Water Quality Management Plan (WQMP) Template March 2013

Introduction

This template is to be used in preparing WQMPs, including addressing hydromodification and Low Impact Development (LID) requirements for Priority Development Projects (PDPs) in the City of Mission Viejo.

References include but are not limited to:

* The California Stormwater Quality Association New Development and Redevelopment handbook. The handbook is available at [www.cabmphandbooks.com](http://www.cabmphandbooks.com).
* Technical Guidance Document (TGD) for Project Water Quality Management Plans (WQMPs) at [www.cityofmissionviejo.org/green](http://www.cityofmissionviejo.org/green)
* San Diego County Low Impact Development Handbook at [www.cityofmissionviejo.org/green](http://www.cityofmissionviejo.org/green)

It is recommended that project applicants follow this WQMP template as much as possible, as it will help facilitate preparation and the corresponding City review process.

How to Use this Template

To use this template, open and save this file to your computer and begin editing. Prior to submitting the WQMP for City review, add all necessary figures and attachments, update the table of contents, and convert all text to black text.

This template is an outline of a WQMP. It also provides directions for completing the WQMP, as well as text and tables to assist you in the WQMP preparation. These different elements of the template are identified in different colors of text as described below.

* The Black text is intended to provide language to be incorporated into your WQMP (it can remain as part of your WQMP submittal).
* The Red text includes instructions and notes. Please insert the required information and delete all Red text from the final document.
* The Blue text identifies required information that may or may not be applicable to the project. If applicable, edit the Blue text as necessary for applicability and project specifics and change font color to black. If the Blue text is not applicable to your project, delete the Blue text.

Purpose of the Project WQMP

The WQMP is a requirement of the City’s MS4 Permit, Order R9-2009-0002. The intent of a Project WQMP is to identify the potential development hydrologic and water quality impacts that could result from your project and to specify the Best Management Practice (BMP) measures that will be incorporated into the project to reduce or eliminate identified impacts to the maximum extent practicable. A WQMP is required for all priority development projects (PDPs).

Preliminary/Final WQMP

A preliminary WQMP is required to be submitted with the project application package. Use this template to complete your project’s preliminary WQMP. The preliminary WQMP must include all structural site design, hydromodification, low-impact development, and treatment BMPs that were selected for the project accompanied by detailed project-specific sizing calculations. Final details of non-structural source control BMPs and operation and maintenance details are not required to be included with the Preliminary WQMP, but will be required as part of the Final WQMP. Owner certification is required for both the Preliminary and Final WQMP submittals.

All final plans must show all the structural and any applicable non-structural source control BMPs per the approved Final WQMP.

Note to User:

We have developed this template to use as a general guideline with the intent to assist applicants in preparing a Project WQMP, while acknowledging that most projects will have unique circumstances and characteristics. Please do not hesitate to contact the City Water Quality or Engineering staff with questions that you encounter as you go through this development process. We will also be happy to set up a meeting to discuss your project.

Program Engineer: Deborah Carson at 949-470-8458 or dcarson@cityofmissionviejo.org or

Assistant City Engineer: Joe Ames at 949-470-8419 or james@cityofmissionviejo.org

<Preliminary or Final>

Water Quality Management Plan

**(WQMP)**

**for:**

**Insert Project Name**

**Insert Project Address**

**Insert City Name**

**Insert APN, Tract Numbers, City Project Number, and Permit Numbers (as available)**

**Prepared for:**

# Insert Owner/developer

Address

City, State, Zip

Telephone number

Email address

**Prepared by:**

# Insert Engineer/Consultant Company Name

Contact Person

Address

City, State, Zip

Telephone number

Email address

Insert Date & Associated Revision Dates

City WQMP Template, February 2011

**Owner’s Certification**

**Water Quality Management Plan (WQMP)**

**Insert Project Name:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Insert Tract/Parcel Map Number**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

This Water Quality Management Plan (WQMP) has been prepared for the Name of Project for Owner/Developer Name by Name of Firm that prepared WQMP. The WQMP is intended to comply with the requirements of the City of Mission Viejo’s Local Implementation Plan and Water Quality Ordinance, as well as the Municipal Separate Storm Sewer System (MS4) Permit, Order R9-2009-0002 which requires the preparation of a project WQMP for priority development projects.

The undersigned, while he/she/it owns the subject property, is responsible for the implementation of the provisions of this WQMP. The undersigned will ensure that this plan is carried out and amended as appropriate to reflect up-to-date conditions on the site consistent with the current City of Mission Viejo Local Implementation Plan and the intent of Order R9-2009-0002, as authorized by the State and Environmental Protection Agency, into perpetuity. Once the undersigned transfers its interest in the property, its successors-in-interest shall bear the aforementioned responsibility to implement and amend the WQMP, as necessary. An appropriate number of approved and signed copies of this document shall be available on the subject site in perpetuity.

This WQMP will be reviewed with the facility operator, facility supervisors, employees, tenants, maintenance and service contractors, or any other party having responsibility for implementing portions of this WQMP.

To be completed by the Owner or Developer.

