized NSWDs	✓
Locations of stormwater collection and conveyance systems and associated points of discharge, and direction of flow	✓
Any structural control measures (that affect industrial stormwater discharges, authorized NSWDs, and run-on)	N/A
All impervious areas of the facility, including paved areas, buildings, covered storage areas, or other roofed structures	✓
Locations where materials are directly exposed to precipitation	✓
Locations where significant spills or leaks (Section X.G.1.d of the General Permit) have occurred	N/A
Areas of industrial activity subject to the General Permit	✓
All storage areas and storage tanks	✓
Shipping and receiving areas	✓
Fueling areas	N/A
Vehicle and equipment storage/maintenance areas	✓
Material handling and processing areas	✓
Waste treatment and disposal areas	✓
Dust or particulate generating areas	✓
Cleaning and material reuse areas	N/A
Any other areas of industrial activity which may have potential pollutant sources	✓

## **Section 3 Best Management Practices (BMPs)**

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### **3.1 MINIMUM BMPs**

Facilities under the Scrap Metal Permit must document Preventative Measures and Mitigative Measures implemented in this SWPPP. This section also complies with the requirements stated in the 2018 Industrial General Permit (2018 IGP). References for BMP implementation is provided in the CASQA Stormwater BMP Handbook: Industrial and Commercial Fact Sheets and the relevant fact sheets are included in Appendix G. These fact sheets are for reference only and do not replace site-specific BMPs implemented. Sections 3.1.1 through 3.1.5 list the requirements for each of these minimum BMPs. 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.

The Genesis 1 facility has site specific BMPs that are described in Sections 3.1.1 to 3.1.6. Table 3.1 provides a list of the five minimum IGP BMP elements that are included in the relevant BMP fact sheets and indicates which BMPs are implemented at the facility. Employee Training, described in Section 3.1.6, and Quality Assurance and Record Keeping, described in Section 3.1.7, are additional minimum BMPs that will be implemented.

As required by the 2018 IGP, a summary of all implemented BMPs is included in Section 3.3. The schedule for BMP implementation and the requirements for inspection and maintenance are contained in Section 4.

**Table 3.1 Minimum BMPs**

CASQA Fact Sheet Number	CASQA BMP Fact Sheet Name	Addresses Minimum General Permit BMP Requirements					BMP to be Implemented?		
		Good Housekeeping	Preventative Maintenance	Spill and Leak Prevention and Response	Material Handling and Waste Management	Erosion and Sediment Control	YES	NO	Not Applicable
SC-10	Non-Stormwater Discharges	✓		✓			✓		
SC-11	Spill Prevention, Control, and Cleanup			✓			✓		
SC-20	Vehicle and Equipment Fueling	✓	✓	✓	✓				✓
SC-21	Vehicle and Equipment Cleaning	✓	✓	✓	✓				✓
SC-22	Vehicle and Equipment Maintenance and Repair	✓	✓	✓	✓		✓		
SC-30	Outdoor Loading and Unloading	✓		✓	✓		✓		
SC-31	Outdoor Liquid Container Storage	✓	✓	✓	✓		✓		
SC-32	Outdoor Equipment Operations	✓	✓	✓	✓		✓		
SC-33	Outdoor Storage of Raw Materials	✓	✓	✓		✓	✓		
SC-34	Waste Handling and Disposal	✓	✓	✓	✓		✓		
SC-35	Safer Alternative Products						✓		
SC-40	Contaminated or Erodible Surfaces					✓			✓
SC-41	Building and Grounds Maintenance	✓		✓	✓				✓
SC-42	Building Repair, Remodeling, and Construction	✓		✓	✓	✓			✓
SC-43	Parking Area Maintenance	✓	✓	✓					✓
SC-44	Drainage System Maintenance	✓	✓	✓					✓
<b>Additional BMPs Implemented: N/A</b>									

### **3.1.1 Good Housekeeping**

The following good housekeeping measures will be implemented in accordance with the 2018 Industrial 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 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.
- Minimize authorized NSWDs from non-industrial areas (e.g., potable water, irrigation system, etc.) that contact industrial areas of the facility. Facility personnel will ensure that NSWDs will not commingle with industrial activity.
- Per the Scrap Metal Permit, facilities must identify potential pollutant sources throughout the facility and the control measures used for each source/ area, including good housekeeping practices. Control measure documentation shall include procedures, specific equipment used, maintenance schedules, and a record of all maintenance performed with dates and signatures.

#### **Site Specific Good Housekeeping BMPs**

- *A push broom or mechanical sweeper is used across the facility outdoor areas.*
- *Sweeping is done at the end of the day and before a rain event is forecasted.*
- *The facility is inspected during routine operations by maintenance personnel to ensure all equipment is in good working order.*
- *Pre-storm cleaning of the drain inlets for sediment, debris, and trash are conducted.*
- *The maintenance shop, covered metal storage area, equipment storage area and welding area are swept weekly with brooms.*

### 3.1.2 Preventative Maintenance

The following preventative maintenance measures will 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.
- Forklifts are inspected and maintained for leaks and spills.
- Establish an appropriate schedule for maintenance of identified equipment and systems.
- 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.

Specific preventative maintenance BMPs to be implemented at the facility are provided in Table 3.1.

#### **Site Specific Preventative Maintenance BMPs**

- *Used oil, oily rags and filters are placed in marked containers, properly stored, and are properly removed as HazMat waste.*
- *All spill containment pallets and pans are inspected monthly.*
- *Appropriate secondary containment and/or diversionary structures or equipment is provided for all oil handling containers, equipment, and transfer areas to prevent a discharge to navigable waters. The entire secondary containment system, including walls and floor, can contain oil and is constructed so that any discharge from a primary containment system, such as a tank or pipe, will not escape the containment system before cleanup occurs.*
- *Secondary containment for the bulk storage containers (including mobile/portable oil storage containers) holds the capacity of the largest container plus additional capacity to contain precipitation. Mobile or portable oil storage containers are positioned to prevent discharges.*
- *Specific actions are outlined in the facility's SPCC Plan.*
- *Trash bins and dumpster lids are kept closed to prevent oil, grease, and other materials contained from being exposed to stormwater.*
- *Filtration socks are placed in a "U" shape to prevent wash water from buses entering the drain inlets.*
- *Maintenance of trucks is done on site, every 3 months. The ground is protected with tarps, drip pans, and cardboard to prevent leaks on the ground.*

- *Forklifts repairs are done inside the warehouse. Maintenance is done after 3,000 miles.*

### **3.1.3 Spill and Leak Prevention and Response**

The following spill and leak prevention and response measures will 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.
  - *For minor spills, absorbent material is used, collected, and disposed of in enclosed receptacles for disposal offsite by an independent contractor.*
  - *For major spills, several actions are taken as soon as the spill is discovered:*
- 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.
- Identify and train appropriate spill and leak response personnel.

#### **Site Specific Spill and Leak Prevention and Response BMPs**

- *Spill kits with absorbent media, pads, and socks are kept within brightly marked containers throughout the site. Refer to Figure 7 in the Site Maps for locations.*
- *Broom and dustpan are available to pick up absorbent waste.*
- *Trucks are inspected for any active leaks.*
- *A mechanical sweeper is available for further clean-up.*

### **3.1.4 Material Handling and Waste Management**

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

- Prevent or minimize handling of industrial materials or waste 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).

- 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.
- 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.
- Per the Scrap Metal Permit, facilities must maintain a current inventory of materials and chemicals used at the facility and identify proper storage locations and handling procedures. This list must be maintained monthly with signature, date and name of preparer.
- Properly dispose of waste materials, garbage, and debris, and cover all trash containers.

**Site Specific Material Handling and Waste Management BMPs:**

- *Trash bins and dumpsters have lids and are kept closed to prevent stormwater from contacting trash, debris, and oily substances.*
- *Waste bins that are deteriorating will be replaced with bins in good condition.*
- *Oil contaminated materials such as used rags, pads, and absorbent materials are placed in containment drums and properly hauled away as HazMat.*
- *HazMat storage takes place in designated areas. Inventory controls are established.*
- *Hazardous materials are monitored frequently.*
- *Containers/tanks with liquids are kept within secondary containment BMPs and under storm-resistant shelters.*
- *Tarps are on hand to cover roll-off containers that must be stored outdoors due to insufficient room in warehouse.*

**3.1.5 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.
- If sediment basins are implemented, ensure compliance with the design storm standards in Section X.H.6. of the General Permit.

**Site Specific Erosion and Sediment Controls BMPs**

- *The facility is 100% impervious. Erosion and sediment control BMPs are not applicable.*

### **3.1.6 Preventative Measures for Phase I Facilities:**

For facilities under the three-phased approach:

- To the extent practicable, minimize the runoff from the site through low impact development (LID) type of BMPs, such as: onsite infiltration including percolation and retention basins, pervious pavement, evapotranspiration and onsite storage (e.g., rain barrels or cisterns to store storm water) and use, green roofs, etc.; control flow volume and velocity through vegetated swales, bioretention facilities, etc. The discharger shall collect samples before runoff comes into contact with the LID BMPs and after runoff passes through the LID BMPs. Dischargers who appropriately implement percolation or other infiltration LID type BMPs, are required to collect samples prior to the discharge entering into the LID BMPs. The data collected by Dischargers prior to the runoff entering the LID BMP is not considered compliance data.
- Develop and implement a program, to the maximum extent practicable, to percolate, evapotranspire, or use onsite, the design volume of runoff from non-industrial areas and uncontaminated runoff from industrial areas. These onsite systems shall be designed such that they do not cause or contribute to an exceedance of groundwater quality objectives, including an appropriate level of pre-treatment controls. The bottom of the infiltration system shall be at least 10 feet above the historic high groundwater level; discharges to the infiltration system shall receive an appropriate level of pretreatment; the infiltration system shall not be located in areas with soil or groundwater contamination and shall be at least 100 feet away from any water supply wells.
- Runoff from the non-industrial areas shall not be commingled with uncontaminated runoff from industrial areas. Divert run-ons and flows from non-industrial areas away from industrial areas using berms, curbs, sub-surface piping, grading, or other structural controls, where practicable.
- Eliminate all unauthorized non-storm water discharges and identify proper management techniques for authorized non-storm water discharges.
- Where practicable, minimize exposure of industrial activities to storm water by roofing or other types of covers. Roofing materials and other types of covers shall be non-polluting. Inspect all industrial areas on a monthly basis and properly remove and dispose of all debris, waste, trash and spilled or leaked materials. Keep a record of all inspections required in this Permit.
- Drain fluids from vehicles and equipment prior to storage, disposal, or shredding.
- Use drip pans and absorbent materials under or around leaky industrial vehicles and equipment. Keep records of drip pan use and maintenance with inspection records.
- Build secondary containment and roofs over chemical and hazardous materials storage areas.
- Conduct equipment cleaning and vehicle washing in designated areas and divert flows into sanitary sewers (with approval from the sanitation district) or recycle the wash water.
- Sweep industrial areas on a regular basis, preferably using a vacuum sweeper. Keep records of sweeping activities with inspection records.

- Clean catch basins and other storm water conveyance systems on as needed basis, and at least as part of the inspection routine identified.
- Inspect all vehicles and equipment on a regular schedule (e.g., on a weekly basis) for leaks, spills or other malfunctions.
- Label all containers.
- Develop and implement an employee training program for the implementation of the site SWPPP, including documentation of training materials and attendance. All new employees shall receive training within 30 days of employment and all employees shall have refresher training at least on an annual basis.
- Identify spill prevention and response procedures, including management of any non-storm water runoff.
- Consolidate all industrial area discharges to as few discharge points as practicable, preferably to one discharge point and where practicable, divert all non-industrial area runoff away from industrial areas. Manage run-on to the facility by diversion or other means.
- Minimize storm water contact with contaminating building materials by removal, painting, or other measures.
- Determine the possibility of diverting first flush or any contaminated storm water to the sanitary sewer system. This option should only be considered if the sanitary sewage collection agency reclaims and distributes and/or uses reclaimed water.
- Develop and implement a monitoring program. The individual(s) responsible for sample collection, preservation, and handling shall be identified in the monitoring program and must have received the requisite training.

### **3.1.7 Mitigative Measures**

The following mitigative measures must be implemented within 30 days of the new facility filing their NOI:

- Develop and implement a spill response procedure; identify all spill response equipment, location and proper maintenance of the equipment; identify spill response personnel and any training needed for the spill response personnel and establish a procedure to notify proper personnel within the facility and regulatory agencies.
- Cleanup spills and leaks promptly using dry methods (e.g., absorbents).
- Identify pollutants that cannot be eliminated without treatment controls include the treatment control methods, individual(s) responsible for their maintenance, and maintenance frequency.
- Develop and implement control measures for oily wastes from the site, such as canopies, covers, roofs, oil-water separator, etc., and implement a plan for proper operation and maintenance of those systems; identify its location on the site map, individual(s) responsible for its maintenance and maintenance frequency.
- Evaluate the need for advanced treatment systems (or equivalent systems) during the planning stages by evaluating the monitoring reports for the last three years. An advanced treatment system may not be needed if the monitoring results were below the triggers specified above.
- Identify all treatment controls installed at the facility, the individual(s) responsible for

regular operation and/or maintenance of the system, the schedule for any required maintenance, and a record of the maintenance activities including the name of the individual(s) performing the maintenance, the date and a signature.

### 3.1.8 Employee Training Program

An employee training program will be implemented in accordance with the following requirements in the General Permit (Section X.H.1.f):

- Ensure that all team portal 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.
- Maintain documentation of all completed training classes and the personnel that received training in the SWPPP.
- 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.
- Maintain documentation of all completed training classes and the personnel that received training in the SWPPP.

#### **Site Specific Employee Training Program**

- *Site personnel are trained annually in IGP compliance, Spill Prevention and Response, sampling and proper housekeeping.*
- *Training documentation will be included in the SWPPP and maintained at the Facility.*
- *Annual SWPPP training is scheduled every year.*

The Pollution Prevention Team will be trained in implementing the various compliance activities specified in this SWPPP, and documentation of training activities is retained in SWPPP Appendix C. To promote stormwater management awareness specific to this facility, refresher training will be provided on an annual basis.

Task specific training for all employees engaged in activities that have the potential to cause stormwater pollution will be conducted when new employees are hired, and refresher training will be provided on an annual basis.

Spill kit/ Spill Prevention & Response training must be completed for implementing the 2018 IGP. Scenarios should be discussed where materials are used to contain and clean up spills, to prevent unauthorized discharges into the storm drain system.

Genesis 1 is in Baseline status, as of the date of this SWPPP. Training is performed by a Qualified Industrial Stormwater Practitioner (QISP). The QISP will be responsible for providing information during training sessions and subsequently completing the training logs shown in Appendix C, which identifies the site-specific stormwater topics covered as well as the names of site personnel who attended the meeting. Each team member will be trained in the specific role they are responsible to undertake.

### **3.1.9 Quality Assurance and Record Keeping:**

The following quality assurance and record keeping activities will be performed in accordance with the requirements in the General Permit (Section X.H.1.g):

- Develop and implement management procedures to ensure that appropriate staff implement all elements of the SWPPP, including the Monitoring Implementation Plan (SWPPP Section 5).
- Develop a method of tracking and recording the implementation of BMPs identified in the SWPPP. Monthly BMP inspections have been adjusted with site specific observations and categories. Completed forms will be saved in the facility's SWPPP binder.
- Maintain the BMP implementation records, training records, and records related to any spills and clean-up related response activities for a minimum of five (5) years as required in the 2018 Industrial General Permit (Section XXI.J.4).

BMPs will be implemented according to the schedule and procedures presented in SWPPP Section 4. BMPs will be implemented by properly trained team members as documented in Appendix C. Visual observations will be performed as described in SWPPP Section 5.5. Potential pollutant sources and BMPs will be inspected during visual observations, and new BMPs will be implemented as needed. Records of visual observations of BMP implementation will be retained in Appendix H.

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

- Employee Training Records
- BMP Implementation Records
- Spill and Clean-up Related Records
- Records of Monitoring Information
  - The date, exact location, and time of sampling or measurement
  - The dates analyses were performed.

- The individuals that performed the analyses.
- The analytical techniques or methods used.
- The results of such analyses
- Phase II Corrective Action Plan
- Phase III Corrective Action Plan

### 3.2 ADVANCED BMPs

#### 3.2.1 Exposure Minimization BMPs

Storm-resistant shelters are installed onsite to prevent the contact of stormwater with industrial activities and material. The locations of these shelters and associated industrial activities and materials are presented in Table 3.2. Please refer to the Site Maps (Appendix A – Figure 7) for the location of storm-resistant shelters at the facility.

**Table 3.2 Exposure Minimization BMPs**

Shelter Location/Description	Associated Industrial Activity/Material
Office Building (Building A)	None.
Welding Area (Building B)	Welding conducted inside roof structure.
Equipment Storage Covered Roof Area (Building B)	Forklift storage is conducted in this area.
Metal Storage Covered Roof Area (Building B)	Metals stored elevated off-floor.
Maintenance Shop (Building C)	All vehicle maintenance operations occur inside. Waste oil, absorbent, waste oil rags, coolant waste and waste oil filters.

Areas where industrial materials may be exposed to stormwater include:

- Obsolete Equipment Area
- Outdoor Metal Storage
- Dumpsters Area
- Loading/Unloading Area
- Waste Oil/HazMats Area
- Welding
- Metal Storage
- Waste Bins

#### 3.2.2 Stormwater Containment and Discharge Reduction BMPs

Stormwater containment and discharge reduction BMPs include BMPs that divert, use, contain, or reduce the volume of stormwater runoff. Specific stormwater containment and discharge reduction BMPs to be implemented at the facility are the secondary containment concrete berms where the above ground storage tanks are stored.

No stormwater containment and Discharge Reduction BMPs are implemented at the site.

**Table 3.3 Stormwater Containment and Discharge Reduction BMPs**

CASQA Fact Sheet Number	CASQA BMP Fact Sheet Name	Meets Advanced BMP Requirement	BMP Used		BMP Location, Runoff Sources, and Potential Pollutants
			YES	NO	
TCM-10	Infiltration Trench	✓		✓	
TCM-11	Infiltration Basin	✓		✓	
TCM-12	Harvest and Use	✓		✓	
TCM-20	Wet Pond	✓		✓	
TCM-21	Constructed Wetland	✓		✓	
TCM-22	Extended Detention Basin	✓		✓	
TCM-30	Vegetated Swale			✓	
TCM-31	Vegetated Buffer Strip			✓	
TCM-32	Bioretention	✓		✓	
TCM-40	Media Filter			✓	
TCM-50	Water Quality Inlet			✓	
TCM-60	Multiple Systems	✓		✓	
MPM-20	Biotreatment			✓	
MPM-40	Stormwater Filter			✓	
MPM-50	Wet Vault			✓	
MPM-51	Gravity Separator			✓	
MPM-52	Drain Inlet Insert			✓	
<b>Alternate BMPs Used:</b>		<b>If used, state reason:</b>			

### **3.2.3 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.

No Treatment Control BMPs are implemented at the site.

### **3.2.4 Other Advanced BMPs**

None.



**Table 3.4 Treatment Control BMPs**

CASQA Fact Sheet Number	CASQA BMP Fact Sheet Name	Addresses O&M for Advanced BMPs	BMP Used		BMP Location, Runoff Sources, and Potential Pollutants
			YES	NO	
TCM-10	Infiltration Trench	✓		✓	
TCM-11	Infiltration Basin	✓		✓	
TCM-12	Harvest and Use			✓	
TCM-20	Wet Pond	✓		✓	
TCM-21	Constructed	✓		✓	
TCM-22	Extended Detention Basin	✓		✓	
TCM-30	Vegetated Swale	✓		✓	
TCM-31	Vegetated Buffer	✓		✓	
TCM-32	Bioretention	✓		✓	
TCM-40	Media Filter	✓		✓	
TCM-50	Water Quality Inlet	✓		✓	
TCM-60	Multiple Systems	✓		✓	
MPM-20	Biotreatment	✓		✓	
MPM-40	Stormwater Filter	✓		✓	
MPM-50	Wet Vault	✓		✓	
MPM-51	Gravity Separator	✓		✓	
MPM-52	Drain Inlet Insert	✓		✓	
<b>Alternate BMPs Used: N/A</b>			<b>If used, state reason: N/A</b>		
Roof-Covered Structures			Exposure minimization for welding operations, equipment and materials outdoor storage areas and maintenance shop.		

### 3.3 BMP SUMMARY TABLE

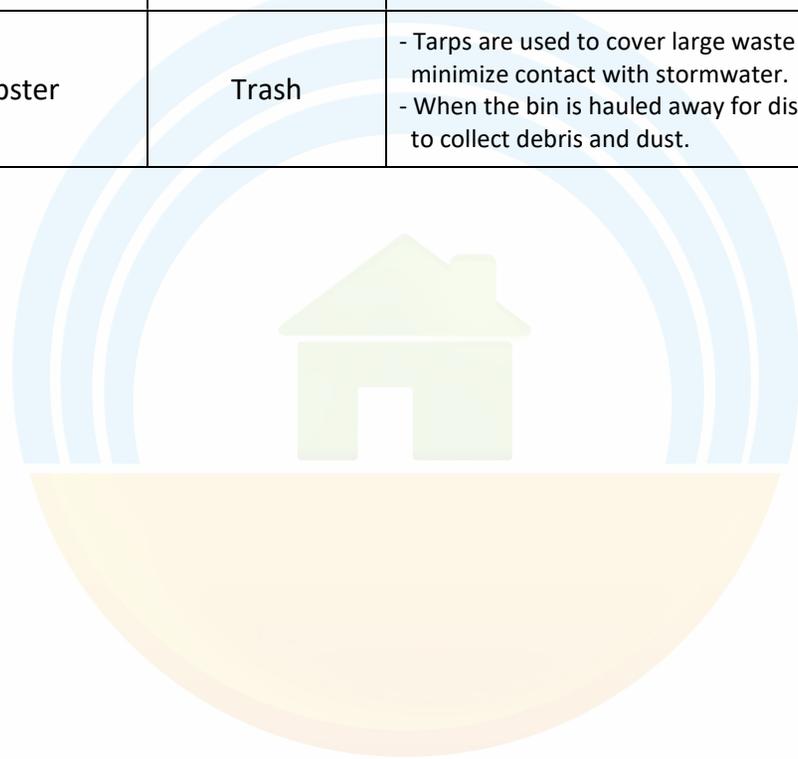
Table 3.5 summarizes the industrial activities, materials, pollutant sources, potential pollutants, and BMPs being implemented to prevent discharge of pollutants in stormwater runoff, as required from the General Permit (Section X.H.5). Descriptions of the specific BMPs being implemented were provided in previous subsections. Implementation and maintenance of BMPs is described in Section 4.



