# Stormwater Treatment/Mitigation Device Operations & Maintenance Plan

**Address:** _____

**Project No.:** _____

**Date:** _____

**Prepared for:**
**OWNER: (name & Address)**

**Prepared by:**

**Name:** _____

**Company:** _____

**Mailing Address:** _____

**Phone No.:** _____

**STORMWATER TREATMENT OPERATIONS & MAINTENANCE PLAN**

Project Address & No.

**INTRODUCTION**

This Stomwater Treatment Operations and Maintenance Plan (O&M) has been prepared for the developments located at the above address in Camarillo, California.

This O&M has been prepared in conformance with the guidelines set forth in Appendix I (*Maintenance Plan Guidelines & Checklists)* of the *Technical Guidance Manual for Storm Water Quality Control Measures.*

## 1. SITE MAP

Below are the guidelines for the required site map (insert here or include as an attachment).

a) Provide a site map showing boundaries of the site, acreage and drainage patterns/contour lines. Show each discharge location from the site and any drainage flowing onto the site. Distinguish between soft and hard surfaces on the map.
b) Identify locations of existing and proposed storm drain facilities, private sanitary sewer systems and grade-breaks for purposes of pollution prevention.
c) With legend, show locations of expected sources of pollution generation (outdoor work and storage areas, heavy traffic areas, delivery areas, trash enclosures, fueling areas, industrial clarifiers, wash-racks, etc). Identify any areas having contaminated soil or where toxins are stored or have been stored/disposed of in the past.
d) With legend, indicate types and locations of stormwater management control measures which will be built to permanently control stormwater pollution. Distinguish between pollution prevention, treatment, sewer diversion, and containment devices.

## 2. BASELINE DESCRIPTIONS

(Insert description of project).

### *2.1. O&M Implementation Responsibility*

List the persons responsible for operation and maintenance of the stormwater management control measures onsite. Include phone numbers and addresses. Use table below.

**Table 2-1 O&M Implementation Responsibility**

| Company | Contact and Telephone Number | Responsibility |
|---|---|---|
| | | |

### *2.2. Financing Mechanism*

Identify the intended method of providing financing for operation, inspection, routine maintenance and upkeep of stormwater control measures.

### *2.3. Permanent Stormwater Control Measures*

This facility is equipped with the following permanent stormwater control measures.
List all permanent stormwater control measures. Provide a brief description of stormwater management control measures selected and if appropriate, fact sheets or additional information.

### *2.4. Inspection and Maintenance Procedures*

As appropriate for each stormwater control measure provide the below:

a) A written description and check list of all maintenance and waste disposal activities that will be performed. Distinguish between the maintenance appropriate for a 2-year establishment period and expected long-term maintenance. For example, maintenance requirements for vegetation in a constructed wetland may be more intensive during the first few years until the vegetation is established. The post-establishment maintenance plan should address maintenance needs (e.g., pruning, irrigation, weeding) for a larger, more stable system. Include maintenance performance procedures for facility components that require relatively unique maintenance knowledge, such as specific plant removal / replacement, landscape features, or constructed wetland maintenance. These procedures should provide enough detail for a person unfamiliar with maintenance to perform the activity, or identify the specific skills or knowledge necessary to perform and document the maintenance.
b) A description of site inspection procedures and documentation system, including record-keeping and retention requirements.
c) An inspection and maintenance schedule, preferably in the form of a table or matrix, for each activity for all facility components. The schedule should demonstrate how it will satisfy the specified level of performance, and how the maintenance / inspection activities relate to storm events and seasonal issues.
d) Identification of the equipment and materials required to perform the maintenance.

Inspection and maintenance procedures for the stormwater treatment devices are presented in the tables below. Inspection and maintenance activities are discussed in Section 6.

**Note:** An inspection checklist from the Technical Guidance Manual Appendix I should be included for each device. Below is a list of devices that have an inspection checklist.

a) Bioretention/Planter Box
b) Vegetated Swale Filter
c) Vegetated Filter Strip
d) Sand Filter
e) Infiltration BMPs
f) Permeable Pavement
g) Constructed Treatment Wetland
h) Wet Retention Basin
i) Dry Extended Detention Basin
j) Proprietary Devices

**Table 2-2 Inspection**

| Area | Item | Frequency | Equipment/Materials Necessary | Safety Equipment |
|---|---|---|---|---|
| Catch Basin Signage | Inspect the catch basins to ensure that they are labeled with the wording “Don’t Dump – Drains to Creek.” | Quarterly | None | None |
| Catch Basins | Inspect the catch basins for debris and sediment build up. | Quarterly | None | May require use of Gas Detector and confined space training certification |
| Covered Trash Enclosures | Trash Enclosures will be kept free of debris. No debris shall be washed to the storm drain. | Monthly | | |

| | | | | |
|---|---|---|---|---|
| Insert other Post-Construction Mitigation Controls | | | | |
| | | | | |
| | | | | |