Signed: Date:

Name:

Title:

Company:

Address:

Telephone #:

Email Address:

**Table of Contents**

1.0 Project Description X

2.0 Project Location Map X

3.0 Project Site Assessment X

4.0 Pollutants of Concern X

5.0 Hydromodification/Hydrologic and Geotechnical Conditions of Concern/Drainage Report X

6.0 LID, Site Design, Source Control & Treatment Best Management Practices (BMPs) X

 6.1 LID/Site Design BMPs X

 6.2 Source Control BMPs X

 6.3 Treatment Control BMPs X

 6.3.1 Selection X

 6.3.2 Sizing X

 6.3.3 Location X

 6.3.4 Restriction on Use of Infiltration BMPs X

7.0 Project Plan and BMP Location Map X

8.0 Stormwater BMP Maintenance X

 8.1 Operation and Maintenance (O&M) Plan X

 8.1.1 Responsible Party X

 8.1.2 Record Keeping X

 8.1.3 Vector Control X

 8.1.4 Required Permits X

 8.1.5 Inspections X

 8.1.6 Operation and Maintenance Requirements X

Tables

4.1 Potential Pollutants for Project Categories X

6.1 Routine Non-Structural BMPs X

6.2 Treatment Control BMPs X

Figures

7.1 Location Map/Aerial Photo X

7.2 Project Plan and BMP Location Map X

Appendices

A Educational Material Resources

B Hydromodification BMP Sizing & Drainage Study (as applicable)

C Geotechnical Study (if applicable)

**D LID/Treatment BMP Design Calculations, as applicable**

**E BMP Operation & Maintenance Checklist & Training Logs**

**F WQMP Annual Verification Form**

**Section 1 Project Description**

Complete the following table.

|  |  |
| --- | --- |
| **1.** | **Detailed development description:**  |
|  | Please include a detailed development project description. The description should include the type of development (commercial, restaurant, residential, etc.) proposed and demo structure(s) including parking/hardscape areas, garages, retaining walls, pools/spas and other significant project features, such as loading area, trash enclosure area, underground storage tanks, landscape buffers, etc. Provide information on what activities will be conducted and where on site, what kinds of materials will be received and stored, and what kinds of waste will be generated. Provide information indicating how this project meets the criteria of a priority project per **Table 7.1** of Section 7 of the City’s LIP. Provide SIC code. |
| **2.** | **Project location and site address, APN & GIS coordinates:** |
|  | Provide the project location and site address, APN & latitude/ longitude decimal degrees |
| **3.** | **Property size:**  |
|  | Describe the size of the property parcel and the size of proposed development project in acres and sq ft. |
| **4.** | **Existing use:** |
|  | Describe the existing use of site. |
| **5.** | **Impervious/pervious surface areas:**  |
|  | Describe the existing and final developed impervious and pervious surface areas in acres and sq ft. and percentage per drainage area. Calculate and describe the increase or decrease in impervious area from existing vs. the final developed condition. |
| **6.** | **Property ownership:**  |
|  | Describe the property ownership—Is it a private development, planned community with a homeowners association, is any infrastructure planned to be transferred to City?  |
| **7.** | **Other:**  |
|  | Include any other relevant details about the project.  |

**Section 2 Project Location Map/Aerial Photo**

The location of the project site is illustrated in **Figure 2.1.**

Insert a project location map or aerial photo showing project site.

**Section 3 Project Site Assessment**

This project site assessment section provides important information that is used when considering the potential water quality and hydrologic impacts that could be caused by the proposed project. This information is important when considering and selecting the appropriate BMPs to reduce identified potential impacts as well as when developing measures to reduce those impacts.

Complete the following table.

|  |  |
| --- | --- |
| **1.** | **Zoning and land use designation:** |
|  | Provide the zoning and land use designation. Contact City Planning at (949) 470-3055 if you need assistance. |
| **2.** | **Existing and proposed drainage:**  |
|  | Describe the existing and proposed drainage of site and surrounding property. |
| **3.** | **Hydromodification Criteria: Does the project drain to a natural bottom creek, such as Oso Creek or Aliso Creek?**  |
|  | If yes, please note your project is subject to Hydromodification Requirements. If no, describe conveyance structure and where your project drains. |
| **4.** | **Watershed:**  |
|  | Include the name of the watershed—Aliso Creek or San Juan Creek.  |
| **5.** | **303(d) listed receiving waters, TMDLs & ESAs:**  |
|  | Identify receiving waters that this project drains to that are listed on the most recent Clean Water Act 303(d) and list pollutants for which the receiving waters are impaired.Per the 2010 303(d) Integrated Report, the following ESA water bodies impacted by this project are on the 303(d) List for the impairments indicated and applicable TMDLs: (choose downstream receiving waters as appropriate):* Aliso Creek–Mainstream: Indicator Bacteria, Phosphorus, Selenium, Total Nitrogen, Toxicity
* English Canyon Creek: Benzo(b) fluoranthenes, Dieldrin, Sediment Toxicity, Selenium
* Oso Creek @ Mission Viejo Golf Course: Chloride, Sulfates, Total Dissolved Solids
* Oso Creek–Lower: Toxicity

You can refer to the ESA Map in Section 1 of the City’s LIP for more information. |

**Section 4 Pollutants of Concern**

This section of the WQMP identifies primary pollutants of concern. Pollutants of concern are those that are anticipated to be generated by the proposed project. Primary pollutants of concern are dependent upon impairments in the downstream receiving waters. If the project will drain to a receiving water that is impaired for a pollutant anticipated from that project, that pollutant is a primary pollutant of concern. In some cases, there may be specific conditions (i.e., other known water quality problems) that warrant identifying additional pollutant(s) as a primary pollutant of concern.