**Table 3.5 BMP Summary Table**

Industrial Activity/Material	Pollutant Sources	Potential Pollutants	BMPs Implemented	Required Equipment and Tools
Ferrous and Non-Ferrous Metal Storage	Aluminum, copper, steel, stainless steel, brass, insulated wires	Al, Cu, Fe, Zn	<ul style="list-style-type: none"> <li>- Majority of metals are stored inside the warehouse or main building.</li> <li>- If the warehouse and main building are at maximum capacity, and some metals must be stored outside, they will be covered and secured with a tarp to minimize wind dispersion and minimize contact with stormwater.</li> </ul>	Warehouse Main Building Tarp
Metal Handling & Sorting	Aluminum, copper, steel, stainless steel, brass, insulated wires, forklifts	Al, Cu, Fe, Zn	<ul style="list-style-type: none"> <li>- Forklift tracking is swept at the end of the day.</li> <li>-Bins that must be kept outside after operating hours are covered and secured with tarps.</li> </ul>	Broom Dustpan Tarp
Shipping/Receiving	Aluminum, copper, steel, stainless steel, brass, insulated wires, waste oil, vehicle traffic	Al, Cu, Fe, Zn	<ul style="list-style-type: none"> <li>- Area is inspected in case a vehicle was leaking oil.</li> <li>- Oil leaks are cleaned with absorbent media and then properly disposed of.</li> <li>- Vehicle tracking is swept at the end of the day or before a rain event is forecasted.</li> </ul>	Broom Dustpan Tarp Spill Kit
Loading/Unloading	Aluminum, copper, steel, stainless steel, brass, insulated wires, vehicle traffic	Al, Cu, Fe, Zn	<ul style="list-style-type: none"> <li>- Forklift tracking is swept at the end of the day.</li> <li>- Areas prone to forklift traffic are inspected for any leaks.</li> </ul>	Broom Dustpan Tarp
Equipment Maintenance and Repair	Oils, lubrications, greases, coolants, tire dust	Oil & grease, copper, lead, steel, TSS, pH	<ul style="list-style-type: none"> <li>- Maintenance activities are done inside covered roof maintenance area.</li> <li>- Spill kits on hand in case of spills.</li> <li>- Regular sweeping of maintenance shop.</li> </ul>	Broom and dustpan, used rags bin, spill kit(s)

Welding	Metal dust	Fe	- Welding is done outside. The ground is protected during this activity and sweeping is done after work is complete, to collect metal dust.	Broom Dustpan Tarp
Shearing	Metal debris	Aluminum, lead, steel, TSS	- Stored metals under storm-resistant shelter, when possible. - Stage metals elevated off ground to prevent rusting on ground coming to contact with stormwater.	Broom Dustpan Tarp
Waste Management	Dumpster	Trash	- Tarps are used to cover large waste containers to minimize contact with stormwater. - When the bin is hauled away for disposal, area is swept to collect debris and dust.	Tarp Broom Dustpan



## Section 4 BMP Implementation

### 4.1 BMP IMPLEMENTATION SCHEDULE

The schedule for implementing all minimum and advanced BMPs is presented in Table 4.1. BMPs will be implemented as necessary to reduce or prevent transport of industrial pollutants in stormwater runoff. Slight modifications to this schedule may be necessary to achieve this goal. Records of BMP implementation will be included in Appendix G.

**Table 4.1 BMP Implementation Schedule**

Industrial Activity/Material and Location	BMP Description	Person Responsible for Implementing BMP	Date and Time of Implementation	Implementation Duration
Ferrous and Non-Ferrous Metal Storage	<ul style="list-style-type: none"> <li>-Majority of metals are stored inside the warehouse or main building.</li> <li>- If the warehouse and main buildings are at maximum capacity, and some metals must be stored outside, they will be covered and secured with a tarp to minimize wind dispersion and minimize contact with stormwater.</li> </ul>	Adrian Gutierrez	Daily	8 hours
Metal Handling & Sorting	<ul style="list-style-type: none"> <li>- Forklift tracking is swept at the end of the day.</li> <li>-Bins that must be kept outside after operating hours are covered and secured with tarps.</li> </ul>	Adrian Gutierrez	Daily	8 hours
Shipping/Receiving	<ul style="list-style-type: none"> <li>- Area is inspected in case a vehicle was leaking oil.</li> <li>- Oil leaks are cleaned with absorbent media and then properly disposed of.</li> <li>- Vehicle tracking is swept at the end of the day or before a rain event is forecasted.</li> </ul>	Adrian Gutierrez	Weekly	8 hours

Industrial Activity/Material and Location ( <i>contd.</i> )	BMP Description	Person Responsible for Implementing BMP	Date and Time of Implementation	Implementation Duration
Loading/Unloading	<ul style="list-style-type: none"> <li>- Forklift tracking is swept at the end of the day.</li> <li>- Areas prone to forklift traffic are inspected for any leaks.</li> </ul>	Adrian Gutierrez	Daily	8 hours
Welding	<ul style="list-style-type: none"> <li>- Welding is done under a covered roof structure. The ground is protected during this activity and sweeping is done after work is complete, to collect metal dust.</li> </ul>	Adrian Gutierrez	Daily	1 hour
Shearing	<ul style="list-style-type: none"> <li>- If shearing is done outside, the ground is protected during this activity and sweeping is done after work is complete, to collect metal dust.</li> </ul>	Adrian Gutierrez	Daily	1 hour
Waste Management	<ul style="list-style-type: none"> <li>- Tarps are used to cover large waste containers to minimize contact with stormwater.</li> <li>- When bin is hauled away for disposal, the area is swept to collect debris and dust.</li> </ul>	Adrian Gutierrez	Daily	1 hour

#### 4.2 BMP INSPECTION SCHEDULE AND MAINTENANCE

The Scrap Metal Permit requires, at a minimum, monthly observations of BMPs, along with inspections during sampling events. Monthly observations will be conducted during daylight hours of scheduled facility operating hours and on days without precipitation by a SM-QSP. A BMP observation checklist must be filled out for and maintained on-site with the SWPPP. The observation checklist includes the necessary information as discussed in Section 5.5. A BMP inspection report will be completed for the monthly inspection. A blank observation checklist can be found in Appendix H and completed checklists will be kept in Appendix G or in an accompanying file/binder that is referenced in the SWPPP and readily accessible on site. BMPs will be maintained regularly to ensure proper and effective functionality. If necessary, corrective actions will be implemented within 72 hours of identified deficiencies and associated amendments to the SWPPP will be prepared and documented.

## Section 5 Monitoring Implementation Plan

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### 5.1 PURPOSE

Each facility regulated under the Scrap Metal Permit shall develop and implement a Monitoring and Reporting Program (MRP). Genesis 1 must develop an MRP in accordance with the Quality Assurance program Plan (QAPP) and the QAPP must be consistent with the SAWMP guidelines. The MRP shall consist of:

1. Preparation of Sampling: Identify individuals involved in sample collection, sampling frequency, sampling locations, sample collection bottles, and equipment.
2. Conduct Sampling: Procedures for sample collection, chain-of-custody, sample preservation and handling, delivery to the laboratory. Field measurements for pH, conductivity, and turbidity and laboratory analysis for the other constituents listed in Table 2 of the Scrap Metal Permit.
3. Evaluation of Sample Results: Assessment of data.
4. Record Keeping and Reporting: Compare the results with the numeric action levels (Table 1a of the Permit) and report the results.

### 5.2 WEATHER AND RAIN EVENT TRACKING

Stormwater sampling and visual observations will be conducted during Qualified Storm Events (QSEs). A QSE is defined as any precipitation event that produces a discharge for at least one drainage area and is preceded by 48 hours with no discharge from any drainage area. Weather and precipitation forecasts will be tracked to identify potential QSEs. A QSE may be as small as one tenth of an inch at the site.

When targeting a QSE for stormwater sampling, the appropriate team member will weekly consult the National Oceanographic and Atmospheric Administration (NOAA) for weather forecasts. These forecasts can be obtained at <http://www.srh.noaa.gov/>. If weekly forecasts indicate potential for significant precipitation, the weather forecast will be closely monitored during the 48 hours preceding the event. Weather reports with precipitation data should be printed and maintained with the SWPPP in MIP Attachment 1 “Weather Reports” to document precipitation totals and antecedent conditions.

### 5.3 MONITORING LOCATIONS

Monitoring locations are shown on the Site Maps in Appendix A. Monitoring locations are described in Section 5.6.

Whenever changes in facility operations might affect the appropriateness of sampling locations, the sampling locations will be revised accordingly. All such revisions will be implemented as soon as feasible and the SWPPP amended.

#### **5.4 SAMPLE COLLECTION AND VISUAL OBSERVATIONS EXCEPTIONS**

Safety practices for sample collection will be in accordance with the safety requirements provided in Appendix J of the Industrial Stormwater Monitoring and Sampling Guide (EPA 832-B-09-003). A summary of the safety requirements that apply to sampling personnel is provided below.

- When adverse weather prevents sampling per your monitoring schedule, you must sample during the next qualifying storm event. Adverse conditions are those that are dangerous or create inaccessibility for personnel, caused by such things as flooding, high winds, electrical storms or situations that otherwise make sampling impractical.

Under the Scrap Metal Permit, collection of samples or conduct visual observations is not required under the following conditions:

- During dangerous weather conditions such as flooding and electrical storms.
- Outside of scheduled site business hours.

Scheduled site business hours are Monday through Friday 8:00 AM to 4:00 PM. The schedule is also presented in Section 2.2.

If monitoring (visual observations or sample collection) of the site is unsafe because of the dangerous conditions noted above, then the appropriate team member will document the conditions for why an exception to performing the monitoring was necessary. The exception documentation will be filed in MIP Attachment 2 “Monitoring Records”.

#### **5.5 VISUAL OBSERVATION PROCEDURES**

Visual monitoring includes observations of drainage areas, BMPs, and discharge locations.

- Observations of BMPs are required to identify and record BMPs that need maintenance to operate effectively, that have failed, or that could fail to operate as intended.
- Observations of the drainage areas are required to identify any spills, leaks, uncontrolled pollutant sources, and non-stormwater discharges.
- Observations of discharge locations are required to identify the presence of visible pollutants in stormwater discharged from the facility.
- Site specific BMPs that will be observed at the facility includes:
  - Integrity of roofed areas such as the covered barrel storage and tire storage areas.
  - Any spills/leaks coming from buses, vehicles, or equipment.
  - Any temporary, outdoor equipment/material staging.
  - Ensure trash/ waste bins have lids and are closed and covered.

There are three (3) types of visual observations that need to be done:

1. **Monthly Visual Observations:** Visual observations will be performed at least once every calendar month during dry conditions. These shall be conducted at least 15 days apart. These must be conducted by the SM-QSP.
2. **Rain Event Action Plan (REAP):** Prior to a predicted storm event with a 40% or greater probability, the facility needs to ensure measures are taken to ensure runoff makes minimal to no contact of industrial pollutants.
3. **Sampling Event Visual Observations:** Visual observations will be performed during stormwater sampling events when discharge is occurring. This must be conducted by the Certified Person.

### 5.5.1 Monthly Visual Observations

Monthly visual observations are necessary to document the presence of and to identify the source of any pollutants and non-stormwater flows. These should consist of observations of the outdoor facility operations, BMPs, and NSWD observations.

In the event that monthly visual observations are not performed, an explanation must be provided in the annual report.

#### 5.5.1.1 Outdoor Facility Operations Observations

Observe potential sources of industrial pollutants including industrial equipment and storage areas, and outdoor industrial activities. Record observations of:

- Spills or leaks; and
- Uncontrolled pollutant sources

#### 5.5.1.2 BMP Observations

Observe BMPs to identify and record:

- BMPs that are properly implemented.
- BMPs that need maintenance to operate effectively.
- BMPs that have failed, or
- BMPs that could fail to operate as intended.

#### 5.5.1.3 Non-Stormwater Discharge Observations

Observe each drainage area for the presence of or indications of prior unauthorized and authorized non-stormwater discharges. Record:

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

- Source of discharge.
- Water leaks
- Any stains or fluids in paved surface.
- Oil or coolant spills from trucks.
- Equipment stored with spill protection.

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

### **5.5.2 Rain Event Action Plan (REAP)**

The REAP shall be implemented in the event of a predicted storm with a 40% or greater probability. The probability of a storm shall be determined no more than three days in advance and need only be documented once a day. The facility shall refer to the National Oceanic and Atmospheric Administration (NOAA) website to determine the storm probability. This plan shall address the following additional measures in the event of a predicted storm: (a) temporarily covering exposed materials where feasible; (b) ensuring that all control measures are fully functional; (c) sweeping the site and clearing debris and trash; (d) making sure that the trash bins are covered; and (e) other measures to isolate industrial areas from contact with rainfall and runoff. A record of all activities related to REAP shall be part of the SWPPP and shall be dated and signed. REAP activities should be kept with records on site and available upon request.

### **5.5.3 Sampling Event Visual Observations**

Sampling event visual observations evaluate the general appearance of the stormwater as an indicator of potential pollutants. These observations will be conducted at the same time sampling occurs at the discharge locations identified in Section 5.6.2. At each discharge location where a sample is obtained, record observations of:

- Floating and suspended materials
- Oil and grease
- Discoloration
- Turbidity
- Odors
- Trash

When pollutants are observed in the discharged stormwater, follow-up observations of the drainage area will be conducted to identify the probable source of the pollutants.

In the event that a discharge location is not visually observed during the sampling event, the location of the discharge and reasoning for not obtaining observations must be recorded (*not likely at this facility*).

#### 5.5.4 Visual Monitoring Procedures

Visual monitoring will be conducted by a SM-QSP or the Certified Person. The names and contact numbers of the site visual monitoring personnel are listed below, and their training qualifications are provided in Appendix C.

**Assigned inspector:** Rambod Mohseni

**Contact Number:** (310) 343-8313

**Alternate inspector:** TBD

**Contact Number:** TBD

Visual observations will be documented on the Visual Observation Log (see MIP Attachment 3 “Example Forms”). Visual observations will be supplemented with a site-specific BMP inspection checklist. Photographs used to document observations will be referenced on the Visual Observation Log and maintained with the Monitoring Records in Attachment 2. The completed logs and checklists will be kept in MIP Attachment 2 “Monitoring Records”.

#### 5.5.5 Visual Monitoring 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 SWPPP update is needed.
- Verify completion of response actions.
- 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 in site observation reports and correction of deficiencies will be tracked on the *BMP Observation Checklist* and will be retained in Appendix I.

Results of visual monitoring must be summarized and reported in the Annual Report.

#### 5.5.6 Visual Monitoring Locations

The observations identified in Sections 5.5.1 and 5.5.2 will be conducted at the locations identified in this section.

Visual monitoring locations are shown on the Site Maps in SWPPP Appendix A.

There is one predominant industrial drainage area onsite. Drainage areas are shown on the Site Maps in Appendix A and are identified in Table 5.1.

**Table 5.1 Facility Drainage Areas**

<b>Drainage Area Name</b>	<b>Location Identifier</b>
DA-1	West of DA-2. Includes Building C (maintenance shop), obsolete equipment storage, bailer, hazardous materials storage, and outdoor metal storage areas.
DA-2	East of DA-1 and west of DA-3. Includes Building B (welding, equipment storage and metal storage areas), dumpsters, weighing scale, loading/unloading, and additional interior parking areas.
DA-3	West of Almond Avenue and east of the facility entrance/exit. This area includes the facility driveway, parking area, and office Building A. Stormwater runoff does not include industrial sources.

There are two (2) discharge locations onsite. Site stormwater discharge locations are shown on the Site Maps in Appendix A (Figure 6) and Table 5.2 identifies each stormwater discharge location.

**Table 5.2 Stormwater Discharge Locations**

<b>Location Identifier</b>	<b>Discharge Location (Note Drainage Area that the discharge location drains)</b>
DP-1	Surface drainage flows to a storm drain within the facility.
DP-2	Surface drainage flows to a storm drain within the facility.

There are no stormwater storage or containment areas at the facility or shown on the Site Maps in Appendix A. Table 5.3 identifies each stormwater storage or containment area by location.

**Table 5.3 Stormwater Storage and Containment Areas**

<b>Location Identifier</b>	<b>Description of Containment (Note Drainage Area in which the containment is located)</b>
N/A	N/A

## **5.6 SAMPLING AND ANALYSIS PROCEDURES**

This section describes the methods and procedures that will be followed for stormwater sampling and analysis. It contains information for sampling schedule, sampling locations, monitoring preparation, analytical constituents, sample collection, sample analysis, and data evaluation and reporting.

### 5.6.1 Sampling Schedule

Stormwater samples at each discharge location will be collected and analyzed from two (2) QSEs within the first half of each reporting year (July 1 to December 31), and two (2) QSEs within the second half of each reporting year (January 1 to June 30).

A QSE is a precipitation event that:

- Produces a discharge for at least one drainage area; and
- Is preceded by 48 hours with no discharge from any drainage area.

#### 5.6.1.a Sampling and Analysis Reduction

If a Permittee is in full compliance with the sampling and analysis requirements (collected the required number of samples within the specified time period and has analyzed for all the listed parameters), the visual inspections have not identified any violations, and the analytical results have not exceeded any of the triggers specified in this Permit for NELs and NALs for at least two consecutive years, the Permittee may request for a reduction in the sampling and analysis frequencies. Only once the reduction request is approved by the Executive Officer can it be implemented by the discharger. Approved reductions can be revoked by the Executive Officer based on future NEL or NAL exceedances, permit violations, or inadequate BMP implementation as identified by Regional Board staff.

### 5.6.2 Sampling Locations

Sampling locations include all locations where stormwater is discharged from the site. Two discharge locations (SP-1 & SP-2) have been identified on the project site for the collection of stormwater runoff samples. The discharge location is shown in *Figure 6* of the Site Maps in Appendix A. Stormwater samples are collected using the lab-provided sample bottles. Table 5.4 includes the sample location description.

**Table 5.4 Sample Locations**

<b>Sample Location Number</b>	<b>Sample Location Description</b>	<b>Sample Location Latitude and Longitude (Decimal Degrees)</b>
SP-1	Stormwater from Drainage Area 2 is conveyed via surface flow to the southeastern storm drain inlet. Sample collection from this drain inlet is after stormwater has been filtered by BMPs and before it discharges.	34.066281, -117.493794

SP-2	Stormwater from Drainage Area 2 is conveyed via surface flow to the southwestern storm drain inlet. Sample collection from this drain inlet is after stormwater has been filtered by BMPs and before it discharges.	34.066216, -117.494950
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### 5.6.3 Monitoring Preparation

Samples on the project site will be collected by the following sampling personnel:

Name / Telephone Number: Adrian Gutierrez / (909) 297-9491

Alternate/ Telephone Number: Isaiah Cohen / (909) 367-5827

An adequate stock of monitoring supplies and equipment for sampling will be available onsite prior to a sampling event. Monitoring supplies and equipment will be stored in a cool temperature environment that will not come into contact with rain or direct sunlight. Sampling personnel will be available to collect samples in accordance with the sampling schedule. Supplies maintained at the facility will include but are not limited to: clean powder-free nitrile gloves; sample collection equipment; coolers; appropriate number and volume of sample containers; identification labels; re-sealable storage bags; paper towels; personal rain gear; ice; and Sampling Field Log Sheets and Chain of Custody (CoC) forms, which are provided in MIP Attachment 3 "Example Forms".

### 5.6.4 Analytical Constituents

The list of parameters to be analyzed for Permittees under the Scrap Metal Permit includes the parameters listed in Table 2 of the Permit, as well as any other potential pollutant present on site. Genesis 1 mainly works with ferrous (iron and stainless steel) and non-ferrous (aluminum, brass, copper) wholesale metal. There is welding done to the roll-off containers to fix any holes on the bins. Shearing is also done to metal if there is a piece of unwanted metal with another type of metal (for example, a piece of steel is adhered to a piece of aluminum scrap). If the Facility receives aluminum chips, there are times where it contains waste oil, which is drained and properly disposed of. From this assessment, the required analytical constituents address these materials and activities. No additional constituents are required.

**Table 5.5 Analytical Constituents**

Constituent	Reason
pH	Required under Scrap Metal Permit
Turbidity	Required under Scrap Metal Permit

Specific Conductance	Required under Scrap Metal Permit
Total Petroleum Hydrocarbons	Required under Scrap Metal Permit
Oil and Grease (O&G)	Required under Scrap Metal Permit
Zinc (total recoverable)	Required under Scrap Metal Permit
Lead (total recoverable)	Required under Scrap Metal Permit
Aluminum (total recoverable)	Required under Scrap Metal Permit
Copper (total recoverable)	Required under Scrap Metal Permit
Iron (total recoverable)	Required under Scrap Metal Permit
Cadmium (total recoverable)	Required under Scrap Metal Permit
Nickel (total recoverable)	Required under Scrap Metal Permit
Chemical Oxygen Demand	Required under Scrap Metal Permit
PCBs*	SIC Code Required Parameter

### 5.6.5 Sample Collection

Samples of discharge will be collected at the designated sampling locations shown on the Site Map(s) in Appendix A. Samples from each discharge location will be collected within four (4) hours of:

- The start of the discharge; or
- The start of facility operations if the QSE occurs within the previous 12-hour period.

Sample collection is required during scheduled facility operating hours (Monday-Friday, 8:00 AM to 4:00 PM) and when sampling conditions are safe.

Grab samples will be collected and preserved in accordance with the methods identified in Table 5.6, “Sample Collection, Preservation and Analysis for Water Quality Samples” provided in Section 5.6.6. Only team members properly trained in water quality sampling will collect samples.

The facility is not subject to Subchapter N ELGs mandating pH analysis via field meter. The facility has not entered Level 1 or Level 2 for pH under the 2015 and 208 IGP. Dischargers that enter Level 1 status for pH shall, in the subsequent reporting years, analyze pH using methods in accordance with 40 Code of Federal Regulations 136 or use a calibrated portable instrument for pH. *Grab samples will be collected and analyzed for pH using a calibrated portable pH instrument.* The pH analysis will be performed as soon as practicable, but no later than 15 minutes after sample collection.