**Table 2-3 Maintenance**

| Area | Item | Frequency | Equipment/Materials Necessary | Safety Equipment |
|---|---|---|---|---|
| Catch Basin Signage | Replace signage when worn or wording is no longer legible | When deemed necessary by inspection | Replacement plaque (available from the city at 805-383-5659) | Safety glasses, gloves, long pants, and sturdy work shoes |
| Catch Basins | Remove debris and clean as necessary | Quarterly | May require use of vacuum or vactor truck and gas detector. | Gas detector and confined space training certification may be required |
| Covered Trash Enclosures | Trash Enclosures will be kept free of debris. No debris shall be washed to the storm drain. | Monthly | | |
| Street & Parking Lot Sweeping | Private roads and parking lots shall be maintained free of litter/debris. | Monthly | Street Sweeper | Debris must be disposed of properly and not swept into storm drains |
| Insert other Post-Construction Mitigation Controls | | | | |
| | | | | |
| | | | | |

### *2.5. Housekeeping Procedures*

As appropriate list appropriate housekeeping practices. See http://www.vcstormwater.org/index.php/programs/business for a list of clean business fact sheets (which can be referenced or attached to your O&M plan.

## 3. SPILL O&M

These spill response procedures have been developed to respond to potential spills at the site.

The below information should be included in the Spill Plan.

a) Provide emergency notification procedures (phone and agency/persons to contact)
b) As appropriate for site, provide emergency containment and cleaning procedures.
c) Note downstream receiving water bodies or wetlands which may be affected by spills or chronic untreated discharges.
d) As appropriate, create an emergency sampling procedure for spills. (Emergency sampling can protect the property owner from erroneous liability for downstream receiving area clean ups).

**Note:** The below information should be verified to ensure all numbers are accurate.

### *3.1. Emergency Notification Procedures*

If there has been a release of hazardous material, follow the notification procedures presented below.

ON SITE SPILLS

Immediately contact the O&M Coordinator listed in Table 2-1.

If the O&M Coordinator is unavailable, immediately notify the following agencies. If the O&M Coordinator is available, he should make these notifications.

| | |
|---|---|
| Local emergency response: | 911 |
| Ventura County Spill Hotline: | (805) 320-6244 |
| City of Camarillo Illicit Discharge Spill Hotline: | (805) 388-5338 |
| State Office of Emergency Services (OES): | (805) 852-7550 |
| Ventura County Environmental Health Department: | Business hours: (800) 654-2813<br>After hours: 911 |
| State Regional Water Quality Control Board: (Ask for someone in technical support) | (213) 576-6600 |
| If waste oil is spilled, contact the DTSC: | Business hours: (800) 852-7550 |
| (Department of Toxic Substance Control) | After hours: (800-852-7550 |

FOR SPILLS RUNNING OFF SITE – If a reportable quantity or more flows from the site:

1. Follow sequence of actions noted above.
2. Notify the National Response Center at: (800) 424-8802

FOR SPILLS THAT THREATEN NAVIGABLE WATER

1. Follow sequence of actions noted above.
2. Notify United States Coast Guard at: (562) 980-4444

**Information to be Included in Oral Notification**

When reporting to government agencies is required, notification should be made as soon as possible. Below are possible questions that the agency may ask.

Document all reports to regulatory agencies. Ask the name and position of person you have contacted and note the agency and the time of your call. Write this information down.

1. Give the facility name, address, and phone number as well as your name and position.
2. Date and time of the spill
    a. Time or estimated time spill began
    b. Duration of spill or if it is continuing
    c. Location of spill
3. Spill information:
    a. Materials spilled.
    b. Volume or estimated volume spilled.
    c. Has spill entered storm drain or navigable waters? If so, how much? Is there potential for the spill to enter storm drain or navigable waters?
    d. The source of the discharge.
    e. A description of all affected media (e.g. water and/or soil).
    f. The cause of the discharge
    g. Damages or injuries caused by the discharge.
4. Response measures taken:
    a. For containment.
    b. For cleanup.
    c. Has the source been stopped?
    d. Will as evacuation be required?
    e. Name or individuals and organizations who have been contacted.
5. Weather:
    a. Raining?
    b. Air temperature?
    c. Wind speed and direction?