Samples from different discharge locations will not be combined or composited prior to shipment to the analytical laboratory. Sample collection and handling requirements are described in Section 5.8.

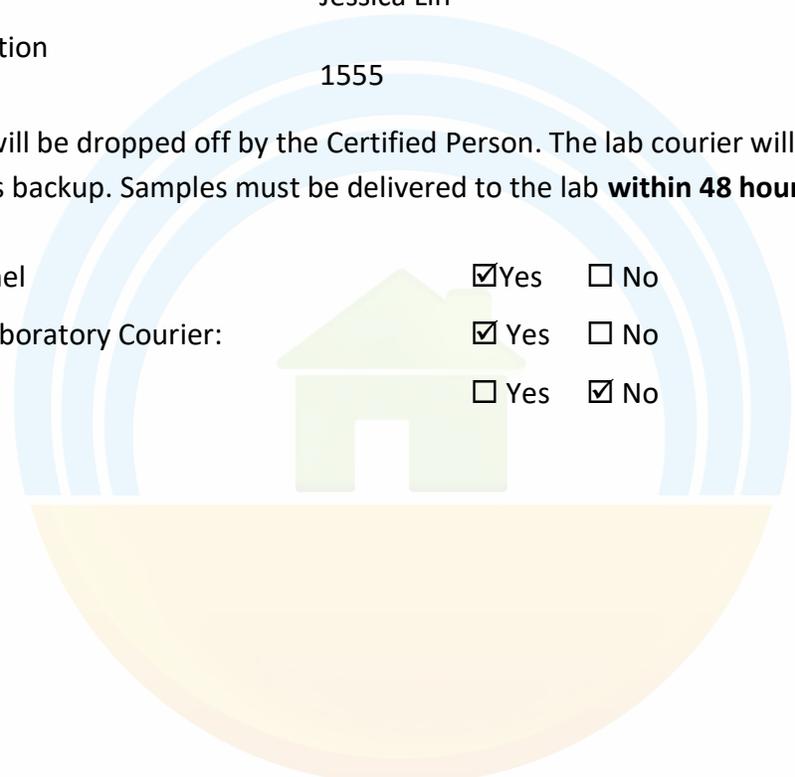
### 5.6.6 Sample Analysis

Samples will be analyzed using the analytical methods identified in Table 5.6. Samples will be analyzed by:

Laboratory Name: Enviro-Chem Inc.  
Street Address: 1214 East Lexington Avenue  
City, State, Zip: Pomona, CA 91766  
Telephone: 909-590-5905  
Point of Contact: Jessica Lin  
ELAP Certification Number: 1555

Sample bottles will be dropped off by the Certified Person. The lab courier will only be used when needed, as backup. Samples must be delivered to the lab **within 48 hours**.

Facility Personnel  Yes  No  
Picked up by Laboratory Courier:  Yes  No  
Shipped:  Yes  No



**Table 5.6 Sample Collection, Preservation and Analysis for Water Quality Samples**

Constituent	Analytical Method	Minimum Sample Volume	Sample Containers	Sample Preservation	Annual NAL	Minimum Level	Reporting Units	Maximum Holding Time
pH	Calibrated portable instrument	50 mL	HDPE	None	<6.5 or >8.5	±0.1	pH Units	As soon as sample is collected
Turbidity	Calibrated portable instrument	10 mL	Glass Vial	None	250	0.5	NTU	As soon as sample is collected
Specific Conductance	Calibrated portable instrument	50 mL	HDPE	None	2000	1.0	µmhos/cm	As soon as sample is collected
Oil and Grease	1664A	1L	Amber Glass	HCl or H <sub>2</sub> SO <sub>4</sub>	15	5.0	mg/L	28 days
Total Petroleum Hydrocarbons	EPA 1664-SGTHEM	1L	Amber Glass	HCl or H <sub>2</sub> SO <sub>4</sub>	N/A	5.0	mg/L	28 days
Zinc (total recoverable)	EPA 200.8	100 mL	HDPE	HNO <sub>3</sub>	160	5.0	µg/ L	180 days
Lead (total recoverable)	EPA 200.8	100 mL	HDPE	HNO <sub>3</sub>	122	1.0	µg/ L	180 days
Aluminum (total recoverable)	EPA 200.8	100 mL	HDPE	HNO <sub>3</sub>	750	1.0	µg/ L	180 days
Copper (total recoverable)	EPA 200.8	100 mL	HDPE	HNO <sub>3</sub>	18.9	1.0	µg/ L	180 days
Iron (total recoverable)	EPA 200.8	100 mL	HDPE	HNO <sub>3</sub>	1000	1.0	µg/ L	180 days
Nickel (total recoverable)	EPA 200.8	100 mL	HDPE	HNO <sub>3</sub>	1002	1.0	µg/ L	180 days
Cadmium (total recoverable)	EPA 200.8	100 mL	HDPE	HNO <sub>3</sub>	5.3	1.0	µg/ L	180 days
Chemical Oxygen Demand	SM5220C	100 mL	HDPE	H <sub>2</sub> SO <sub>4</sub>	120	10.0	mg/L	28 days

*PCBs	EPA 608	1L	Amber Glass	SO <sub>3</sub> and HCl	-	0.5	µg/ L	40 days
Notes:								
*pH meter used is an Oakton pHTestr® 1 Waterproof Pocket Tester.								



### 5.6.7 Data Evaluation and Reporting

The designated member of the Pollution Prevention Team will complete an evaluation of the water quality sample analytical results.

All sampling and analytical results for all individual samples will be submitted via SMARTS within 30 days of obtaining all results for each sampling event. The LRP or DAR will certify the Ad Hoc Report in SMARTS.

The method detection limit (MDL) 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 [RL]) but above the method detection limit will be provided. In this case, these values should be reported in SMARTS as detected but not quantified (DNQ) and report value.

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, all effluent sampling analytical results that are reported by the laboratory as “non-detect” or less than the Method Detection Limit (MDL).

### 5.7 TRAINING OF SAMPLING PERSONNEL

Sampling personnel will be trained to collect, maintain, and ship samples in accordance with the 2018 IGP and this SWPPP. Training records of designated sampling personnel are provided in Appendix C.

The stormwater sampler(s) and alternate(s) have received the following stormwater sampling training:

Name	Training
Adrain Gutierrez	RWQCB Sampling Guidance Video
Isaiah Cohen	RWQCB Sampling Guidance Video

### 5.8 SAMPLE COLLECTION AND HANDLING

#### 5.8.1 Sample Collection

Samples will be collected at the designated sampling locations shown on the Site Maps and listed in the preceding sections. Samples will be collected, maintained and shipped in accordance with the requirements in the following sections.

Grab samples will be collected and preserved in accordance with the methods identified in preceding sections.

To maintain sample integrity and prevent cross-contamination, sample collection personnel will follow the protocols below.

- Collect samples (for laboratory analysis) only in analytical laboratory-provided sample containers.
- Wear clean, powder-free nitrile gloves when collecting samples.
- Change gloves whenever something not known to be clean has been touched.
- Change gloves between sites.
- Decontaminate all equipment (e.g. bucket, tubing) prior to sample collection using a trisodium phosphate water wash, distilled water rinse, and final rinse with distilled water. (Dispose of wash and rinse water appropriately, i.e., do not discharge to storm drain or receiving water). Do not decontaminate laboratory provided sample containers. ***(This guidance is limited since no intermediate devices are used since samples must be collected in lab-provided bottles).***
- For pH, use a clean plastic cup, and rinse with runoff three times before collecting the final sample. Use calibrated pH meter to measure pH within 15 minutes of collection, and document pH result in Chain of Custody (CoC) form.
- Do not smoke during sampling events.
- Never sample near a running vehicle.
- Do not park vehicles in the immediate sample collection area (even non-running vehicles).
- Do not eat or drink during sample collection.
- Do not breathe, sneeze, or cough in the direction of an open sample container.

The most important aspect of grab sampling is to collect a sample that represents the entire runoff stream. Typically, samples are collected by dipping the collection container in the runoff flow paths and streams. *The below are general sampling techniques, listed for reference only:*

- For small streams and flow paths, simply dip the bottle facing upstream until full.
- For larger stream that can be safely accessed, collect a sample in the middle of the flow stream by directly dipping the mouth of the bottle. Once again making sure that the opening of the bottle is facing upstream as to avoid any contamination by the sampler.
- For larger streams that cannot be safely waded, pole-samplers may be needed to safely access the representative flow.
- Avoid collecting samples from ponded, sluggish or stagnant water.
- Avoid collecting samples directly downstream from a bridge as the samples can be affected by the bridge structure or runoff from the road surface.
- Do not stand upstream of the sampling point within the flow path.

Note, that depending upon the specific analytical test, some containers may contain preservatives. These containers should never be dipped into the stream but filled indirectly from the collection container.

### **5.8.2 Sample Handling**

Field pH measurements must be conducted immediately. Do not store pH samples for later measurement. For pH, use a clean plastic cup, and rinse with runoff three times before collecting the final sample. Use calibrated pH meter to measure pH within 15 minutes of collection, and document pH result in Chain of Custody (CoC) form.

Samples for laboratory analysis must be handled as follows. Immediately following sample collection:

- Cap sample containers.
- Complete sample container labels.
  - This can be done prior to sample collection.
- Sealed containers in a re-sealable storage bag.
- Place sample containers into an ice-chilled cooler.
- Document sample information on the *Sampling Field Log Sheet*.
- Complete the CoC.

All samples for laboratory analysis must be maintained between 0-6 degrees Celsius during delivery to the laboratory. Samples must be kept on ice, or refrigerated, from sample collection through delivery to the laboratory. Place samples to be shipped inside coolers with ice. Make sure the sample bottles are well packaged to prevent breakage and secure cooler lids with packaging tape.

Ship samples that will be laboratory analyzed to the analytical laboratory right away (*not likely to ship; here for reference only*). Hold times are measured from the time the sample is collected to the time the sample is analyzed. The 2018 IGP requires that samples be received by the analytical laboratory within 48 hours of the physical sampling (unless required sooner by the analytical laboratory).

### **5.8.3 Sample Documentation Procedures**

All original data documented on sample bottle identification labels, *Sampling Log*, and CoCs will be recorded using waterproof ink. If an error is made on a document, sampling personnel will make corrections by lining through the error and entering the correct information. The erroneous information will not be obliterated. All corrections will be initialed and dated.

Duplicate samples will be identified consistent with the numbering system for other samples to prevent the laboratory from identifying duplicate samples. Duplicate samples will be identified in the Sampling Log.

Sample documentation procedures include the following:

Sample Bottle Identification Labels: Sampling personnel will attach an identification label to each sample bottle. Sample identification will uniquely identify each sample location.

Field Log Sheets: Sampling personnel will complete the Effluent Sampling Field Log Sheet and Receiving Water Sampling Field Log Sheet for each sampling event, as appropriate.

Chain of Custody (CoC): Sampling personnel will complete the CoC for each sampling event for which samples are collected for laboratory analysis. The sampler will sign the CoC when the sample(s) is turned over to the testing laboratory or courier. The field measurement for pH should be written in this form as well.

## **5.9 QUALITY ASSURANCE AND QUALITY CONTROL**

An effective Quality Assurance and Quality Control (QA/QC) plan will be implemented as part of the IMP to ensure that analytical data can be used with confidence. QA/QC procedures to be initiated include the following:

- Field logs
- Clean sampling techniques
- CoCs
- QA/QC Samples
- Data verification.

Each of these procedures is discussed in more detail in the following sections.

### **5.9.1 Field Logs**

The purpose of field logs is to record sampling information and field observations during monitoring that may explain any uncharacteristic analytical results. Sampling information to be included in the field log include the date and time of water quality sample collection, sampling personnel, sample container identification numbers, and types of samples that were collected. Field observations should be noted in the field log for any abnormalities at the sampling location (color, odor, BMPs, etc.). Field measurements for pH and turbidity should also be recorded in the field log. A Visual Inspection Field Log and an Effluent Sampling Field Log Sheet are included in MIP Attachment 3 “Example Forms”.

### 5.9.2 Clean Sampling Techniques

Clean sampling techniques involve the use of certified clean containers for sample collection and clean powder-free nitrile gloves during sample collection and handling. As discussed in Section 6.8, adoption of a clean sampling approach will minimize the chance of field contamination and questionable data results.

### 5.9.3 Chain of Custody

The sample CoC is an important documentation step that tracks samples from collection through analysis to ensure the validity of the sample. Sample CoC procedures include the following:

- Proper labeling of samples
- Use of CoC forms for all samples
- Prompt sample delivery to the analytical laboratory.

Analytical laboratories usually provide CoC forms to be filled out for sample containers. An example CoC is included in MIP Attachment 3 “Example Forms”. CoC forms are provided by the ELAP-certified laboratory.

### 5.9.4 QA/QC Samples

QA/QC samples provide an indication of the accuracy and precision of the sample collection; sample handling; field measurements; and analytical laboratory methods. Batch QC samples will be performed by the ELAP-certified laboratory.

### 5.9.5 Data Verification

After results are received from the analytical laboratory, the discharger will verify the data to ensure that it is complete, accurate, and the appropriate QA/QC requirements were met. Data must be verified as soon as the data reports are received. Data verification will include:

- Check the CoC and laboratory reports. Make sure all requested analyses were performed and all samples are accounted for in the reports.
- Check laboratory reports to make sure hold times were met and that the reporting levels meet or are lower than the reporting levels agreed to in the contract.
- Check data for outlier values and follow up with the laboratory. *Occasionally typographical errors, unit reporting errors, or incomplete results are reported and should be easily detected. These errors need to be identified, clarified, and corrected quickly by the laboratory. Especially note data that is an order of magnitude or more different than similar locations or is inconsistent with previous data from the same location.*
- Check laboratory QA/QC results. *EPA establishes QA/QC checks and acceptable criteria for laboratory analyses. These data are typically reported along with the sample results. Evaluate the reported QA/QC data to check for contamination (method, field, and*

*equipment blanks), precision (laboratory matrix spike duplicates), and accuracy (matrix spikes and laboratory control samples). When QA/QC checks are outside acceptable ranges, the laboratory must flag the data, and usually provides an explanation of the potential impact to the sample results.*

- Check the data set for outlier values and accordingly, confirm results and re-analyze samples where appropriate. *Sample re-analysis should only be undertaken when it appears that some part of the QA/QC resulted in a value out of the accepted range. Sample results may not be discounted unless the analytical laboratory identifies the required QA/QC criteria were not met and confirms this in writing.*

Field data including pH measurements and visual observations must be verified as soon as the Visual Observation and Sampling Logs are received, typically at the end of the monitoring event. Field data verification will include:

- Check logs to make sure all required measurements were completed and appropriately documented.
- If pH readings are outside the 6 to 9 range, assess possible sources.
  - Recalibrate pH meter.
  - Repeat sample collection process for pH and retest pH.
- Check reported values that appear out of the typical range or inconsistent; Follow-up immediately to identify potential reporting or equipment problems, if appropriate, recalibrate equipment after sampling.
- Verify equipment calibrations.
- Review observations noted on the logs.
- Review notations of any errors and actions taken to correct the equipment or recording errors.

## **5.10 RECORDS RETENTION**

Records of stormwater monitoring information and copies of reports (including Annual Reports) must be retained for a period of at least five (5) years from date of submittal or longer if required by the Regional Water Quality Control Board (RWQCB).

Results of visual observations, field measurements, and laboratory analyses must be kept in the SWPPP along with CoCs, and other documentation related to the monitoring.

Records to be retained include:

- The date, place, and time of inspections, sampling, visual observations, and/or measurements, including precipitation.
- The individual(s) who performed the inspections, sampling, visual observation, and/or field measurements.
- The date and approximate time of field measurements and laboratory analyses.

- The individual(s) who performed the laboratory analyses.
- A summary of all analytical results, the method detection limits and reporting limits, and the analytical techniques or methods used.
- Weather reports.
- QA/QC records and results.
- Calibration records.
- Visual observation and sample collection exception records.
- The records of any corrective actions and follow-up activities that resulted from analytical results, visual observations, or inspections.



**MIP Attachment 1 Weather Reports**



## MIP Attachment 2 Monitoring Records



**MIP Attachment 3 Example Forms**



<b>Visual Observation Log - Monthly</b>	
Date and Time of Inspection:	Report Date:
Facility Name:	
<b>Weather</b>	
Antecedent Conditions (last 48 hours):	Current Weather:
<b>NSWD Observations</b>	
Were any authorized non-stormwater discharges observed?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Were any <b>unauthorized</b> non-stormwater discharges observed?	Yes <input type="checkbox"/> No <input type="checkbox"/>
If yes to either, identify source:	
<b>Outdoor Industrial Equipment and Storage Area Observations</b>	
Complete Monthly BMP Inspection Report	Yes <input type="checkbox"/> No <input type="checkbox"/>
Area A:	Were any deficiencies or any other potential source of industrial pollutants observed? Yes <input type="checkbox"/> No <input type="checkbox"/>
Area B:	Were any deficiencies or any other potential source of industrial pollutants observed? Yes <input type="checkbox"/> No <input type="checkbox"/>
Area C:	Were any deficiencies or any other potential source of industrial pollutants observed? Yes <input type="checkbox"/> No <input type="checkbox"/>
Area D:	Were any deficiencies or any other potential source of industrial pollutants observed? Yes <input type="checkbox"/> No <input type="checkbox"/>
Area E:	Were any deficiencies or any other potential source of industrial pollutants observed? Yes <input type="checkbox"/> No <input type="checkbox"/>
If yes to any, describe:	
<b>Exception Documentation (explanation required if inspection could not be conducted).</b>	
<b>Inspector Information</b>	
Inspector Name:	Inspector Title:
Signature:	Date:

<b>Visual Observation Log – Sampling Event</b>			
Date and Time of Inspection:		Report Date:	
Facility Name:			
<b>Weather</b>			
Antecedent Conditions (last 48 hours):		Weather:	
Precipitation Total:		Predicted % chance of rain:	
Estimate storm beginning: _____ (date and time)	Estimate storm duration: _____ (hours)	Estimate time since last storm: _____ (days or hours)	Rain gauge reading: _____ (inches)
<b>Sampling Event Observations</b>			
Observations: If yes identify location and observe drainage area to identify probable cause			
Odors	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Floating material	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Suspended Material	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Sheen	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Discolorations	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Turbidity	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
<b>NSWD Observations</b>			
Were any authorized non-stormwater discharges observed?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
Were any <b>unauthorized</b> non-stormwater discharges observed?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
If yes to either, identify source			
<b>Drainage Area Observations</b>			
Drainage Area	Deficiencies Noted		
Exception Documentation (explanation required if inspection could not be conducted).			

Inspector Information	
Inspector Name:	Inspector Title:
Signature:	Date:



<b>Sampling Log</b>		
Facility Name:	Date:	Time Start:
Sampler Name:		
<b>Field Meter Calibration</b>		
pH Meter ID No./Description:		
Calibration Date/Time:		
<b>Field pH Measurements</b>		
Discharge Location Identifier	pH	Time
<b>Samples Collected</b>		
Discharge Location Identifier	Constituent	Time
Outlet B	Oil and Grease	
	Total Suspended Solids	
	Total Zinc	
	Total Lead	
	Total Copper	
	Total Selenium	
	Nitrate plus Nitrite Nitrogen	
	Total Nitrogen	
	Total Phosphorus	
Additional Sampling Notes:		
Time End:		



## MIP Attachment 4 Field Meter Instructions



# Operating Manual

# OAKTON®

## pHTestr® 30 Pocket Testers

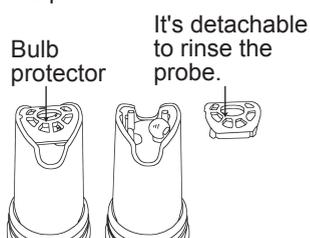
Thank you for purchasing an Oakton® pHTestr® Pocket pH Tester. Please carefully read this operating manual before using the product to obtain an accurate and reliable test result and avoid unnecessary damage to the tester or sensor/probe.



### Features

- Large easy-to-read LCD with 3-color backlight
- Accuracy of  $\pm 0.01$  pH  $\pm 1$  digit
- 1, 2, or 3 calibration points
- Auto buffer recognition: US or NIST
- Stability and battery status icons
- Replaceable double-junction sensor saves your money
- Auto power-off function conserves battery life
- IP67 waterproof rating

- No air bubbles generating in blue gel inner solution
- Bulb protector can avoid impacting. Remove it to rinse the probe.



### Keypad Functions

Short press = <2 seconds Long press = >2 seconds

	<ol style="list-style-type: none"> <li>1. Short press to turn on the tester and long press to turn off the tester.</li> <li>2. When turned off, long press to enter parameter setting mode.</li> <li>3. In measurement mode, short press to turn on backlight.</li> </ol>
	<ol style="list-style-type: none"> <li>1. In measurement mode, short press to switch parameter from <b>pH</b> to <b>ORP</b> (Oxidation Reduction Potential); ORP probe sold separately.</li> <li>2. In parameter setting mode, short press to change parameter (unidirectional).</li> </ol>
	<ol style="list-style-type: none"> <li>1. Long press to enter calibration mode.</li> <li>2. In calibration mode, short press to confirm calibration.</li> <li>3. When measured value is locked (HOLD icon), short press to unlock.</li> </ol>

### Preparation Before Use

If it is first-time use or the tester hasn't been used for a long time, pour some 3M KCL solution to the Fill line in the probe cap and soak the probe for about 15 to 30 minutes. Users can store the probe in the 3M KCL solution in the probe cap when the tester is not in use to maintain the sensor's accuracy. To achieve maximum accuracy, we recommend soaking the probe in the 3M KCL storage solution overnight (12 hours) to activate the glass membrane thoroughly.

Storing the pH30 tester dry will NOT cause any permanent damage. It will only temporarily cause the probe to lose its sensitivity, which can always be restored by soaking in the storage solution.

### pH Calibration

1. Short press  $\odot$ /MEAS key to turn on.
2. Rinse the probe in distilled water and use tissue paper to gently dab off excess water.
3. Pour certain amount (about half volume of the calibration bottles) of pH 7.00 pH and pH 4.00 buffer solutions in the corresponding calibration bottles.
4. Long press CAL/ $\leftarrow$  key to enter calibration mode, short press  $\odot$ /MEAS key to return to measurement mode.
5. Dip the probe in pH 7.00 buffer solution, stir gently, and allow it to stand still in the buffer solution until a stable reading is reached. When measurement stability icon ( $\odot$ ) appears and remains on the screen (see Fig 1); then short press CAL/ $\leftarrow$  key to complete the one-point calibration. The tester returns to measurement mode and indication icon "M" will appear at the bottom left of the screen, indicating the middle point of calibration has been completed.
6. For 2-point calibration, start with pH 7.00 buffer solution; once confirmed then rinse the probe in distilled water and dry it with tissue paper. Dip the probe into pH 4.00 buffer solution, follow the steps above to complete 2-point calibration. Indication icons "L" and "M" will appear on the bottom left of the screen.
7. If necessary to perform a 3-point calibration, rinse probe with water, dip the probe into pH 10.01 buffer solution (sold separately), and follow the steps above. Indication icons "L", "M", and "H" will appear on the bottom left of the screen.

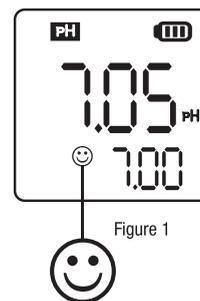


Figure 1

### Notes

A. Tester can perform 1 to 3 points automatic calibration. Please note that pH 7.00 (USA Standard) or pH 6.86 buffer solution (NIST Standard) must be used to conduct 1st point calibration. Then use other buffer solution to conduct 2nd or 3rd point calibration. Tester will automatically recognize five kinds of pH buffer solutions. For details, please refer to the following table:

Calibration	USA series	NIST series	Indication icons	Recommended
1-point	7.00 pH	6.86 pH	M	Accuracy: $\geq 0.1$ pH
2-point	7.00 pH, 4.00 pH or 1.68 pH	6.86 pH, 4.01 pH or 1.68 pH	L M	Range: <7.00 pH
	7.00 pH, 10.01 pH or 12.45 pH	6.86 pH, 9.18 pH or 12.45 pH	M H	Range: <7.00 pH
3-point	7.00 pH, 4.00 or 1.68 pH, 10.01 or 12.45 pH	6.86 pH, 4.01 or 1.68 pH, 9.18 or 12.45 pH	L M H	Range: 0 to 14.00 pH

B. The buffer solutions poured into the calibration bottles are NOT for one-time use. They can be used multiple times as long as they are not contaminated, and the bottles are covered when not in use. After that, we recommend replacing the buffer solutions in the calibration bottles with new ones that are in the buffer bottles (50 mL) to keep the accuracy of the standard buffer solutions. Do not pour used buffer solutions back into the buffer bottles in case of contamination.

C. The tester has self-diagnostic functions:

Symbol	Self-diagnostic information	Checking and how to fix
Er 1	Wrong pH buffer solution or the range of calibration solution exceeds standard.	<ol style="list-style-type: none"> <li>1. Check whether pH buffer solution is correct (1st point calibration must be 7.00).</li> <li>2. Check whether the probe is damaged.</li> <li>3. Check if there is any air bubble in the glass bulb sensor.</li> </ol>
Er 2	Press CAL/ $\leftarrow$ key when reading is not stable during measurement.	Wait for the measurement stability icon ( $\odot$ ) to appear and stay, then press CAL/ $\leftarrow$ key.

\* The 1st point calibration must be 7.00 pH. Perform the 2nd point calibration (4.00 pH) immediately after the 1st point. Do NOT turn off the meter before you conduct 2nd point calibration. If the meter is turned off after 1st point calibration, user will need to restart the calibration process with the 7.00 pH first and the 4.00 pH following after. Calibrating directly in pH 4.00 after turning meter off and back on will cause "Er1".

### pH Measurement

1. Short press  $\odot$ /MEAS key to turn on the tester. Rinse the probe in distilled water, and gently dab off excess water with tissue paper (do not rub or wipe the glass sensor).
2. Dip the probe in sample solution, stir gently, and allow it to stand until a stable reading is reached. Take readings after stability indicator icon ( $\odot$ ) appears and stays on the screen.

### Notes

A. Applications:

Model/Probe	Application
pH30/Bulb probe	Regular water solutions' pH measurement such as hydroponics, aquaculture, pools and spas, water treatment, brewing, etc.

### Special Notes

- The pH probe must be rinsed thoroughly after each use. Soap water should be used to clean off any grease or other contaminants.
- These pH testers will NOT give accurate or stable pH readings when testing distilled or deionized water. This is because distilled or deionized water do not have enough ions present for the electrode to function properly. To measure distilled or deionized water's pH, users need to use a specialized instrument technique. When testing purified water like spring water or drinking water, it will take longer for the readings to get stabilized (typically 3 to 5 minutes) because there are very few ions left to be detected by the sensor in those purified water.
- Do NOT store probe in distilled or deionized purified water because that will cause permanent damage to the pH probe. Purified water is only recommended for rinsing the probe. The probe should be stored in 3M KCL pH electrode storage solution (SKU 00653-04) for best accuracy.

### Setting the Parameters

When tester is turned off, long press  $\odot$ /MEAS key to enter parameter setting. Short press MODE/ $\triangle$  key to switch from P1 to

P2...P7. Short press CAL/↔ key and parameter will flash, then short press MODE/△ key to choose desired parameter. Short press CAL/↔ key to confirm parameter selection. Long press ⏻/MEAS key to return to measurement mode.

Symbol	Menu setting	Selection	Factory default
P1	Select pH buffer solution	USA – NIST	USA
P2	Set low measurement alarm	0 to 14.00 pH	0
P3	Set high measurement alarm	0 to 14.00 pH	14.00
P4	Select Automatic Lock (HOLD)	Off – On	Off
P5	Select backlight	Off – 1 – On	1
P6	Select temperature unit	°C – °F	°C
P7	Restore to factory default	No – Yes	No

#### Notes

A. Select standard pH buffer solution (P1) There are two options of standard buffer solutions: USA series and NIST series.

B. High and Low Measurement Heads-Up Examples (P1 and P2)

**Alert when measured value ≤3.20 pH:** Preset lowest value (P2) = 3.20 pH, highest value (P3) = 14.00 pH, when measured value is ≤3.20 pH (stability icon (⊙) displays on LCD), the red backlight appears on display.

**Alert when measured value ≥8.60 pH:** Preset highest value (P3) = 8.60 pH, lowest value (P2) = 0.00 pH, when measured value is ≥8.60 pH (stability icon (⊙) displays on LCD), the red backlight appears on display.

**Alert when measured value ≤3.20 pH or ≥8.60 pH:** Preset lowest value (P2) = 3.20 pH, highest value (P3) = 8.60 pH, when measured value is lower than 3.20 pH or higher than 8.60 pH (stability icon (⊙) displays on LCD), the red backlight appears on display.

C. Automatic Lock (P4)

Select “On” to activate auto lock function. When reading is stable for more than 10 seconds, the tester will lock the value automatically, and “HOLD” icon will appear on the bottom left of the screen. Press CAL/↔ key to cancel HOLD on reading.

D. Backlight (P5)

Select “Off” to turn off backlight function, “On” to turn on backlight function, or “1” to have backlight last for 1 minute.

E. Temperature Unit (P6)

Select °C or °F; the factory default is °C.

F. Factory Default Setting (P7)

Select “Yes” to recover instrument calibration to the theoretical value (pH value in zero potential is 7.00 pH, slope is 100%), parameter setting returns to initial value. This function can be used when instrument does not work properly in calibration or measurement. Calibrate and measure again after resetting the unit to factory default status.

#### ORP Measurement

ORP stands for Oxidation-Reduction Potential. ORP is a measure of the cleanliness of the water and its ability to break down contaminants. Note that ORP sensor module 35634-58 or 35634-68 must be purchased separately (see Ordering Information).

Once ORP sensor probe is attached to tester, press MODE/△ key to enter ORP mode. Rinse the probe in distilled water and dry it. Dip the probe in sample solution, stir gently, and allow it to stand still until a stable reading is reached. Get readings after measurement stability icon (⊙) appears and remains on the screen.

#### Specifications

pH	Range	-2.00 to 16.00 pH
	Resolution	0.01 pH
	Accuracy	±0.01 pH ±1 digit
	Calibration points	1, 2, or 3 points; auto buffer recognition
	Automatic temperature compensation (ATC)	32 to 122°F (0 to 50°C)
ORP (mV)*	Range	±1000 mV
	Resolution	1 mV
	Accuracy	±0.2% full-scale
Temperature	Range	32 to 122°F (0 to 50°C)
	Resolution	0.1°F/°C
	Accuracy	±0.9°F (0.5°C)

\* Note that the ORP probe 35634-58 or 35634-68 must be purchased separately (see Ordering Information).

**Display:** LCD with three-color backlight. Blue = measurement; Green = calibration; Red = alarm

**Reading lock:** HOLD icon

**Power:** four AAA batteries (included); >400 hours of continuous operation

**Low-voltage warning:**  battery status icon flashes

**Auto power-off:** tester automatically turns off after 8 minutes of nonuse

**IP rating:** IP67 (waterproof), floats on water when sensor cap is on

**Dimensions (L x W x H):** 7" x 1.5" x 1.5" (17.8 x 4 x 4 cm)

**Weight:** 4.7 oz (133 g)

#### Ordering Information

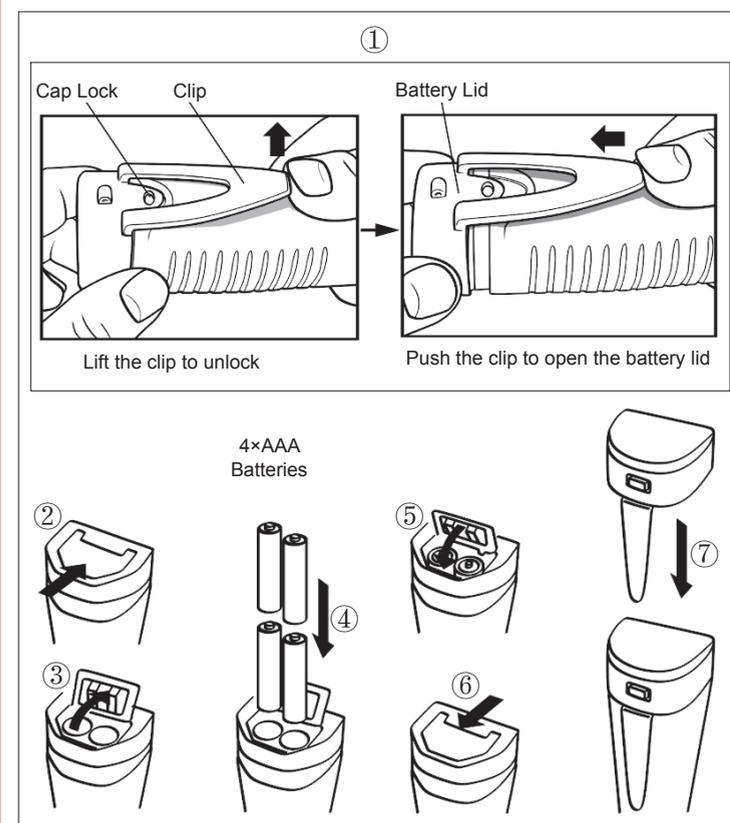
Model	Product description	Catalog number
pH30	pHTestr 30 pocket pH tester	35634-30
—	Replacement sensor for pHTestr 30	35634-03
—	Optional probe/sensor for ORP testing (single junction)	35634-58
—	Optional probe/sensor for ORP testing (double junction)	35634-68

#### Probe Replacement

Screw off the probe/sensor ring, unplug the probe, plug in the new replacement probe (pay attention to the probe's position), and rescrew on the sensor ring.

#### Battery Installation

The tester uses four AAA batteries. Please install batteries according to the following steps. Note the correct direction of battery installation: the positive side (+) of every single battery must face up. Incorrect installation of batteries will cause damage to the tester and create a potential hazard.



1. Open battery lid.
2. Slide the battery cap along the direction of arrow.
3. Open the battery cap.
4. Insert the batteries (**ALL POSITIVE SIDES FACING UP**).
5. Close the battery cap.
6. Slide and lock the battery cap along the direction of arrow.
7. Fit the tester's cap while making sure to push all the way down. The tester's waterproof design may be compromised if the cap is not fitted correctly.

#### Warranty

We warrant this instrument to be free from defects in material and workmanship and agrees to repair or replace free of charge, at option of Oakton Instruments, any malfunctioned or damaged product attributable to responsibility of Oakton Instruments, for a period of two years from the delivery (a six-month limited warranty applies to sensors). This warranty does not apply to defects resulting from actions such as misuse (violation of the instructions in this manual or operations in the manner not specified in this manual), improper maintenance, and unauthorized repairs. Warranty period is the time limit to provide free service for the products purchased by customers, not the service life of the tester or probe.

Oakton Instruments reserves the right to update the information in this manual without giving notice in advance.

**OAKTON**  
INSTRUMENTS

www.4oakton.com

**MIP Attachment 5    Other Regulatory Documents**



## Section 6 References

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

CASQA 2012, Stormwater BMP Handbook Portal: Industrial Commercial, August 2014, [www.casqa.org](http://www.casqa.org)



## Appendix A: Site Maps



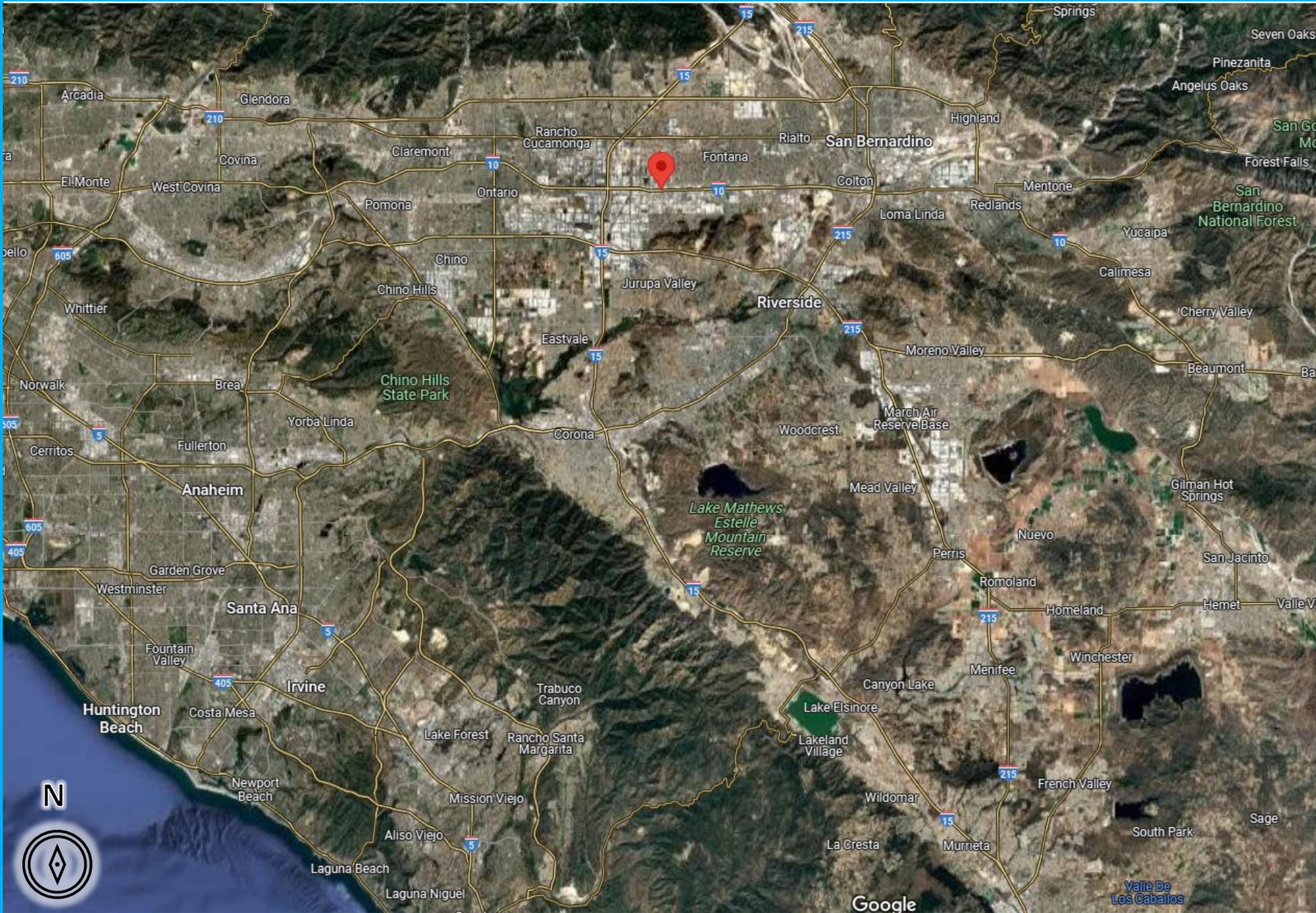


Social Stormwater Runoff  
Solution Services, Inc.

**Genesis 1**  
10312 Almond Avenue  
Fontana, CA 92335

**Figure 1: Regional Location**

Date: 05/27/2025





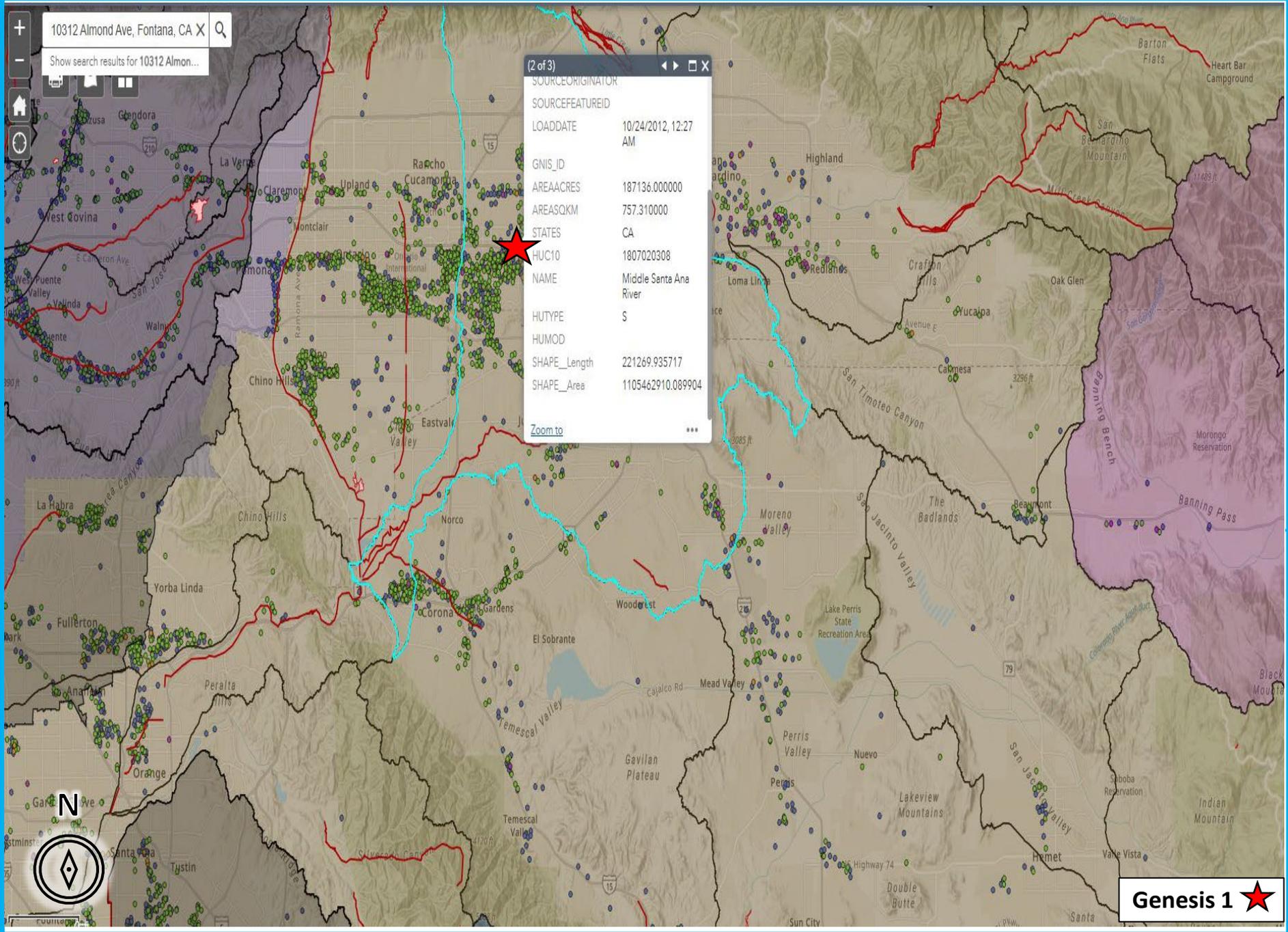
Social Stormwater Runoff  
Solution Services, Inc.

# Genesis 1

10312 Almond Avenue  
Fontana, CA 92335

Figure 2: HUC10 Watershed

Date: 05/27/2025



Genesis 1



Social Stormwater Runoff  
Solution Services, Inc.