Do not wait until all information is known to contact agencies.
Do not hang up until all questions are answered.

### *3.2. Spill Response*

The following spill response procedures provide guidelines for use by those on duty to respond to releases. They are not meant to supplant the use of common sense and good judgment during emergencies. Do not contact any spilled material unless wearing proper personal protective equipment per the MSDS.

1. **NOTIFY SUPERVISOR.** As soon as it is safe to do so, notify your supervisor.
    a. If the spill involves fire, the supervisor will call 911 immediately.
    b. The supervisor will notify the O&M Coordinator and take charge until the O&M Coordinator arrives.
    c. The O&M Coordinator will take charge of the situation on arrival.

2. **EVACUATE** the immediate area.
3. **AID** any persons that have been injured or contaminated or are in danger of being injured or contaminated. Do not put yourself in danger trying to save someone else. If someone is contaminated with material, avoid contacting that person.
4. **STOP FLOW**, if it is safe to do so. Stop the source of the spill and contain the material that has already been spilled. Do this only if it can be accomplished safely without endangering life or property. Minimizing the amount of material spilled reduces the potential for discharge and the amount of clean up necessary.
5. **ALERT OTHERS** in the area to stay clear.
6. **ELIMINATE IGNITION SOURCES** in the area.
7. **CONTAIN SPILL** if it has, or is about to, enter storm drains. Place absorbent material into position to contain the spill. Care should be used to prevent the spill from leaving the site or entering sewers and storm drains.
8. **CLEAN UP** spilled material with absorbent materials, dikes, etc. Contact contractors (see Table 3-1) for assistance if necessary.
9. **NOTIFY** personnel and agencies presented in Section 3.1.

**O&M Coordinator Responsibilities**

- In charge of overall incident response
- Calling emergency numbers as required (see Section 3.1)
- Notifying people in the area and advising them to stay away from the spill
- Coordinating with outside emergency response and providing technical information
- Reporting emergency incidents to appropriate agencies
- Authorizing non-emergency cleanup measures
- Ensuring compliance with applicable federal, state, and local rules and regulations

**Response Equipment – External Response Equipment**

Contractors may be contacted to provide the following spill response equipment (see below):

- Bins and equipment for used absorbent removal
- Vacuum truck to collect and remove spilled material

**Table 3-1 Spill Response Contractor(s)**

| Name | Phone Number | Address |
|---|---|---|
| | | |
| | | |
| | | |

### *3.3. Spill Cleanup Procedures*

Material generated during spill response activities must be disposed of in accordance with applicable federal, state, and local regulations.

There may be various types of waste generated during response activities. Below is a list of common materials and disposal requirements.

- Free product: if there is a large amount of this material, a vacuum truck should be contacted to collect and haul it to a licensed treatment, storage, and disposal facility for recycling or disposal. Small spills may be cleaned up using absorbent material.
- Soiled rags, booms, and absorbent material should be drummed up and sent to a licensed treatment, storage, and disposal facility for disposal.

### *3.4. Receiving Water Bodies*

Material that enters storm drains at the site will travel through the storm drain system which discharges into Calleguas Creek, Revolon Slough/Beardsley Wash or Conejo Creek (circle applicable water body).

### *3.5. Sampling Plan*

During a spill, it may be possible for contaminated material to enter the storm drain. If contaminated material enters the storm drain, it may be prudent to take samples and to document the amount of material released.

If sampling is performed, samples should be taken at the storm drain inlet where contaminated material is entering.

The samples must be sent to a state-certified laboratory for analysis. The following procedures will be used for taking the samples:

a. Collect samples in sampling containers. Ensure that the sample is free of excess debris (i.e. leaves, paper fragments, etc.). Fill the container to the top.
b. The closed sample containers may be sealed with custody tape, which can be obtained from the test laboratory with the sample bottles. Do not seal the bottles with other types of tape (scotch, duct, cellophane, etc.) as organic material from the tape may contaminate the sample.
c. Label samples with the following information:
    i. Company Name
    ii. Date Sampled
    iii. Time Sampled
    iv. Collection Point
    v. Sample Description
    vi. Preservative
    vii. Analysis Required
    viii. Special Requirements
d. The laboratory should be instructed to analyze for the constituents, which may have been discharged. In the event of an oil spill, the sample should be analyzed for “Oil & Grease.”
e. Complete a chain-of-custody form recording pertinent information including the information listed above and the signature of the person taking the sample. The test laboratory will provide the chain-of-custody forms.
f. If possible, chill the samples to 4°C (40°F) until the samples are delivered to the laboratory. Do not freeze the samples.
g. Send the samples to a state-certified laboratory, or call the laboratory, or call the laboratory to have the samples picked up.