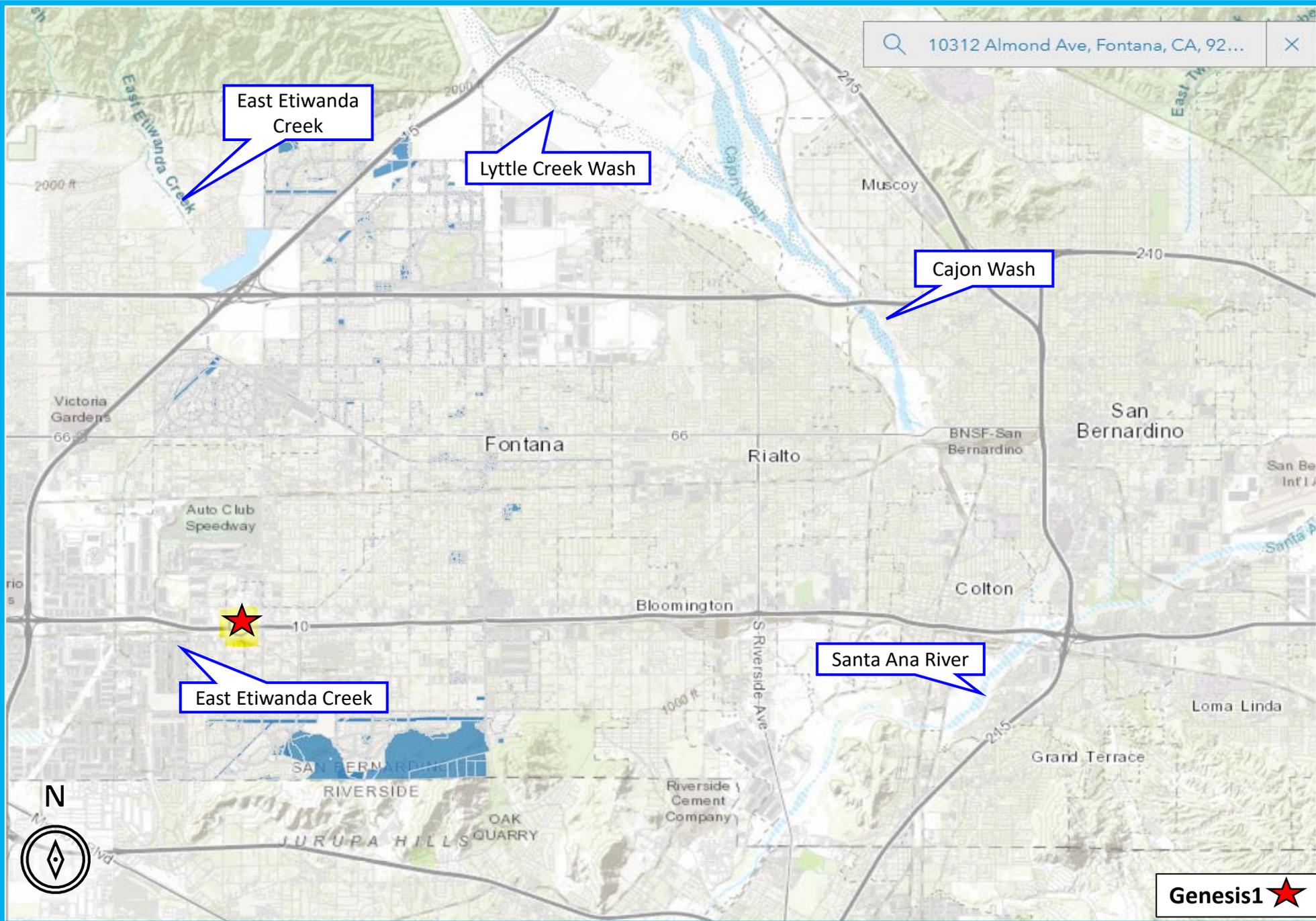
# Genesis 1

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Fontana, CA 92335

Figure 3: Nearby Waterbodies

Date: 05/27/2025



Genesis1 



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**Figure 4:** Nearest Municipal  
Storm Drain

Date: 05/27/2025

Municipal  
Storm Drain



Almond Ave.

Genesis 1 Boundary 



San Bernardino Fwy

San Bernardino Fwy

N





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Figure 5: Impervious Surfaces

Date: 05/27/2025

Almond Ave.

San Bernardino Fwy



San Bernardino Fwy



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**Figure 6: Drainage Areas**

Date: 05/27/2025

Almond Ave.

rdino Fwy



**Legend:**

Facility Boundary 

Flow direction 

Neighboring Facilities 

Sample Point 

Storm Drain 

Drainage Area 1 

Drainage Area 2 

Drainage Area 3 





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Figure 6: Drainage Areas

Date: 05/27/2025

Almond Ave.

rdino Fwy



**Legend:**

Facility Boundary		Drainage Area 1	0.92 acres = 65%	Drainage Area 2	0.38 acres = 25%
Flow direction		Sample Point		Drainage Area 3	0.15 acres = 10%
Storm Drains		Neighboring Facilities			





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**Genesis 1**  
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Fontana, CA 92335

**Figure 7: Site Layout**

Date: 05/27/2025

Almond Ave.



**Legend:**

- 1. Receiving Staging Area
- 2. Puck House/Maintenance
- 3. Steel inventory
- 4. Scale House
- 5. Finish Goods Non-Ferrous bailed material
- 6. Usable Salvage inventory
- 7. Office
- 8. Forklift/Equipment Overnight Parking
- 9. Small Scale Receiving
- 10. Truck Scale
- 11. Forklift/Equipment Overnight Parking
- 12. Waste Oil NON RCRA Hazardous Waste storage
- 13. Parking
- 14. Entrance/Exit
- 15. Bailer

Genesis 1 Boundary



## Appendix B: Permit Registration Documents

Permit Registration Documents included in this Appendix.

Y/N	Permit Registration Document
Y	Notice of Intent
Y	Certification
Y	Copy of Annual Fee Receipt
Y	Site Maps, see Appendix A



**Appendix C: Training Reporting Form**





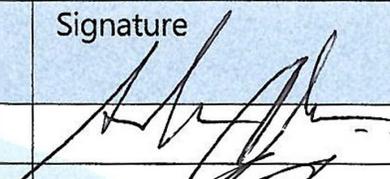
As needed, add proof of external training (e.g., course completion certificates, credentials for QISP)

## Appendix D: Responsible Parties

### Authorization of Duly Authorized Representatives

Facility Name: Metal Movers LLC – DBA Genesis 1

WDID #: TBD

Name of Personnel	Project Role	Title	Signature	Date
Adam Cohen	LRP	Vice President		6/3/25
Adrian Gutierrez	Maintenance	Yard Worker		6-3/25
Isaiah Cohen	Record-keeping	Office Personnel		06/03/2025

**Identification of QISP**

Facility Name: Metal Movers LLC – DBA Genesis 1

WDID #: TBD

The following are QISPs associated with this project:

Name of Personnel	Company	Certification Number
Musa Chaudhary	SoCal Stormwater Runoff Solutions Inc.	83574
Rambod Mohseni	SoCal Stormwater Runoff Solutions Inc.	01040



## Appendix E: SWPPP Amendment Certifications





## Appendix F: Calculations



## Appendix G: CASQA Stormwater BMP Portal: Industrial and Commercial Fact Sheets



## Description

Non-stormwater discharges (NSWDs) are flows that do not consist entirely of stormwater. Some non-stormwater discharges do not include pollutants and may be discharged to the storm drain if local regulations allow. These include uncontaminated groundwater and natural springs. There are also some non-stormwater discharges that typically do not contain pollutants and may be discharged to the storm drain with conditions. These include: potable water sources, fire hydrant flushing, air conditioner condensate, landscape irrigation drainage and landscape watering, emergency firefighting, etc. as discussed in Section 2.

However there are certain non-stormwater discharges that pose an environmental concern. These discharges may originate from illegal dumping of industrial material or wastes and illegal connections such as internal floor drains, appliances, industrial processes, sinks, and toilets that are illegally connected to the nearby storm drainage system through on-site drainage and piping. These unauthorized discharges (examples of which may include: process waste waters, cooling waters, wash waters, and sanitary wastewater) can carry substances such as paint, oil, fuel and other automotive fluids, chemicals and other pollutants into storm drains.

Non-stormwater discharges will need to be addressed through a combination of detection and elimination. The ultimate goal is to effectively eliminate unauthorized non-stormwater discharges to the stormwater drainage system through implementation of measures to detect, correct, and enforce against illicit connections and illegal discharges of

## Objectives

- *Cover*
- *Contain*
- *Educate*
- *Reduce/Minimize*
- *Product Substitution*

## Targeted Constituents

<i>Sediment</i>	
<i>Nutrients</i>	✓
<i>Trash</i>	
<i>Metals</i>	✓
<i>Bacteria</i>	✓
<i>Oil and Grease</i>	✓
<i>Organics</i>	✓

## Minimum BMPs Covered

	<i>Good Housekeeping</i>	✓
	<i>Preventative Maintenance</i>	
	<i>Spill and Leak Prevention and Response</i>	✓
	<i>Material Handling &amp; Waste Management</i>	
	<i>Erosion and Sediment Controls</i>	
	<i>Employee Training Program</i>	✓
	<i>Quality Assurance Record Keeping</i>	✓



pollutants on streets and into the storm drain system and downstream water bodies.

## **Approach**

Initially the Discharger must make an assessment of non-stormwater discharges to determine which types must be eliminated or addressed through BMPs. The focus of the following approach is the elimination of unauthorized non-stormwater discharges. See other BMP Fact Sheets for activity-specific pollution prevention procedures.

### ***General Pollution Prevention Protocols***

- Implement waste management controls described in SC-34 Waste Handling and Disposal.
- Develop clear protocols and lines of communication for effectively prohibiting non-stormwater discharges, especially those that are not classified as hazardous. These are often not responded to as effectively as they need to be.
- 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 or demarcated next to them to warn against ignorant or unintentional dumping of pollutants into the storm drainage system.
- Manage and control sources of water such as hose bibs, faucets, wash racks, irrigation heads, etc. Identify hoses and faucets in the SWPPP, and post signage for appropriate use.

### ***Non-Stormwater Discharge Investigation Protocols***

Identifying the sources of non-stormwater discharges requires the Discharger to conduct an investigation of the facility at regular intervals. There are several categories of non-stormwater discharges:

- Visible, easily identifiable discharges, typically generated as surface runoff, such as uncontained surface runoff from vehicle or equipment washing; and
- Non-visible, (e.g., subsurface) discharges into the site drainage system through a variety of pathways that are not obvious.

The approach to detecting and eliminating non-stormwater discharges will vary considerably, as discussed below:

#### ***Visible and identifiable discharges***

- Conduct routine inspections of the facilities and of each major activity area and identify visible evidence of unauthorized non-stormwater discharges. This may include:
  - ✓ Visual observations of actual discharges occurring;

- ✓ Evidence of surface staining, discoloring etc. that indicates that discharges have occurred;
  - ✓ Pools of water in low lying areas when a rain event has not occurred; and
  - ✓ Discussions with operations personnel to understand practices that may lead to unauthorized discharges.
- If evidence of non-stormwater discharges is discovered:
- ✓ Document the location and circumstances using Worksheets 5 and 6 (Section 2 of the manual), including digital photos;
  - ✓ Identify and implement any quick remedy or corrective action (e.g., moving uncovered containers inside or to a proper location); and
  - ✓ Develop a plan to eliminate the discharge. Consult the appropriate activity-specific BMP Fact Sheet for alternative approaches to manage and eliminate the discharge.
- Consult the appropriate activity-specific BMP Fact Sheet for alternative approaches to manage and eliminate the discharge. Make sure the facility SWPPP is up-to-date and includes applicable BMPs to address the non-stormwater discharge.

## ***Other Illegal Discharges (Non visible)***

### *Illicit Connections*

- Locate discharges from the industrial storm drainage system to the municipal storm drain system through review of “as-built” piping schematics.
- Isolate problem areas and plug illicit discharge points.
- Locate and evaluate discharges to the storm drain system.
- Visual Inspection and Inventory:
  - ✓ Inventory and inspect each discharge point during dry weather.
  - ✓ Keep in mind that drainage from a storm event can continue for a day or two following the end of a storm and groundwater may infiltrate the underground stormwater collection system.
  - ✓ Non-stormwater discharges are often intermittent and may require periodic inspections.

### *Review Infield Piping*

- A review of the “as-built” piping schematic is a way to determine if there are any connections to the stormwater collection system.

- Inspect the path of loading/unloading area drain inlets and floor drains in older buildings.
- Never assume storm drains are connected to the sanitary sewer system.

### *Monitoring for investigation/detection of illegal discharges*

- If a suspected illegal or unknown discharge is detected, monitoring of the discharge may help identify the content and/or suggest the source. This may be done with a field screening analysis, flow meter measurements, or by collecting a sample for laboratory analysis. Section 5 and Appendix D describe the necessary field equipment and procedures for field investigations.
- Investigative monitoring may be conducted over time. For example if, a discharge is intermittent, then monitoring might be conducted to determine the timing of the discharge to determine the source.
- Investigative monitoring may be conducted over a spatial area. For example, if a discharge is observed in a pipe, then monitoring might be conducted at accessible upstream locations in order to pinpoint the source of the discharge.
- Generally, investigative monitoring requiring collection of samples and submittal for lab analysis requires proper planning and specially trained staff.

### *Smoke Testing*

Smoke testing of wastewater and stormwater collection systems is used to detect connections between the two piping systems. Smoke testing is generally performed at a downstream location and the smoke is forced upstream using blowers to create positive pressure. The advantage to smoke testing is that it can potentially identify multiple potential discharge sources at once.

- Smoke testing uses a harmless, non-toxic smoke cartridges developed specifically for this purpose.
- Smoke testing requires specialized equipment (e.g., cartridges, blowers) and is generally only appropriate for specially trained staff.
- A Standard Operating Procedure (SOP) for smoke testing is highly desirable. The SOP should address the following elements:
  - ✓ Proper planning and notification of nearby residents and emergency services is necessary since introducing smoke into the system may result in false alarms;
  - ✓ During dry weather, the stormwater collection system is filled with smoke and then traced back to sources;

- ✓ Temporary isolation of segments of pipe using sand bags is often needed to force the smoke into leaking pipes; and
- ✓ The appearance of smoke in a waste vent pipe, at a sewer manhole, or even the base of a toilet indicates that there may be a connection between the sanitary and storm water systems.
- Most municipal wastewater agencies will have necessary staff and equipment to conduct smoke testing and they should be contacted if cross connections with the sanitary sewer are suspected. See SC-44 Drainage System Maintenance for more information.

### *Dye Testing*

- Dye testing is typically performed when there is a suspected specific pollutant source and location (i.e., leaking sanitary sewer) and there is evidence of dry weather flows in the stormwater collection system.
- Dye is released at a probable upstream source location, either the facility's sanitary or process wastewater system. The dye must be released with a sufficient volume of water to flush the system.
- Operators then visually examine the downstream discharge points from the stormwater collection system for the presence of the dye.
- Dye testing can be performed informally using commercially available products in order to conduct an initial investigation for fairly obvious cross-connections.
- More detailed dye testing should be performed by properly trained staff and follow SOPs. Specialized equipment such as fluorometers may be necessary to detect low concentrations of dye.
- Most municipal wastewater agencies will have necessary staff and equipment to conduct dye testing and they should be contacted if cross connections with the sanitary sewer are suspected.

### *TV Inspection of Drainage System*

- Closed Circuit Television (CCTV) can be employed to visually identify illicit connections to the industrial storm drainage system. Two types of CCTV systems are available: (1) a small specially designed camera that can be manually pushed on a stiff cable through storm drains to observe the interior of the piping, or (2) a larger remote operated video camera on treads or wheels that can be guided through storm drains to view the interior of the pipe.
- CCTV systems often include a high-pressure water jet and camera on a flexible cable. The water jet cleans debris and biofilm off the inside of pipes so the camera can take video images of the pipe condition.

- CCTV units can detect large cracks and other defects such as offsets in pipe ends caused by root intrusions or shifting substrate.
- CCTV can also be used to detect dye introduced into the sanitary sewer.
- CCTV inspections require specialized equipment and properly trained staff and are generally best left to specialized contractors or municipal public works staff.

## ***Illegal Dumping***

- Substances illegally dumped on streets and into the storm drain systems and creeks may include paints, used oil and other automotive fluids, construction debris, chemicals, fresh concrete, leaves, grass clippings, and pet wastes. These wastes can cause stormwater and receiving water quality problems as well as clog the storm drain system itself.
- 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);
  - ✓ An anonymous tip/reporting mechanism; and
  - ✓ Evidence of responsible parties (e.g., tagging, encampments, etc.).
- One of the keys to success of reducing or eliminating illegal dumping is increasing the number of people at the facility who are aware of the problem and who have the tools to at least identify the incident, if not correct it. Therefore, train field staff to recognize and report the incidents.

Once a site has been cleaned:

- Post “No Dumping” signs with a phone number for reporting dumping and disposal.
- Landscaping and beautification efforts of hot spots may also discourage future dumping, as well as provide open space and increase property values.
- Lighting or barriers may also be needed to discourage future dumping.
- See fact sheet SC-11 Spill Prevention, Control, and Cleanup.

## *Inspection*

- Regularly inspect and clean up hot spots and other storm drainage areas where illegal dumping and disposal occurs.
- Conduct field investigations of the industrial storm drain system for potential sources of non-stormwater discharges.
- Pro-actively conduct investigations of high priority areas. Based on historical data, prioritize specific geographic areas and/or incident type for pro-active investigations.



## ***Spill and Leak Prevention and Response***

- On paved surfaces, clean up spills with as little water as possible. Use a rag for small spills, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be sent to a certified laundry (rags) or disposed of as hazardous waste.
- Never hose down or bury dry material spills. Sweep up the material and dispose of properly.
- Use adsorbent materials on small spills rather than hosing down the spill. Remove the adsorbent materials promptly and dispose of properly.
- For larger spills, a private spill cleanup company or Hazmat team may be necessary.
- See SC-11 Spill Prevention Control and Cleanup.



## ***Employee Training Program***

- Training of technical staff in identifying and documenting illegal dumping incidents is required. The frequency of training must be presented in the SWPPP, and depends on site-specific industrial materials and activities.
- Consider posting a quick reference table near storm drains to reinforce training.
- Train employees to identify non-stormwater discharges and report discharges to the appropriate departments.
- Educate employees about spill prevention and cleanup.
- Well-trained employees can reduce human errors that lead to accidental releases or spills. The employee should have the tools and knowledge to immediately begin cleaning up a spill should one occur. Employees should be familiar with the Spill Prevention Control and Countermeasure Plan. Employees should be able to identify work/jobs with high potential for spills and suggest methods to reduce possibility.
- Determine and implement appropriate outreach efforts to reduce non-permissible non-stormwater discharges.

- Conduct spill response drills annually (if no events occurred) in order to evaluate the effectiveness of the plan.
- When a responsible party is identified, educate the party on the impacts of his or her actions.



## **Quality Assurance and Record Keeping**

### *Performance Evaluation*

- Annually review internal investigation results; assess whether goals were met and what changes or improvements are necessary.
- Obtain feedback from personnel assigned to respond to, or inspect for, illicit connections and illegal dumping incidents.
- Develop document and data management procedures.
- A database is useful for defining and tracking the magnitude and location of the problem.
- Report prohibited non-stormwater discharges observed during the course of normal daily activities so they can be investigated, contained, and cleaned up or eliminated.
- Document that non-stormwater discharges have been eliminated by recording tests performed, methods used, dates of testing, and any on-site drainage points observed.
- Annually document and report the results of the program.
- Maintain documentation of illicit connection and illegal dumping incidents, including significant conditionally exempt discharges that are not properly managed.
- Document training activities.

## **Potential Limitations and Work-Arounds**

Some facilities may have space constraints, limited staffing and time limitations that may preclude implementation of BMPs. Provided below are typical limitations and recommended “work-arounds.”

- Many facilities do not have accurate, up-to-date ‘as-built’ plans or drawings which may be necessary in order to conduct non-stormwater discharge assessments.
  - ✓ Online tools such as Google Earth™ can provide an aerial view of the facility and may be useful in understanding drainage patterns and potential sources of non-stormwater discharges
  - ✓ Local municipal jurisdictions may have useful drainage systems maps.

- Video surveillance cameras are commonly used to secure the perimeter of industrial facilities against break-ins and theft. These surveillance systems may also be useful for capturing illegal dumping activities. Minor, temporary adjustments to the field of view of existing surveillance camera systems to target known or suspected problem areas may be a cost-effective way of capturing illegal dumping activities and identifying the perpetrators.

## **Potential Capital Facility Costs and Operation & Maintenance Requirements**

### ***Facilities***

- Capital facility cost requirements may be minimal unless cross-connections to storm drains are detected.
- Indoor floor drains may require re-plumbing if cross-connections are detected.
- Leaky sanitary sewers will require repair or replacement which can have significant costs depending on the size and industrial activity at the facility.

### ***Maintenance (including administrative and staffing)***

- The primary effort is for staff time and depends on how aggressively a program is implemented.
- Costs for containment, and disposal of any leak or discharge is borne by the Discharger.
- Illicit connections can be difficult to locate especially if there is groundwater infiltration.
- Illegal dumping and illicit connection violations requires technical staff to detect and investigate them.

## **Supplemental Information**

### ***Permit Requirements***

The IGP authorizes certain Non-Storm Water Discharges (NSWDs) provided BMPs are included in the SWPPP and implemented to:

- Reduce or prevent the contact of authorized NSWDs with materials or equipment that are potential sources of pollutants;
- Reduce, to the extent practicable, the flow or volume of authorized NSWDs;
- Ensure that authorized NSWDs do not contain quantities of pollutants that cause or contribute to an exceedance of a water quality standards (WQS); and,

- Reduce or prevent discharges of pollutants in authorized NSWs in a manner that reflects best industry practice considering technological availability and economic practicability and achievability.”

## References and Resources

Center for Watershed Protection, 2004. *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments*, EPA Cooperative Agreement X-82907801-0.

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# Spill Prevention, Control & Cleanup SC-11

## Description

Many activities that occur at an industrial or commercial site have the potential to cause accidental spills. Preparation for accidental spills, with proper training and reporting systems implemented, can minimize the discharge of pollutants to the environment.

Spills and leaks are one of the largest contributors of stormwater pollutants. Spill prevention and control plans are applicable to any site at which hazardous materials are stored or used. An effective plan should have spill prevention and response procedures that identify hazardous material storage areas, specify material handling procedures, describe spill response procedures, and provide locations of spill clean-up equipment and materials. The plan should take steps to identify and characterize potential spills, eliminate and reduce spill potential, respond to spills when they occur in an effort to prevent pollutants from entering the stormwater drainage system, and train personnel to prevent and control future spills. An adequate supply of spill clean-up materials must be maintained onsite.

## Approach

### General Pollution Prevention Protocols

- Develop procedures to prevent/mitigate spills to storm drain systems.
- Develop and standardize reporting procedures, containment, storage, and disposal activities, documentation, and follow-up procedures.
- Establish procedures and/or controls to minimize spills and leaks. The procedures should address:
  - ✓ Description of the facility, owner and address, activities, chemicals, and quantities present;

### 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 Response	✓
 Material Handling & Waste Management	
 Erosion and Sediment Controls	
 Employee Training Program	✓
 Quality Assurance Record Keeping	✓



# **Spill Prevention, Control & Cleanup SC-11**

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- ✓ Facility map of the locations of industrial materials;
  - ✓ Notification and evacuation procedures;
  - ✓ Cleanup instructions;
  - ✓ Identification of responsible departments; and
  - ✓ Identify key spill response personnel.
- Recycle, reclaim, or reuse materials whenever possible. This will reduce the amount of process materials that are brought into the facility.



## ***Spill and Leak Prevention and Response***

### ***Spill Prevention***

- Develop procedures to prevent/mitigate spills to storm drain systems. Develop and standardize reporting procedures, containment, storage, and disposal activities, documentation, and follow-up procedures.
- If illegal dumping is observed at the facility:
  - ✓ Post “No Dumping” signs with a phone number for reporting illegal dumping and disposal. Signs should also indicate fines and penalties applicable for illegal dumping.
  - ✓ Landscaping and beautification efforts may also discourage illegal dumping.
  - ✓ Bright lighting and/or entrance barriers may also be needed to discourage illegal dumping.
- Store and contain liquid materials in such a manner that if the container is ruptured, the contents will not discharge, flow, or be washed into the storm drainage system, surface waters, or groundwater.
- If the liquid is oil, gas, or other material that separates from and floats on water, install a spill control device (such as a tee section) in the catch basins that collect runoff from the storage tank area.



### ***Preventative Maintenance***

- Place drip pans or absorbent materials beneath all mounted taps, and at all potential drip and spill locations during filling and unloading of tanks. Any collected liquids or soiled absorbent materials must be reused/recycled or properly disposed.
- Store and maintain appropriate spill cleanup materials in a location known to all near the tank storage area; and ensure that employees are familiar with the site’s spill control plan and/or proper spill cleanup procedures.

# **Spill Prevention, Control & Cleanup SC-11**

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- Sweep and clean the storage area monthly if it is paved, *do not hose down the area to a storm drain.*
- Check tanks (and any containment sumps) daily for leaks and spills. Replace tanks that are leaking, corroded, or otherwise deteriorating with tanks in good condition. Collect all spilled liquids and properly dispose of them.
- Label all containers according to their contents (e.g., solvent, gasoline).
- Label hazardous substances regarding the potential hazard (corrosive, radioactive, flammable, explosive, poisonous).
- Prominently display required labels on transported hazardous and toxic materials (per US DOT regulations).
- Identify key spill response personnel.

## *Spill Response*

- Clean up leaks and spills immediately.
- Place a stockpile of spill cleanup materials where it will be readily accessible (e.g., near storage and maintenance areas).
- On paved surfaces, clean up spills with as little water as possible.
  - ✓ Use a rag for small spills, a damp mop for general cleanup, and absorbent material for larger spills.
  - ✓ If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be sent to a certified laundry (rags) or disposed of as hazardous waste.
  - ✓ If possible use physical methods for the cleanup of dry chemicals (e.g., brooms, shovels, sweepers, or vacuums).
- Never hose down or bury dry material spills. Sweep up the material and dispose of properly.
- Chemical cleanups of material can be achieved with the use of adsorbents, gels, and foams. Use adsorbent materials on small spills rather than hosing down the spill. Remove the adsorbent materials promptly and dispose of properly.
- For larger spills, a private spill cleanup company or Hazmat team may be necessary.

# **Spill Prevention, Control & Cleanup SC-11**

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## *Reporting*

- Report spills that pose an immediate threat to human health or the environment to the Regional Water Quality Control Board or local authority as location regulations dictate.
- Federal regulations require that any oil spill into a water body or onto an adjoining shoreline be reported to the National Response Center (NRC) at 800-424-8802 (24 hour).
- Report spills to 911 for dispatch and clean-up assistance when needed. Do not contact fire agencies directly.
- Establish a system for tracking incidents. The system should be designed to identify the following:
  - ✓ 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);
  - ✓ Clean-up procedures; and
  - ✓ Responsible parties.



## ***Employee Training Program***

- Educate employees about spill prevention and cleanup.
- Well-trained employees can reduce human errors that lead to accidental releases or spills:
  - ✓ The employee should have the tools and knowledge to immediately begin cleaning up a spill should one occur; and
  - ✓ Employees should be familiar with the Spill Prevention Control and Countermeasure Plan.
- Employees should be educated about aboveground storage tank requirements. Employees responsible for aboveground storage tanks and liquid transfers should be thoroughly familiar with the Spill Prevention Control and Countermeasure Plan and the plan should be readily available.
- Train employees to recognize and report illegal dumping incidents.

# **Spill Prevention, Control & Cleanup SC-11**

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## ***Other Considerations (Limitations and Regulations)***

- ❑ State regulations exist for facilities with a storage capacity of 10,000 gallons or more of petroleum to prepare a Spill Prevention Control and Countermeasure (SPCC) Plan (Health & Safety Code Chapter 6.67).
- ❑ State regulations also exist for storage of hazardous materials (Health & Safety Code Chapter 6.95), including the preparation of area and business plans for emergency response to the releases or threatened releases.
- ❑ Consider requiring smaller secondary containment areas (less than 200 sq. ft.) to be connected to the sanitary sewer, prohibiting any hard connections to the storm drain.

## **Requirements**

### ***Costs (including capital and operation & maintenance)***

- ❑ Will vary depending on the size of the facility and the necessary controls.
- ❑ Prevention of leaks and spills is inexpensive. Treatment and/or disposal of contaminated soil or water can be quite expensive.

### ***Maintenance (including administrative and staffing)***

- ❑ Develop spill prevention and control plan, provide and document training, conduct inspections of material storage areas, and supply spill kits.
- ❑ Extra time is needed to properly handle and dispose of spills, which results in increased labor costs.

## **Supplemental Information**

### ***Further Detail of the BMP***

#### ***Reporting***

Record keeping and internal reporting represent good operating practices because they can increase the efficiency of the facility and the effectiveness of BMPs. A good record keeping system helps the facility minimize incident recurrence, correctly respond with appropriate cleanup activities, and comply with legal requirements. A record keeping and reporting system should be set up for documenting spills, leaks, and other discharges, including discharges of hazardous substances in reportable quantities. Incident records describe the quality and quantity of non-stormwater discharges to the storm sewer. These records should contain the following information:

- ❑ Date and time of the incident;
- ❑ Weather conditions;
- ❑ Duration of the spill/leak/discharge;

# **Spill Prevention, Control & Cleanup SC-11**

- Cause of the spill/leak/discharge;
- Response procedures implemented;
- Persons notified; and
- Environmental problems associated with the spill/leak/discharge.

Separate record keeping systems should be established to document housekeeping and preventive maintenance inspections, and training activities. All housekeeping and preventive maintenance inspections should be documented. Inspection documentation should contain the following information:

- Date and time the inspection was performed;
- Name of the inspector;
- Items inspected;
- Problems noted;
- Corrective action required; and
- Date corrective action was taken.

Other means to document and record inspection results are field notes, timed and dated photographs, videotapes, and drawings and maps.

## *Aboveground Tank Leak and Spill Control*

Accidental releases of materials from aboveground liquid storage tanks present the potential for contaminating stormwater with many different pollutants. Materials spilled, leaked, or lost from tanks may accumulate in soils or on impervious surfaces and be carried away by stormwater runoff.

The most common causes of unintentional releases are:

- Installation problems;
- Failure of piping systems (pipes, pumps, flanges, couplings, hoses, and valves);
- External corrosion and structural failure;
- Spills and overfills due to operator error; and
- Leaks during pumping of liquids or gases from truck or rail car to a storage tank or vice versa.

# **Spill Prevention, Control & Cleanup SC-11**

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Storage of reactive, ignitable, or flammable liquids should comply with the Uniform Fire Code and the National Electric Code. Practices listed below should be employed to enhance the code requirements:

- Tanks should be placed in a designated area.
- Tanks located in areas where firearms are discharged should be encapsulated in concrete or the equivalent.
- Designated areas should be impervious and paved with Portland cement concrete, free of cracks and gaps, in order to contain leaks and spills.
- Liquid materials should be stored in UL approved double walled tanks or surrounded by a curb or dike to provide the volume to contain 10 percent of the volume of all of the containers or 110 percent of the volume of the largest container, whichever is greater. The area inside the curb should slope to a drain.
- For used oil or dangerous waste, a dead-end sump should be installed in the drain.
- All other liquids should be drained to the sanitary sewer if available. The drain must have a positive control such as a lock, valve, or plug to prevent release of contaminated liquids.
- Accumulated stormwater in petroleum storage areas should be passed through an oil/water separator.

Maintenance is critical to preventing leaks and spills. Conduct routine inspections and:

- Check for external corrosion and structural failure.
- Check for spills and overfills due to operator error.
- Check for failure of piping system (pipes, pumps, flanges, coupling, hoses, and valves).
- Check for leaks or spills during pumping of liquids or gases from truck or rail car to a storage facility or vice versa.
- Visually inspect new tank or container installation for loose fittings, poor welding, and improper or poorly fitted gaskets.
- Inspect tank foundations, connections, coatings, and tank walls and piping system. Look for corrosion, leaks, cracks, scratches, and other physical damage that may weaken the tank or container system.
- Frequently relocate accumulated stormwater during the wet season.

# **Spill Prevention, Control & Cleanup SC-11**

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- Periodically conduct integrity testing by a qualified professional.

## *Vehicle Leak and Spill Control*

Major spills on roadways and other public areas are generally handled by highly trained Hazmat teams from local fire departments or environmental health departments. The measures listed below pertain to leaks and smaller spills at vehicle maintenance shops.

In addition to implementing the spill prevention, control, and clean up practices above, use the following measures related to specific activities:

## *Vehicle and Equipment Maintenance*

- Perform all vehicle fluid removal or changing inside or under cover to prevent the run-on of stormwater and the runoff of spills.
- Regularly inspect vehicles and equipment for leaks, and repair immediately.
- Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment onsite.
- Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.
- Immediately drain all fluids from wrecked vehicles.
- Store wrecked vehicles or damaged equipment under cover.
- Place drip pans or absorbent materials under heavy equipment when not in use.
- Use absorbent materials on small spills rather than hosing down the spill.
- Remove the adsorbent materials promptly and dispose of properly.
- Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.
- Oil filters disposed of in trashcans or dumpsters can leak oil and contaminate stormwater. Place the oil filter in a funnel over a waste oil recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask your oil supplier or recycler about recycling oil filters.
- Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries, even if you think all the acid has drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

# **Spill Prevention, Control & Cleanup SC-11**

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## *Vehicle and Equipment Fueling*

- Design the fueling area to prevent the run-on of stormwater and the runoff of spills:
  - Cover fueling area if possible.
  - Use a perimeter drain or slope pavement inward with drainage to a sump.
  - Pave fueling area with concrete rather than asphalt.
- If dead-end sump is not used to collect spills, install an oil/water separator.
- Install vapor recovery nozzles to help control drips as well as air pollution.
- Discourage “topping-off” of fuel tanks.
- Use secondary containment when transferring fuel from the tank truck to the fuel tank.
- Use absorbent materials on small spills and general cleaning rather than hosing down the area. Remove the absorbent materials promptly.
- Carry out all Federal and State requirements regarding underground storage tanks, or install above ground tanks.
- Do not use mobile fueling of mobile industrial equipment around the facility; rather, transport the equipment to designated fueling areas.
- Keep your Spill Prevention Control and Countermeasure (SPCC) Plan up-to-date.
- Train employees in proper fueling and cleanup procedures.

## ***Industrial Spill Prevention Response***

For the purposes of developing a spill prevention and response program to meet the stormwater regulations, facility managers should use information provided in this fact sheet and the spill prevention/response portions of the fact sheets in this handbook, for specific activities.

The program should:

- Integrate with existing emergency response/hazardous materials programs (e.g., Fire Department).
- Develop procedures to prevent/mitigate spills to storm drain systems.
- Identify responsible departments.

# **Spill Prevention, Control & Cleanup SC-11**

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- Develop and standardize reporting procedures, containment, storage, and disposal activities, documentation, and follow-up procedures.
- Address spills at municipal facilities, as well as public areas.
- Provide training concerning spill prevention, response and cleanup to all appropriate personnel.

## **References and Resources**

California's Nonpoint Source Program Plan. <http://www.swrcb.ca.gov/nps/index.html>.

Clark County Storm Water Pollution Control Manual. Available online at:  
<http://www.co.clark.wa.us/pubworks/bmpman.pdf>.

King County Storm Water Pollution Control Manual. Available online at:  
<http://dnr.metrokc.gov/wlr/dss/spcm.htm>.

Orange County Stormwater Program, Best Management Practices for Industrial/Commercial Business Activities. Available online at:  
<http://ocwatersheds.com/documents/bmp/industrialcommercialbusinessesactivities>

Santa Clara Valley Urban Runoff Pollution Prevention Program.  
<http://www.scvurppp.org>.

The Stormwater Managers Resource Center. <http://www.stormwatercenter.net/>.

# Vehicle and Equipment Repair SC-22

## Description

Vehicle or equipment maintenance and repair are potentially significant sources of stormwater pollution, due to use of harmful materials and wastes during maintenance and repair processes. Engine repair and service (e.g., parts cleaning), replacement of fluids (e.g., oil change), and outdoor equipment storage and parking (leaking vehicles) can impact water quality if stormwater runoff from areas with these activities becomes polluted by a variety of contaminants. Implementation of the following activities must be done where applicable to prevent or reduce the discharge of pollutants to stormwater from vehicle and equipment maintenance and repair activities.

## Approach

The BMP approach is to reduce the potential for pollutant discharges 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 are presented followed by applicable minimum BMPs as required by the Industrial General Permit.

### General Pollution Prevention Protocols

- Designate a vehicle maintenance area designed to prevent stormwater pollution.
- Minimize contact of stormwater with outside operations through berming and appropriate drainage routing.
- Keep accurate maintenance logs to evaluate materials removed and improvements made.
- Switch to non-toxic chemicals for maintenance when possible.
- Choose cleaning agents that can be recycled.
- Use drop cloths and drip pans.

## Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

## Targeted Constituents

*Sediment*

*Nutrients*

*Trash*

*Metals* ✓

*Bacteria*

*Oil and Grease* ✓

*Organics* ✓

## Minimum BMPs Covered

	<i>Good Housekeeping</i>	✓
	<i>Preventative Maintenance</i>	✓
	<i>Spill and Leak Prevention and Response</i>	✓
	<i>Material Handling &amp; Waste Management</i>	✓
	<i>Erosion and Sediment Controls</i>	
	<i>Employee Training Program</i>	✓
	<i>Quality Assurance Record Keeping</i>	✓



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# Vehicle and Equipment Repair **SC-22**

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- ❑ Minimize use of solvents. Clean parts without using solvents whenever possible, or use water-based solvents for cleaning.
- ❑ Recycle used motor oil, diesel oil, and other vehicle fluids and parts whenever possible.

## ***Operational Protocols***

### *General*

- ❑ Move maintenance and repair activities indoors whenever feasible.
- ❑ Place curbs around the immediate boundaries of process equipment.



### ***Good Housekeeping***

- ❑ Store idle equipment under cover
- ❑ Use a vehicle maintenance area designed to prevent stormwater pollution - minimize contact of stormwater with outside operations through berming and appropriate drainage routing.
- ❑ Avoid hosing down your work areas. If work areas are washed, collect and direct wash water to sanitary sewer. Use dry sweeping if possible.
- ❑ Paint signs on storm drain inlets to indicate that they are not to receive liquid or solid wastes.
- ❑ Post signs at sinks to remind employees not to pour wastes down drains.
- ❑ Clean yard storm drain inlets(s) regularly and especially after large storms.
- ❑ Do not pour materials down storm drains.
- ❑ Cover the work area to limit exposure to rain.
- ❑ Place curbs around the immediate boundaries of process equipment.
- ❑ Build a shed or temporary roof over areas where parked cars await repair or salvage, especially wrecked vehicles. Build a roof over vehicles kept for parts.



### ***Preventive Maintenance and Repair Activities***

- ❑ Provide a designated area for vehicle maintenance.
- ❑ Inspect vehicles and equipment for leaks regularly and repair immediately.
- ❑ Make sure incoming vehicles are checked for leaking oil and fluids. Do not allow leaking vehicles or equipment on-site without correcting the source of the leak and cleaning up any spill.
- ❑ Keep equipment clean; don't allow excessive build-up of oil and grease.

# Vehicle and Equipment Repair SC-22

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- Perform all vehicle fluid removal or changing inside or under cover if possible to prevent the run-on of stormwater and the runoff of spills.
- Use a tarp, ground cloth, or drip pans beneath the vehicle or equipment to capture all spills and drips if temporary work is being conducted outside. Collected drips and spills must be disposed, reused, or recycled properly.
- It is important to sweep the maintenance area weekly, if it is paved, to collect loose particles, and wipe up spills with rags and other absorbent material immediately. Do not hose down the area to a storm drain.
- Establish standard procedures to prevent spillage/leakage of fluids including:
  - ✓ Keep a drip pan under the vehicle while you unclip hoses, unscrew filters, or remove other parts. Use a drip pan under any vehicle that might leak while working on it to keep splatters or drips off the shop floor.
  - ✓ Promptly transfer used fluids to the proper waste or recycling drums. Do not leave drip pans or other open containers lying around.
  - ✓ Keep drip pans or containers under vehicles or equipment that may drip during repairs.
  - ✓ Do not change motor oil or perform equipment maintenance in non-appropriate areas.
- Drain oil and other fluids first if the vehicle or equipment is to be stored outdoors. Elevate and tarp stored vehicles and equipment.
- Monitor parked vehicles closely for leaks. Pans should be placed under any leaks to collect the fluids for proper disposal or recycling.
- Mechanics should clean vehicle parts without using liquid cleaners wherever possible to reduce waste.
- Steam cleaning and pressure washing may be used instead of solvent parts cleaning. The wastewater generated from steam cleaning must be discharged to an on-site oil water separator that is connected to a sanitary sewer or blind sump. Non-caustic detergents should be used instead of caustic cleaning agents, detergent-based or water-based cleaning systems in place of organic solvent degreasers, and non-chlorinated solvent in place of chlorinated organic solvents for parts cleaning. Refer to SC21 for more information on steam cleaning.
- Fifth-wheel bearings on trucks require routine lubrication. Typically chassis grease is applied to the fifth-wheel bearing at rates that result in grease dripping off of the bearing into the environment. To address this concern the following options are available:
  - ✓ Use specialized lubricants with good adhesion (e.g., stay in place) properties. Carefully follow manufacturer's label regarding the use of adhesive lubricant for

truck fifth-wheels. Typically this means applying no more than 8 oz. of grease. No visible extrusion of lubricant from the fifth-wheel bearing when truck and trailer are connected should be present.

- ✓ Use on-board truck or on-board trailer automatic lubrication systems. If these systems apply lube thinner than National Grease Lubrication Institute #2, equipment for collection of used lubricant is needed to prevent excess lubricant from dripping off the truck.
- ✓ Use plastic or Teflon plates instead of grease or other lubricants. Carefully follow manufacturer's instructions for installation and operation.
- Use one of the following for lubricating vehicle-trailer coupling:
  - ✓ Specialized adhesive lubricants;
  - ✓ Grease-free fifth wheel slip plates (e.g., plastic or Teflon coatings); and
  - ✓ On-Board automatic lubricating systems.



## ***Spill and Leak Prevention and Response Procedures***

- Keep your spill prevention and control plan up-to-date.
- Place an adequate stockpile of spill cleanup materials where it will be readily accessible.
- Clean leaks, drips, and other spills with as little water as possible. Use rags for small spills, a damp mop for general cleanup, and dry absorbent material for larger spills. Use the following three-step method for cleaning floors:
  - ✓ Clean spills with rags or other absorbent materials;
  - ✓ Sweep floor using dry absorbent material; and
  - ✓ Mop the floor.

Mop water may be discharged to the sanitary sewer via a toilet or sink.

- Remove the adsorbent materials promptly and dispose of properly when using adsorbent materials on small spills.



## ***Material Handling and Waste Management***

- Designate a special area to drain and replace motor oil, coolant, and other fluids, where there are no connections to the storm drain or the sanitary sewer, and drips and spills can be easily cleaned up.
- Drain all fluids immediately from wrecked vehicles. Ensure that the drain pan or drip pan is large enough to contain drained fluids (e.g., larger pans are needed to contain antifreeze, which may gush from some vehicles).

# Vehicle and Equipment Repair **SC-22**

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- ❑ Do not pour liquid waste to floor drains, sinks, outdoor storm drain inlets, or other storm drains or sewer connections.
- ❑ Do not put used or leftover cleaning solutions, solvents, and automotive fluids and in the sanitary sewer.
- ❑ Collect leaking or dripping fluids in drip pans or containers. Fluids are easier to recycle if kept separate.
- ❑ Promptly transfer used fluids to the proper waste or recycling drums. Do not leave drip pans or other open containers lying around.
- ❑ Place oil filter in a funnel over a waste oil recycling drum to drain excess oil before disposal since municipalities prohibit or discourage disposal of these items in solid waste facilities.
- ❑ Oil filters can also be recycled. Ask your oil supplier or recycler about recycling oil filters. Oil filters disposed of in trashcans or dumpsters can leak oil and contaminate stormwater.
- ❑ Store cracked batteries in a non-leaking secondary container and dispose of properly at recycling or household hazardous waste facilities.



## ***Employee Training Program***

- ❑ Train employees and contractors in the proper handling and disposal of engine fluids and waste materials.
- ❑ Employees should have the tools and knowledge to immediately begin cleaning up a spill should one occur.
- ❑ Conduct annual training to ensure that employees are familiar with the facility's spill control plan and/or proper spill cleanup procedures (You can use reusable cloth rags to clean up small drips and spills instead of disposables; these can be washed by a permitted industrial laundry. Do not clean them at home or at a coin-operated laundry business).
- ❑ Use a training log or similar method to document training.



## ***Quality Assurance and Recordkeeping***

- ❑ Keep accurate maintenance logs to evaluate materials removed and improvements made.
- ❑ Establish procedures to collect and file maintenance logs in the central office.

## ***Other Facility-Specific Considerations***

### *Parts Cleaning*

Vehicle and equipment maintenance facilities often must clean parts as a part of day-to-day operations. The following activities should be considered:

- Clean vehicle parts without using liquid cleaners wherever possible to reduce waste.
- Steam cleaning and pressure washing may be used instead of solvent parts cleaning.
- Wastewater generated from steam cleaning must be discharged to an on-site oil water separator that is connected to a sanitary sewer or blind sump.
- Use non-caustic detergents instead of caustic cleaning agents, detergent-based or water-based cleaning systems in place of organic solvent degreasers, and non-chlorinated solvent in place of chlorinated organic solvents for parts cleaning. Refer to SC21 for more information on steam cleaning.