## 4. FACILITY CHANGES

Note: Operational or facility changes which significantly affect the character or quantity of pollutants discharging into the stormwater management control measures will, require modifications to the Maintenance Plan and/or additional stormwater control measures. List the cases in which this O&M Plan will be amended below.

This O&M will be amended:

a. **EXAMPLE:** When there is a change in operations which may significantly affect the character or quantity of pollutants discharging from the site, or
b. **EXAMPLE:** When plans are made to modify the approved treatment devices.

Minor administrative changes to the O&M (changes in names, phone numbers, etc.) may be made by the O&M Coordinator.

Amendments to the O&M will be noted on the Amendment Log in **Appendix B**.

## 5. TRAINING

The following personnel will be trained in the requirements of this O&M:

**Table 5-1 Personnel Requiring O&M Training**

| Title | Responsibilities |
|---|---|
| O&M Coordinator<br>See Table 2-1 for contact information. | O&M Implementation. Verification and documentation that O&M training is performed. |
| Designated employees | Inspection and maintenance of catch basins, catch basin signage, List other post-construction mitigation controls. |

This training will cover the elements of this O&M including maintenance, inspection and repair of the stormwater treatment devices.

Information to be covered during training, and a log to document training, is included in ***Training Forms*** found in **Appendix D**.

Note: Training to include:

a. Good housekeeping procedures defined in the plan.
b. Proper maintenance of all pollution mitigation devices.
c. Identification and cleanup procedures for spills and overflows.
d. Large-scale spill or hazardous material response.
e. Safety concerns when maintaining devices and cleaning spills.

## 6. BASIC INSPECTION AND MAINTENANCE ACTIVITIES

Follow the below guidelines:

a) Create and maintain onsite, a log for inspector names, dates and stormwater control measure devices to be inspected and maintained. Provide a checklist for each inspection and maintenance category.
b) Once annually, perform testing of any mechanical or electrical devices prior to wet weather.
c) Report any significant changes in stormwater management control measures to the site management. As appropriate, assure mechanical devices are working properly and/or landscaped BMP plantings are irrigated and nurtured to promote thick growth.
d) Note any significant maintenance requirements due to spills or unexpected discharges.
e) As appropriate, perform maintenance and replacement as scheduled and as needed in a timely manner to assure stormwater management control measures are performing as designed and approved.
f) Assure unauthorized low-flow discharges from the property do not by-pass stormwater control measures.
g) Perform an annual assessment of each pollution generation operation and its associated stormwater management control measures to determine if any part of the pollution reduction train can be improved.

Inspection and maintenance procedures are presented in Tables 2-2 and 2-3 and discussed in following subsections.

### *6.1. Inspection Activities*

List responsible personnel to conduct inspections and maintenance per schedule of Table 2.2. Stormwater control devices and general facilities should be inspected quarterly, with one inspection prior to the rainy season and one after the rainy season.

### *6.2. Inspection Logs*

An Inspection Log is presented in **Appendix C**. This log presents information on how to conduct inspections and will be used to document inspection activities. Please note: there are no mechanical or electrical devices that require annual testing.

### *6.3. Maintenance Activities*

Various contractors will be used to perform maintenance activities. Contractors and/or maintenance services will be responsible for training and ensuring the safety of their employees and will be identified on maintenance record.

### *6.4. Maintenance Records*

Maintenance records (i.e. invoices, work orders, or maintenance logs) will be kept on file for five (5) years.

**REVISIONS OF POLLUTION MITIGATION MEASURES**

If corrective measures or modifications need to be made to the stormwater control measures or procedures, approval must be obtained from the City of Camarillo, Land Development Engineering Division prior to commencing any work.

Any corrective measures or modifications shall not cause stormwater discharges to bypass or otherwise impede existing stormwater control measures.

Minor administrative changes to the O&M (changes in names, phone numbers, etc.) do not need to be submitted to the City.

## 7. MONITORING & REPORTING PROGRAM

The governing stormwater agency may require a Monitoring & Reporting Program to assure the stormwater management control measures approved for the site are performing according to design. If required by local permitting agency, the Maintenance Plan shall include performance testing and reporting protocols.

**APPENDIX ITEMS:**

A. Detailed Site Plan
B. Amendment Log: Stormwater Treatment Operations and Maintenance Plan
C. Stormwater Treatment Device Inspection Log and appropriate Inspection Checklists from the Technical Guidance Manual, Appendix I.
D. Employee Training Forms