## ***Potential Limitations and Work-Arounds***

- Some facilities may have space constraints and time limitations that may preclude all work from being conducted indoors.
  - ✓ Designate specific areas for outdoor activities.
  - ✓ Require employees to understand and follow preventive maintenance and spill and leak prevention BMPs.
- It may not be possible to contain and clean up spills from vehicles/equipment brought on-site after working hours.
  - ✓ Provide a designated area for afterhours deliveries.
  - ✓ Install spill kits.
- Drain pans (usually 1 ft. x 1 ft.) are generally too small to contain antifreeze
  - ✓ Purchase or fabricate large drip pans (3 ft. x 3 ft.) with sufficient volume to contain expected quantities of liquids based on equipment/vehicle specifications.
- Dry floor cleaning methods may not be sufficient for some spills.
  - ✓ Use three-step method instead.
- Identification of engine leaks may require some use of solvents.
  - ✓ Minimize the use of solvents and use drip pans to collect spills and leaks.
- Prices for recycled materials and fluids may be higher than those of non-recycled materials.

- Some facilities may be limited by a lack of providers of recycled materials, and by the absence of businesses to provide services such as hazardous waste removal, structural treatment practice maintenance, or solvent equipment and solvent recycling.

## Potential Facilities and Maintenance Requirements

### *Facilities Requirements*

- For facilities that already have covered areas where maintenance takes place, have berms or other means to retain spills and leaks, and/ have other appropriate constructed systems for containment, there may not need to be any significant new capital investment. Capital costs will likely be required at some sites if adequate cover and containment facilities do not exist and can vary significantly depending upon site conditions.



### *Maintenance Requirements*

- Most of the operations and maintenance activity associated with implementing this BMP are integrally linked to routine operations as previously described. Therefore, significant additional operations and maintenance efforts are not likely to be required.
- For facilities responsible for pre-treating their wastewater prior to discharging, the proper functioning of structural treatment system is an important maintenance consideration. Routine cleanout of oil and grease is required for the devices to maintain their effectiveness, usually at least once a month. During periods of heavy rainfall, cleanout is required more often to ensure pollutants are not washed through the trap. Sediment removal is also required on a regular basis to keep the device working efficiently.
- It is important to sweep the maintenance area weekly, if it is paved, to collect loose particles, and wipe up spills with rags and other absorbent material immediately. Do not hose down the area to a storm drain.

## Supplemental Information

### *Waste Reduction*

Parts are often cleaned using solvents such as trichloroethylene, 1,1,1-trichloroethane or methylene chloride. Many of these cleaners are harmful and must be disposed of as a hazardous waste. Cleaning without using liquid cleaners (e.g., wire brush) whenever possible reduces waste. Prevent spills and drips of solvents and cleansers to the shop floor. Do all liquid cleaning at a centralized station so the solvents and residues stay in one area. Locate drip pans, drain boards, and drying racks to direct drips back into a solvent sink or fluid holding tank for reuse. Reducing the number of solvents makes recycling easier and reduces hazardous waste management costs. Often, one solvent can perform a job as well as two different solvents.

- Clean parts without using liquid cleaners whenever possible to reduce waste.
- Prevent spills and drips of solvents and cleansers to the shop floor.

# Vehicle and Equipment Repair SC-22

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- Do all liquid cleaning at a centralized station so the solvents and residues stay in one area.
- Locate drip pans, drain boards, and drying racks to direct drips back into a solvent sink or fluid holding tank for reuse.

## ***Recycling***

Separating wastes allows for easier recycling and may reduce treatment costs. Keep hazardous and non-hazardous wastes separate, do not mix used oil and solvents, and keep chlorinated solvents (e.g., 1,1,1-trichloroethane) separate from non-chlorinated solvents (e.g., kerosene and mineral spirits).

Many products made of recycled (i.e., refined or purified) materials are available. Engine oil, transmission fluid, antifreeze, and hydraulic fluid are available in recycled form. Buying recycled products supports the market for recycled materials.

- Recycling is always preferable to disposal of unwanted materials.
- Separate wastes for easier recycling. Keep hazardous and non-hazardous wastes separate, do not mix used oil and solvents, and keep chlorinated solvents separate from non-chlorinated solvents.
- Label and track the recycling of waste material (e.g., used oil, spent solvents, batteries).
- Purchase recycled products to support the market for recycled materials.

## ***Safer Alternatives***

If possible, eliminate or reduce the amount of hazardous materials and waste by substituting non-hazardous or less hazardous material:

- Use non-caustic detergents instead of caustic cleaning for parts cleaning.
- Use detergent-based or water-based cleaning systems in place of organic solvent degreasers. Wash water may require treatment before it can be discharged to the sewer.
- Replace chlorinated organic solvents with non-chlorinated solvents. Non-chlorinated solvents like kerosene or mineral spirits are less toxic and less expensive to dispose of properly. Check list of active ingredients to see whether it contains chlorinated solvents.
- Choose cleaning agents that can be recycled.

## **References and Resources**

Orange County Stormwater Program, Best Management Practices for Industrial/Commercial Business Activities. Available online at:

<http://ocwatersheds.com/documents/bmp/industrialcommercialbusinessesactivities>.

# Vehicle and Equipment Repair SC-22

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Oregon Department of Environmental Quality, 2013. *Industrial Stormwater Best Management Practices Manual- BMP 8 Vehicle, Pavement and Building Washing*. Available online at: <http://www.deq.state.or.us/wq/wqpermit/docs/IndBMPO21413.pdf>.

Sacramento Stormwater Management Program. *Best Management Practices for Industrial Storm Water Pollution Control*. Available online at: <http://www.msa.saccounty.net/sactostormwater/documents/guides/industrial-BMP-manual.pdf>.

Sacramento County Environmental Management Stormwater Program: Best Management Practices –Vehicle Washing. Available online at: <http://www.emd.saccounty.net/EnvHealth/Stormwater/Stormwater-BMPs.html>.

Santa Clara Valley Urban Runoff Pollution Prevention Program <http://www.scvurppp-w2k.com/>.

US EPA, National Pollutant Discharge Elimination System – Stormwater Menu of BMPs - Municipal Vehicle and Equipment Washing. Available online at: <http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=132>.

Washington State Department of Ecology, 2012. *Vehicle and Equipment Washwater Discharges Best Management Practices Manual*. Publication no. WQ-R-95-056. Available online at: <https://fortress.wa.gov/ecy/publications/publications/95056.pdf>.

# Outdoor Equipment Operations SC-32

## Description

Outside process equipment operations and maintenance can contaminate stormwater runoff. Activities, such as grinding, painting, coating, sanding, degreasing or parts cleaning, landfills and waste piles, and solid waste treatment and disposal are examples of process operations that can lead to contamination of stormwater runoff. The targeted constituents will vary for each site depending on the operation being performed.

## Approach

Implement source control BMPs to limit exposure of outdoor equipment to direct precipitation and stormwater run-on. Refer to SC-22 Vehicle and Equipment Repair for additional information.

## General Pollution Prevention Protocols

- Perform the activity during dry periods whenever possible.
- Install secondary containment measures where leaks and spills may occur.
- Use non-toxic chemicals for maintenance and minimize or eliminate the use of solvents.
- Connect process equipment area to public sanitary sewer or facility wastewater treatment system when possible. Some jurisdictions require that secondary containment areas be connected to the sanitary sewer, prohibiting any hard connections to the storm drain.



## Good Housekeeping

- Manage materials and waste properly (see Material Handling and Waste Management) to reduce adverse impacts on stormwater quality.

## 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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# Outdoor Equipment Operations SC-32

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- Cover the work area with a permanent roof if possible.
- Use drop cloths for sanding and painting operations.
- Use a vacuum for fine particle clean-up in pavement cracks and crevices.
- Minimize contact of stormwater with outside process equipment operations through berming and drainage routing (run-on prevention).
- "Spot clean" leaks and drips routinely. Leaks are not cleaned up until the absorbent is picked up and disposed of properly.
- Paint signs on storm drain inlets to indicate that they are not to receive liquid or solid wastes.
- Use roll down or permanent walls when windy/breezy to prevent wind transport of particulates/pollutants.



## ***Preventative Maintenance***

- Design outdoor equipment areas to prevent stormwater runoff and spills. Use a perimeter drain or slope pavement inward with drainage to sump.
- Dry clean the work area regularly. Do not wash outdoor equipment with water if there is a direct connection to the storm drain.
- Pave area with concrete rather than asphalt.
- Inspect outdoor equipment regularly for leaks or spills. Also check for structural failure, spills and overfills due to operator error, and/or failure of piping system.
- Inspect and clean, if necessary, storm drain inlets and catch basins within the outdoor equipment area before October 1 each year.



## ***Spill Response and Prevention Procedures***

- Keep your Spill Prevention Control and Countermeasure (SPCC) Plan up-to-date.
- Have employees trained in emergency spill cleanup procedures present when dangerous waste, liquid chemicals, or other wastes are delivered.
- Place a stockpile of spill cleanup materials where it will be readily accessible.
- Prevent operator errors by using engineering safe guards and thus reducing accidental releases of pollutant.



## ***Material Handling and Waste Management***

# Outdoor Equipment Operations SC-32

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- Do not pour liquid wastes into floor drains, sinks, outdoor storm drain inlets, or other storm drain or sewer connections.
- Collect leaking or dripping fluids in drip pans or containers. Fluids are easier to recycle if kept separate.
- Promptly transfer used fluids to the proper waste or recycling drums. Do not leave drip pans or other open containers lying around.
- Minimize the possibility of stormwater pollution from outside waste receptacles by doing at least one of the following:
  - ✓ Use only watertight waste receptacle(s) and keep the lid(s) closed.
  - ✓ Grade and pave the waste receptacle area to prevent run-on of stormwater.
  - ✓ Install a roof over the waste receptacle area.



## ***Employee Training Program***

- Educate employees about pollution prevention measures and goals.
- Train employees on proper equipment operation and maintenance procedures.
- Train all employees upon hiring and annually thereafter on proper methods for handling and disposing of waste. Ensure that all employees understand stormwater discharge prohibitions, wastewater discharge requirements, and these best management practices.
- 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.



## ***Quality Assurance and Record Keeping***

- Keep accurate maintenance logs that document minimum BMP activities performed for outdoor equipment, types and quantities of materials removed and 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.
- Establish procedures to complete logs and file them in the central office.

## **Potential Limitations and Work-Arounds**

Some facilities may have space constraints, limited staffing and time limitations that may preclude implementation of BMPs. Provided below are typical limitations and recommended “work-arounds.”

# **Outdoor Equipment Operations SC-32**

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- Providing cover over outdoor equipment may be impractical or cost-prohibitive.
  - ✓ Operate outdoor equipment only during periods of dry weather.
- Regular operations and time limitations may require outdoor activities during wet weather.
  - ✓ Designate specific areas for outdoor activities.
  - ✓ Allow time for work area clean-up after each shift.
  - ✓ Require employees to understand and follow preventive maintenance and spill and leak prevention BMPs.
  - ✓ Design and install secondary containment and good housekeeping BMPs for outdoor equipment area.
- Storage sheds often must meet building and fire code requirements.

## **Potential Capital Facility Costs and Operation & Maintenance Requirements**

### ***Facilities***

- Many facilities will already have indoor covered areas where vehicle and equipment repairs take place and will require no additional capital expenditures.
- If outdoor activities are required, construction of berms or other means to retain spills and leaks may require appropriate constructed systems for containment. These containment areas may require significant new capital investment.
- Capital investments will likely be required at some sites if adequate cover and containment facilities do not exist and can vary significantly depending upon site conditions.

### ***Maintenance***

- Most of the operations and maintenance activities associated with implementing this BMP are integrally linked to routine operations as previously described. Therefore additional O&M is not required.
- For facilities responsible for pre-treating their wastewater prior to discharging, the proper functioning of structural treatment system is an important maintenance consideration.
- Routine cleanout of oil and grease is required for the devices to maintain their effectiveness, usually at least once a month. During periods of heavy rainfall, cleanout is required more often to ensure pollutants are not washed through the trap. Sediment removal is also required on a regular basis to keep the device working efficiently.

# Outdoor Equipment Operations SC-32

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## References and Resources

Minnesota Pollution Control Agency. *Industrial Stormwater Best Management Practices Guidebook BMP 26 Fueling and Liquid Loading/Unloading Operations*. Available online at: <http://www.pca.state.mn.us/index.php/view-document.html?gid=10557>.

New Jersey Department of Environmental Protection, 2013. *Basic Industrial Stormwater General Permit Guidance Document NJPDES General Permit No NJ0088315*. Available online at: [http://www.nj.gov/dep/dwq/pdf/5G2\\_guidance\\_color.pdf](http://www.nj.gov/dep/dwq/pdf/5G2_guidance_color.pdf).

Orange County Stormwater Program, Best Management Practices for Industrial/Commercial Business Activities. Available online at: <http://ocwatersheds.com/documents/bmp/industrialcommercialbusinessesactivities>.

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Sacramento Stormwater Management Program. *Best Management Practices for Industrial Storm Water Pollution Control*. Available online at: <http://www.msa.saccounty.net/sactostormwater/documents/guides/industrial-BMP-manual.pdf>.

Sacramento County Environmental Management Stormwater Program: Best Management Practices. Available online at: <http://www.emd.saccounty.net/EnvHealth/Stormwater/Stormwater-BMPs.html>.

Santa Clara Valley Urban Runoff Pollution Prevention Program. <http://www.scvurppp-w2k.com/>

US EPA. National Pollutant Discharge Elimination System – Industrial Fact Sheet Series for Activities Covered by EPA’s Multi Sector General Permit. Available online at: <http://cfpub.epa.gov/npdes/stormwater/swsectors.cfm>.

# Outdoor Storage of Raw Materials SC-33

## Description

Stockpiles of raw materials, by-products, and finished products exposed to rain and/or runoff can pollute stormwater. Stormwater can become contaminated when materials wash off or dissolve into water due to improper storage and containment. To prevent or reduce the discharge of pollutants to stormwater from raw material delivery and storage, pollution prevention and source control measures must be implemented, such as minimizing the storage of hazardous materials on-site, enclosing or covering materials, storing materials in a designated area, installing secondary containment, conducting regular inspections, preventing stormwater run-on and runoff, and training employees and subcontractors. This fact sheet focuses on source control BMPs for stockpiles of solid materials; if the raw material, by-product, or product is a liquid, more information for outside storage of liquids can be found under SC-31 Outdoor Liquid Container Storage.

## 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

- Emphasize employee education for successful BMP implementation.
- Store materials that could contaminate stormwater inside or under permanent cover. If this is not feasible, then all outside storage areas should be covered with a roof and bermed or enclosed to prevent stormwater contact.
- Elevate and tarp solid materials such as beams, metal, etc.
- Minimize the inventory of raw materials kept outside.

## 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	✓



# Outdoor Storage of Raw Materials SC-33

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- Keep an accurate, up-to-date inventory of the materials delivered and stored on-site.
- Stormwater runoff that could potentially be contaminated by materials stored outdoors should be drained to the sanitary sewer if available. The drain must have a positive control such as a lock, valve, or plug to prevent release of contaminated liquids.



## ***Good Housekeeping***

- If raw materials cannot all be stored inside or under permanent cover, prevent exposure to direct precipitation and stormwater run-on by installing a storm-resistant waterproof covering made of polyethylene, polypropylene or hypalon over all materials stored outside. The covers must be in place at all times when work with the stockpiles is not occurring (Applicable to small stockpiles only).
- Implement erosion control practices at the perimeter of the facility site and at any catch basins to prevent erosion of the stockpiled material off-site, if the stockpiles are so large that they cannot feasibly be covered and contained.
- Minimize stormwater run-on by enclosing the area or building a berm around it.
- Keep storage areas clean and dry.
- Slope paved areas in a manner that minimizes pooling of water on the site, particularly with materials that may leach pollutants into stormwater and/or groundwater, such as compost, logs, and wood chips. A minimum slope of 1.5% is recommended.
- Secure drums stored in an area where unauthorized persons may not gain access to prevent accidental spillage, pilferage, or any unauthorized use.
- Install curbing or berms along the perimeter of the area to prevent the run-on of uncontaminated stormwater from adjacent areas as well as runoff of stormwater from the stockpile areas.
- Slope the area inside the curb or berm to a drain with sump. The sump should be equipped with an oil and water separator if applicable for materials stored onsite.
- Do not store materials on top of or directly adjacent to storm drain inlets.
- Cover wood products treated with chromated copper arsenate, ammonical copper zinc arsenate, creosote, or pentachlorophenol with properly secured tarps or store indoors.



## ***Preventative Maintenance***

- Maintain outdoor storage containers in good condition. Replace leaky or otherwise inadequate containers as necessary.
- Maintain outdoor waterproof covers (e.g., tarps) in good condition and properly secure them to be storm resistant. Replace tarps damaged by UV exposure or wear and tear on a regular basis.

# Outdoor Storage of Raw Materials SC-33

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- Perform routine inspection of storm drains and sumps and regularly remove accumulated materials.
- Dry clean the work area regularly. Do not wash outdoor material storage areas with water if there is a direct connection to the storm drain.
- Pave outdoor storage areas for liquids such as solvents with concrete rather than asphalt.
- Conduct regular inspections of storage areas so that leaks and spills are detected as soon as possible.
- Routinely inspect berms, curbing, containment, and sediment controls for proper function and repair as necessary.



## ***Spill and Leak Prevention and Response***

- Keep the facility spill prevention and control plan up-to-date.
- Place a stockpile of spill cleanup materials, such as brooms, dustpans, and vacuum sweepers (if desired) near the storage area where it will be readily accessible.
- Have employees trained in spill containment and cleanup present during the loading/unloading of hazardous or otherwise dangerous materials.



## ***Erosion and Sediment Controls***

- Keep materials covered to prevent erosion of stockpiles. This may not be feasible for large stockpiles.
- Install sediment controls such as fiber rolls around the perimeter of stockpiles to prevent transport of raw materials to the storm drain.
- Install drain inlet protection around all inlets to prevent raw materials from entering storm drain.
- Install sediment controls such as silt fence around the perimeter of the site to prevent transport of raw materials to the storm drain or offsite surface waters.



## ***Employee Training Program***

- Educate employees about pollution prevention measures and goals.
- Train employees how to properly store outdoor raw materials using the source control BMPs described above.
- 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.

# Outdoor Storage of Raw Materials SC-33

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## *Quality Assurance and Record Keeping*

- Keep accurate maintenance logs that document minimum BMP activities performed for outdoor storage of raw materials, types and quantities of materials removed and 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.
- Establish procedures to complete logs and file them in the central office.

## **Other Facility-Specific Considerations**

- Storage sheds often must meet building and fire code requirements. Storage of reactive, ignitable, or flammable liquids must comply with the Uniform Fire Code and the National Electric Code.
- Some municipalities require that secondary containment areas (regardless of size) be connected to the sanitary sewer, prohibiting any hard connections to the storm drain.
- The local fire district must be consulted for limitations on clearance of roof covers over containers used to store flammable materials.

## **Potential Limitations and Work-Arounds**

Some facilities may have space constraints, limited staffing and time limitations that may preclude implementation of BMPs. Provided below are typical limitations and recommended “work-arounds”

- Space limitations may preclude storing all materials indoors.
  - ✓ Implement good housekeeping, preventative maintenance, and erosion and sediment controls as described above.

## **Potential Capital Facility Costs and Operation & Maintenance Requirements**

### *Facilities*

- Many facilities will already have indoor covered areas where raw materials will be stored and will require no additional capital expenditures.
- If outdoor storage of materials is required, construction of berms or other means to prevent stormwater run-on and runoff may require appropriate constructed systems for containment. These containment areas may require significant new capital investment.
- Purchase and installation of erosion and sediment controls will require additional capital investments, and this amount will vary depending on site characteristics.
- Capital investments will likely be required at some sites if adequate cover and containment facilities do not exist and can vary significantly depending upon site conditions.

# Outdoor Storage of Raw Materials SC-33

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## *Maintenance*

- Accurate and up-to-date inventories should be kept of all stored materials.
- Berms and curbs may require periodic repair and patching.
- Parking lots or other surfaces near bulk materials storage areas should be swept periodically to remove debris blown or washed from storage areas.
- Sweep paved storage areas regularly for collection and disposal of loose solid materials, do not hose down the area to a storm drain or conveyance ditch.
- Erosion and sediment controls require regular inspection and periodic replacement or reinstallation.

## **Supplemental Information**

### *Raw Material Containment*

Paved areas should be sloped in a manner that minimizes pooling of water on the site, particularly with materials that may leach pollutants into stormwater and/or groundwater, such as compost, logs, and wood chips. A minimum slope of 1.5% is recommended.

- Curbing or berms should be placed along the perimeter of the area to prevent the run-on of uncontaminated stormwater from adjacent areas as well as runoff of stormwater from stockpile areas.
- The storm drainage system should be designed to minimize use of catch basins in the interior of the area as they tend to rapidly fill with manufacturing material.

The area should be sloped to drain stormwater to the perimeter where it can be collected or to internal drainage alleyways where material is not stockpiled.

The “doghouse” design has been used to store small liquid containers. The roof and flooring design prevent contact with direct rain or runoff. The doghouse has two solid structural walls and two canvas covered walls. The flooring is wire mesh about secondary containment.

## **References and Resources**

Minnesota Pollution Control Agency, *Industrial Stormwater Best Management Practices Guidebook*. Available online at: <http://www.pca.state.mn.us/index.php/view-document.html?gid=10557>.

New Jersey Department of Environmental Protection, 2013. *Basic Industrial Stormwater General Permit Guidance Document NJPDES General Permit No NJ0088315*. Available online at: [http://www.nj.gov/dep/dwq/pdf/5G2\\_guidance\\_color.pdf](http://www.nj.gov/dep/dwq/pdf/5G2_guidance_color.pdf).

Orange County Stormwater Program, *Best Management Practices for Industrial/Commercial Business Activities*. Available online at: <http://ocwatersheds.com/documents/bmp/industrialcommercialbusinessactivities>

# **Outdoor Storage of Raw Materials SC-33**

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Oregon Department of Environmental Quality. 2013. *Industrial Stormwater Best Management Practices Manual*. Available online at:  
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Sacramento Stormwater Management Program. *Best Management Practices for Industrial Storm Water Pollution Control*. Available online at:  
<http://www.msa.saccounty.net/sactostormwater/documents/guides/industrial-BMP-manual.pdf>.

Sacramento County Environmental Management Stormwater Program: Best Management Practices. Available online at:  
<http://www.emd.saccounty.net/EnvHealth/Stormwater/Stormwater-BMPs.html>.

Santa Clara Valley Urban Runoff Pollution Prevention Program. <http://www.scvurppp-w2k.com/>.

US EPA. National Pollutant Discharge Elimination System – Industrial Fact Sheet Series for Activities Covered by EPA’s Multi Sector General Permit. Available online at:  
<http://cfpub.epa.gov/npdes/stormwater/swsectors.cfm>.

## Description

Improper storage and handling of solid wastes can allow toxic compounds, oils and greases, heavy metals, nutrients, suspended solids, and other pollutants to enter stormwater runoff. The discharge of pollutants to stormwater from waste handling and disposal can be prevented and reduced by tracking waste generation, storage, and disposal; reducing waste generation and disposal through source reduction, reuse, and recycling; and preventing run-on and runoff.

## 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

- Accomplish reduction in the amount of waste generated using the following source controls:
  - ✓ Production planning and sequencing;
  - ✓ Process or equipment modification;
  - ✓ Raw material substitution or elimination;
  - ✓ Loss prevention and housekeeping;
  - ✓ Waste segregation and separation; and
  - ✓ Close loop recycling.
- Establish a material tracking system to increase awareness about material usage. This may reduce spills and minimize contamination, thus reducing the amount of waste produced.
- Recycle materials whenever possible.

## 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 Response	✓
 Material Handling & Waste Management	✓
 Erosion and Sediment Controls	
 Employee Training Program	✓
 Quality Assurance Record Keeping	✓



- Use the entire product before disposing of the container.
- To the extent possible, store wastes under cover or indoors after ensuring all safety concerns such as fire hazard and ventilation are addressed.
- Provide containers for each waste stream at each work station. Allow time after shift to clean area.



## ***Good Housekeeping***

- Cover storage containers with leak proof lids or some other means. If waste is not in containers, cover all waste piles (plastic tarps are acceptable coverage) and prevent stormwater run-on and runoff with a berm. The waste containers or piles must be covered except when in use.
- Use drip pans or absorbent materials whenever grease containers are emptied by vacuum trucks or other means. Grease cannot be left on the ground. Collected grease must be properly disposed of as garbage.
- Dispose of rinse and wash water from cleaning waste containers into a sanitary sewer if allowed by the local sewer authority. Do not discharge wash water to the street or storm drain. Clean in a designated wash area that drains to a clarifier.
- Transfer waste from damaged containers into safe containers.
- Take special care when loading or unloading wastes to minimize losses. Loading systems can be used to minimize spills and fugitive emission losses such as dust or mist. Vacuum transfer systems can minimize waste loss.
- Keep the waste management area clean at all times by sweeping and cleaning up spills immediately.
- Use dry methods when possible (e.g., sweeping, use of absorbents) when cleaning around restaurant/food handling dumpster areas. If water must be used after sweeping/using absorbents, collect water and discharge through grease interceptor to the sewer.
- Stencil or demarcate storm drains on the facility's property with prohibitive message regarding waste disposal.
- Cover waste piles with temporary covering material such as reinforced tarpaulin, polyethylene, polyurethane, polypropylene or hypalon.
- If possible, move the activity indoor after ensuring all safety concerns such as fire hazard and ventilation are addressed.



## ***Preventative Maintenance***

- Prevent stormwater run-on from entering the waste management area by enclosing the area or building a berm around the area.
- Prevent waste materials from directly contacting rain.

- ❑ Cover waste piles with temporary covering material such as reinforced tarpaulin, polyethylene, polyurethane, polypropylene or hypalon.
- ❑ Cover the area with a permanent roof if feasible.
- ❑ Cover dumpsters to prevent rain from washing waste out of holes or cracks in the bottom of the dumpster.
- ❑ Check waste containers weekly for leaks and to ensure that lids are on tightly. Replace any that are leaking, corroded, or otherwise deteriorating.
- ❑ Sweep and clean the waste management area regularly. Use dry methods when possible (e.g., sweeping, vacuuming, use of absorbents) when cleaning around restaurant/food handling dumpster areas. If water must be used after sweeping/using absorbents, collect water and discharge through grease interceptor to the sewer.
- ❑ Inspect and replace faulty pumps or hoses regularly to minimize the potential of releases and spills.
- ❑ Repair leaking equipment including valves, lines, seals, or pumps promptly.



## ***Spill Response and Prevention Procedures***

- ❑ Keep your spill prevention and plan up-to-date.
- ❑ Have an emergency plan, equipment and trained personnel ready at all times to deal immediately with major spills.
- ❑ Collect all spilled liquids and properly dispose of them.
- ❑ Store and maintain appropriate spill cleanup materials in a location known to all near the designated wash area.
- ❑ Ensure that vehicles transporting waste have spill prevention equipment that can prevent spills during transport. Spill prevention equipment includes:
  - ✓ Vehicles equipped with baffles for liquid waste; and
  - ✓ Trucks with sealed gates and spill guards for solid waste.



## ***Material Handling and Waste Management***

### *Litter Control*

- ❑ Post “No Littering” signs and enforce anti-litter laws.
- ❑ Provide a sufficient number of litter receptacles for the facility.
- ❑ Clean out and cover litter receptacles frequently to prevent spillage.

### *Waste Collection*

- ❑ Keep waste collection areas clean.

- Inspect solid waste containers for structural damage regularly. Repair or replace damaged containers as necessary.
- Secure solid waste containers; containers must be closed tightly when not in use.
- Do not fill waste containers with washout water or any other liquid.
- Ensure that only appropriate solid wastes are added to the solid waste container. Certain wastes such as hazardous wastes, appliances, fluorescent lamps, pesticides, etc., may not be disposed of in solid waste containers (see chemical/ hazardous waste collection section below).
- Do not mix wastes; this can cause chemical reactions, make recycling impossible, and complicate disposal. Affix labels to all waste containers.

### *Chemical/Hazardous Wastes*

- Select designated hazardous waste collection areas on-site.
- Store hazardous materials and wastes in covered containers and protect them from vandalism.
- Place hazardous waste containers in secondary containment.
- Make sure that hazardous waste is collected, removed, and disposed of only at authorized disposal areas.
- Hazardous waste cannot be reused or recycled; it must be disposed of by a licensed hazardous waste hauler.



### **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.



### **Quality Assurance and Record Keeping**

- Keep accurate maintenance logs that document minimum BMP activities performed for waste handling and disposal, 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.

- Establish procedures to complete logs and file them in the central office.

## **Potential Capital Facility Costs and Operation & Maintenance Requirements**

### ***Facilities***

- Capital costs will vary substantially depending on the size of the facility and the types of waste handled. Significant capital costs may be associated with reducing wastes by modifying processes or implementing closed-loop recycling.
- Many facilities will already have indoor covered areas where waste materials will be stored and will require no additional capital expenditures for providing cover.
- If outdoor storage of wastes is required, construction of berms or other means to prevent stormwater run-on and runoff may require appropriate constructed systems for containment.
- Capital investments will likely be required at some sites if adequate cover and containment facilities do not exist and can vary significantly depending upon site conditions.

### ***Maintenance***

- Check waste containers weekly for leaks and to ensure that lids are on tightly. Replace any that are leaking, corroded, or otherwise deteriorating.
- Sweep and clean the waste management area regularly. Use dry methods when possible (e.g., sweeping, use of absorbents) when cleaning around restaurant/food handling dumpster areas. If water must be used after sweeping/using absorbents, collect water and discharge through grease interceptor to the sewer.
- Inspect and replace faulty pumps or hoses regularly to minimize the potential of releases and spills.
- Repair leaking equipment including valves, lines, seals, or pumps promptly.

## **References and Resources**

Minnesota Pollution Control Agency, *Industrial Stormwater Best Management Practices Guidebook*. Available online at: <http://www.pca.state.mn.us/index.php/view-document.html?gid=10557>.

New Jersey Department of Environmental Protection, 2013. *Basic Industrial Stormwater General Permit Guidance Document NJPDES General Permit No NJ0088315*, Revised. Available online at: [http://www.nj.gov/dep/dwq/pdf/5G2\\_guidance\\_color.pdf](http://www.nj.gov/dep/dwq/pdf/5G2_guidance_color.pdf).

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US EPA. National Pollutant Discharge Elimination System – Industrial Fact Sheet Series for Activities Covered by EPA’s Multi Sector General Permit. Available online at:  
<http://cfpub.epa.gov/npdes/stormwater/swsectors.cfm>.

# 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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# Contaminated or Erodible Areas SC-40

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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.

# Contaminated or Erodible Areas SC-40

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## 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.

# Contaminated or Erodible Areas SC-40

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- 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).

# Contaminated or Erodible Areas SC-40

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- ✓ **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

California Stormwater Quality Association 2012, *Construction Stormwater Best Management Practice Handbook*. Available at <http://www.casqa.org>.

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

Orange County Stormwater Program, Best Management Practices for Industrial/Commercial Business Activities. Available online at: <http://ocwatersheds.com/documents/bmp/industrialcommercialbusinessesactivities>.

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Santa Clara Valley Urban Runoff Pollution Prevention Program, <http://www.scvurppp-w2k.com/>.

Tahoe Regional Planning Agency, *Best Management Practices Handbook*, 2012. Available online at: <http://www.tahoebmp.org/Documents/2012%20BMP%20Handbook.pdf>.

The Storm Water Managers Resource Center, <http://www.stormwatercenter.net>.

U.S. Environmental Protection Agency, *Construction Site Stormwater Runoff Control*. Available online at: [http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=min\\_measure&min\\_measure\\_id=4](http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=min_measure&min_measure_id=4).

# Building & Grounds Maintenance SC-41

## Description

Stormwater runoff from building and grounds maintenance activities can be contaminated with toxic hydrocarbons in solvents, fertilizers and pesticides, suspended solids, heavy metals, abnormal pH, and oils and greases. Utilizing the protocols in this fact sheet will prevent or reduce the discharge of pollutants to stormwater from building and grounds maintenance activities by washing and cleaning up with as little water as possible, following good landscape management practices, preventing and cleaning up spills immediately, keeping debris from entering the storm drains, and maintaining the stormwater collection system.

## 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

- Switch to non-toxic chemicals for maintenance to the maximum extent possible.
- Choose cleaning agents that can be recycled.
- Encourage proper lawn management and landscaping, including use of native vegetation.
- Encourage use of Integrated Pest Management techniques for pest control.
- Encourage proper onsite recycling of yard trimmings.
- Recycle residual paints, solvents, lumber, and other material as much as possible.

## 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 Response	✓
 Material Handling & Waste Management	✓
 Erosion and Sediment Controls	
 Employee Training Program	✓
 Quality Assurance Record Keeping	✓



# Building & Grounds Maintenance SC-41

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- Clean work areas at the end of each work shift using dry cleaning methods such as sweeping and vacuuming.



## **Good Housekeeping**

### *Pressure Washing of Buildings, Rooftops, and Other Large Objects*

- In situations where soaps or detergents are used and the surrounding area is paved, pressure washers must use a water collection device that enables collection of wash water and associated solids. A sump pump, wet vacuum or similarly effective device must be used to collect the runoff and loose materials. The collected runoff and solids must be disposed of properly.
- If soaps or detergents are not used, and the surrounding area is paved, wash runoff does not have to be collected but must be screened. Pressure washers must use filter fabric or some other type of screen on the ground and/or in the catch basin to trap the particles in wash water runoff.
- If you are pressure washing on a grassed area (with or without soap), runoff must be dispersed as sheet flow as much as possible, rather than as a concentrated stream. The wash runoff must remain on the grass and not drain to pavement.

### *Landscaping Activities*

- Dispose of grass clippings, leaves, sticks, or other collected vegetation as garbage, or by composting. Do not dispose of collected vegetation into waterways or storm drainage systems.
- Use mulch or other erosion control measures on exposed soils. See also SC-40, Contaminated and Erodible Areas, for more information.

### *Building Repair, Remodeling, and Construction*

- Do not dump any toxic substance or liquid waste on the pavement, the ground, or toward a storm drain.
- Use ground or drop cloths underneath outdoor painting, scraping, and sandblasting work, and properly dispose of collected material daily.
- Use a ground cloth or oversized tub for activities such as paint mixing and tool cleaning.
- Clean paintbrushes and tools covered with water-based paints in sinks connected to sanitary sewers or in portable containers that can be dumped into a sanitary sewer drain. Brushes and tools covered with non-water-based paints, finishes, or other materials must be cleaned in a manner that enables collection of used solvents (e.g., paint thinner, turpentine, etc.) for recycling or proper disposal.
- Use a storm drain cover, filter fabric, or similarly effective runoff control mechanism if dust, grit, wash water, or other pollutants may escape the work area and enter a catch basin. This is particularly necessary on rainy days. The containment device(s) must be in place at the beginning of the work day, and accumulated dirty runoff and

# **Building & Grounds Maintenance SC-41**

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solids must be collected and disposed of before removing the containment device(s) at the end of the work day.

- If you need to de-water an excavation site, you may need to filter the water before discharging to a catch basin or off-site. If directed off-site, you should direct the water through hay bales and filter fabric or use other sediment filters or traps.
- Store toxic material under cover during precipitation events and when not in use. A cover would include tarps or other temporary cover material.

## *Mowing, Trimming, and Planting*

- Dispose of leaves, sticks, or other collected vegetation as garbage, by composting or at a permitted landfill. Do not dispose of collected vegetation into waterways or storm drainage systems.
- Use mulch or other erosion control measures when soils are exposed.
- Place temporarily stockpiled material away from watercourses and drain inlets, and berm or cover stockpiles to prevent material releases to the storm drain system.
- Consider an alternative approach when bailing out muddy water: do not put it in the storm drain; pour over landscaped areas.
- Use hand weeding where practical.

## *Fertilizer and Pesticide Management*

- Do not use pesticides if rain is expected.
- Do not mix or prepare pesticides for application near storm drains.
- Use the minimum amount needed for the job.
- Calibrate fertilizer distributors to avoid excessive application.
- Employ techniques to minimize off-target application (e.g., spray drift) of pesticides, including consideration of alternative application techniques.
- Apply pesticides only when wind speeds are low.
- Fertilizers should be worked into the soil rather than dumped or broadcast onto the surface.
- Irrigate slowly to prevent runoff and then only as much as is needed.
- Clean pavement and sidewalk if fertilizer is spilled on these surfaces before applying irrigation water.

## *Inspection*

- Inspect irrigation system periodically to ensure that the right amount of water is being applied and that excessive runoff is not occurring. Minimize excess watering and repair leaks in the irrigation system as soon as they are observed.

# **Building & Grounds Maintenance SC-41**

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## ***Spill Response and Prevention Procedures***

- Keep your Spill Prevention Control and Countermeasure (SPCC) Plan up-to-date.
- Place a stockpile of spill cleanup materials, such as brooms, dustpans, and vacuum sweepers (if desired) near the storage area where it will be readily accessible.
- Have employees trained in spill containment and cleanup present during the loading/unloading of dangerous wastes, liquid chemicals, or other materials.
- Familiarize employees with the Spill Prevention Control and Countermeasure Plan.
- Clean up spills immediately.



## ***Material Handling and Waste Management***

- Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of fertilizers and pesticides and training of applicators and pest control advisors.
- Use less toxic pesticides that will do the job when applicable. Avoid use of copper-based pesticides if possible.
- Dispose of empty pesticide containers according to the instructions on the container label.
- Use up the pesticides. Rinse containers, and use rinse water as product. Dispose of unused pesticide as hazardous waste.
- Implement storage requirements for pesticide products with guidance from the local fire department and County Agricultural Commissioner. Provide secondary containment for pesticides.



## ***Employee Training Program***

- Educate and train employees on pesticide use and in pesticide application techniques to prevent pollution.
- Train employees and contractors in proper techniques for spill containment and cleanup.
- Be sure the frequency of training takes into account the complexity of the operations and the needs of individual staff.



## ***Quality Assurance and Record Keeping***

- Keep accurate logs that document maintenance activities performed and minimum BMP measures implemented.
- 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.

# **Building & Grounds Maintenance SC-41**

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## **Potential Capital Facility Costs and Operation & Maintenance Requirements**

### ***Facilities***

- Additional capital costs are not anticipated for building and grounds maintenance. Implementation of the minimum BMPs described above should be conducted as part of regular site operations.

### ***Maintenance***

- Maintenance activities for the BMPs described above will be minimal, and no additional cost is anticipated.

## **Supplemental Information**

### ***Fire Sprinkler Line Flushing***

Site fire sprinkler line flushing may be a source of non-stormwater runoff pollution. The water entering the system is usually potable water, though in some areas it may be non-potable reclaimed wastewater. There are subsequent factors that may drastically reduce the quality of the water in such systems. Black iron pipe is usually used since it is cheaper than potable piping, but it is subject to rusting and results in lower quality water. Initially, the black iron pipe has an oil coating to protect it from rusting between manufacture and installation; this will contaminate the water from the first flush but not from subsequent flushes. Nitrates, poly-phosphates and other corrosion inhibitors, as well as fire suppressants and antifreeze may be added to the sprinkler water system. Water generally remains in the sprinkler system a long time (typically a year) and between flushes may accumulate iron, manganese, lead, copper, nickel, and zinc. The water generally becomes anoxic and contains living and dead bacteria and breakdown products from chlorination. This may result in a significant BOD problem and the water often smells. Consequently dispose fire sprinkler line flush water into the sanitary sewer. Do not allow discharge to storm drain or infiltration due to potential high levels of pollutants in fire sprinkler line water.

## **References and Resources**

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

Kennedy/Jenks Consultants, 2007. *The Truckee Meadows Industrial and Commercial Storm Water Best Management Practices Handbook*. Available online at: [http://www.cityofsparks.us/sites/default/files/assets/documents/env-control/construction/TM-I-C\\_BMP\\_Handbook\\_2-07-final.pdf](http://www.cityofsparks.us/sites/default/files/assets/documents/env-control/construction/TM-I-C_BMP_Handbook_2-07-final.pdf).

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# **Building & Grounds Maintenance SC-41**

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US EPA, 1997. *Best Management Practices Handbook for Hazardous Waste Containers*. Available online at: <http://www.epa.gov/region6/6en/h/handbk4.pdf>.

Ventura Countywide Stormwater Management Program Clean Business Fact Sheets. Available online at: [http://www.vcstormwater.org/documents/programs\\_business/building.pdf](http://www.vcstormwater.org/documents/programs_business/building.pdf).

## Appendix H: BMP Implementation Log

Table H.1 BMP Implementation Log

Industrial Activity/Material and Location	BMP Description	Implementation Frequency	Implementation Description or Fact Sheet Reference	Person Responsible for Implementing BMP

## Appendix I: BMP Observation Forms



# MONTHLY BMP INSPECTION REPORT

Date and Time of Inspection:		Date Report Written:	
<b>Part I. General Information</b>			
<b>Site Information</b>			
Facility Name:			
Facility Address:			
Photos Taken: (Circle one)	Yes	No	Photo Reference IDs:
<b>Weather</b>			
Estimate storm beginning: (date and time)		Estimate storm duration: (hours)	
Estimate time since last runoff from any drainage area:		Rain gauge reading and location: (in)	
Is a "Qualifying Storm Event" predicted or did one occur (i.e., discharge from site preceded by 48-hrs without discharge)? (Y/N) If yes, summarize forecast:			
<b>Exception Documentation (explanation required if inspection could not be conducted).</b>			
<b>Inspector Information</b>			
Inspector Name:		Inspector Title:	
Signature:		Date:	

<b>Part II. BMP Observations.</b> Describe deficiencies in Part III.			
<b>Minimum BMPs (List and Inspect all BMPs Implemented)</b>	<b>Failures or other Deficiencies (yes, no, N/A)</b>	<b>Action Required (yes/no)</b>	<b>Action Implemented (Date)</b>
<b>Good Housekeeping</b>			
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 storm water.			
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 storm water.			
Prevent disposal of any rinse/wash waters or industrial materials into the storm water conveyance system.			
Minimize storm water discharges from non-industrial areas (e.g., storm water flows from employee parking area) that contact industrial areas of the facility.			
Minimize authorized NSWs from non-industrial areas (e.g., potable water, fire hydrant testing, etc.) that contact industrial areas of the facility.			
<b>Preventative Maintenance</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.			
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.			
<b>Spill and Leak Prevention and Response</b>			
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 storm water conveyance system. Spilled or leaked industrial materials shall 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.			
Identify and train appropriate spill and leak response personnel.			

<b>Materials Handling and Waste Management</b>			
Prevent or minimize handling of industrial materials or wastes that can be readily mobilized by contact with storm water 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 storm water.			
Cover industrial waste disposal containers and industrial material storage containers that contain industrial materials when not in use.			
Divert run-on and storm water 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).			
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.			
<b>Erosion and Sediment Controls</b>			
Implement effective wind erosion controls;			
Provide effective stabilization for inactive areas, finished slopes, 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 storm water generated from within the facility away from all erodible materials.			
If sediment basins are implemented, ensure compliance with the design storm standards in Section X.H.6.			

<b>Part II. BMP Observations.</b> Describe deficiencies in Part III.			
<b>Advanced BMPs (List and Inspect all BMPs Implemented)</b>	<b>Adequately designed, implemented, and effective (yes, no, N/A)</b>	<b>Action Required (yes/no)</b>	<b>Action Implemented (Date)</b>
<b>Exposure BMPs</b>			
<b>Stormwater Containment and Discharge Reductions</b>			
<b>Treatment Control BMPs</b>			
<b>Other Advanced BMPs</b>			

**Part III. Descriptions of BMP Deficiencies**

Deficiency	Repairs Implemented: Note - Repairs must be completed as soon as possible.	
	Repaired (Y/N)	Corrective Action Implemented

**Part IV. Additional Corrective Actions Required.** Identify additional corrective actions not included with BMP Deficiencies (Part III) above. Identify BMPs that need more frequent inspection. Note if SWPPP change is required.

Required Actions	Implementation Date

## Appendix J: 2018 Sector-Specific General Permit for Storm Water Runoff

[Link to 2018 Scrap Metal Permit](#)