Complete the following table.

|  |  |
| --- | --- |
| **1.** | **Project categories and features and anticipated and potential pollutants:** |
|  | Identify the project categories and features from Table 4.1 below on the next page and list the anticipated and applicable potential pollutants that apply to the project. |
| **2.** | **Primary pollutant(s) of concern:**  |
|  | List any anticipated pollutants for the project from above that have also been identified in the 303(d) list as causing impairment of receiving waters (See 3.5 above).  |
| **3.** | **Project water quality analyses:** |
|  | Provide information from any completed CEQA documents, site approvals, permits or analyses related to project’s potential pollutants and environmental impacts.  |

**Table 4.1 Potential Pollutants for Project Categories**

|  |  |
| --- | --- |
| **Priority Project Categories****and/or Project Features** | **General Pollutant Categories** |
| **Heavy Metals** | **Nutrients** | **Pesticides** | **Toxic****Organic Compounds** | **Suspended Solids/****Sediments** | **Trash & Debris** | **Oil & Grease** | **Bacteria/Virus/****Pathogens** |
| **Detached Residential Development** | N | E | E | N | E | E | E | E |
| **Attached Residential Development** | N | E | E | N | E | E | E (2) | E |
| **Commercial/Industrial Development** | E (4) | E (1) | E (1) | E (2) | E  | E | E | E (3) |
| **Automotive Repair Shops** | E | N | N | E | N  | E | E | N |
| **Restaurants & Food Service Establishments** | E (2) | E (1) | E (1) | N | E (1) (2) | E | E | E |
| **Retail Gasoline Outlets** | E | N | N | E | N | E | E | N |
| **Hillside Development**  | N | E | E | N | E | E | E | E |
| **Parking Lots** | E | E (1) | E (1) | E | E | E | E | N |
| **Streets, Highways & Freeways** | E | E (1) | E (1) | E | E | E | E | N |
| E = expected to be of concernN = not expected to be of concern  | (1) A potential pollutant if landscaping or open area exists on-site, otherwise not expected.(2) A potential pollutant if the project includes uncovered parking areas, otherwise not expected. (3) A potential pollutant if land use involves food or animal waste products, otherwise not expected.(4) Expected if outdoor storage or metal roofs, otherwise not expected. |

**Section 5 Hydromodification/Hydrologic and Geotechnical Conditions of Concern/Drainage Report**

Hydromodification is the alteration of natural flow characteristics and sediment supply, which can result from new development and significant redevelopment projects without appropriate preventive controls. Common impacts to the hydrologic regime resulting from development include increased runoff volume and velocity; reduced infiltration; increased flow frequency, duration, and peaks; and faster time to reach peak flow. Under certain circumstances, new development and significant redevelopment could also result in the reduction in the amount of sediment supplied to the channel for transport. If the sediment supplied to the channel is reduced such that in-stream flows are transporting sediment faster than it can be replenished, then erosion of the channel’s bed and bank may occur. These changes have the potential to permanently impact downstream channels and habitat integrity. A change to a Priority Development Project (PDP) site’s hydrologic characteristics would be considered a condition of concern if the change would have a significant impact on downstream natural channels and habitat integrity. In determining whether an impact is significant, the cumulative effects on the watershed must be considered.

The first step to determine whether or not hydromodification requirements apply is based on the proposed Project’s location and point of discharge. All PDPs must meet the hydromodification requirements unless:

* the project site discharges into an underground storm drain system that discharges directly to a bay or ocean; or
* the project site discharges into a conveyance channel whose bed and bank are concrete lined all the way from the point of discharge to ocean waters, enclosed bays, estuaries or water storage reservoirs and lakes.

Refer to Section 3.3 above and include the correct statement below:

This project is subject to the Hydromodification Criteria. and complete table below:

or

Based on the project’s location and point of discharge, <indicate point of discharge>, this project is not subject to the Hydromodification Criteria. and complete table below:

|  |  |
| --- | --- |
| **1.** | **Topography, soil type and vegetation:**  |
|  | Describe topography, soil type (A, B, C or D) and vegetation conditions of the project site. Note: a site soil/percolation test may be requested. |
| **2.** | **Drainage features:** |
|  | Describe natural and infrastructure drainage features. |
| **3.** | **Relevant hydrologic and environmental factors:**  |
|  | Include other relevant hydrologic and environmental factors either on-site, in the project’s vicinity, adjacent property or downstream of the site such as sensitive biological areas, areas prone to flooding, areas with erosion problems, etc.  |
| **4.** | **Proposed hydrologic conditions:** |
|  | Summarize changes in the hydrologic system resulting from proposed development (i.e., increased runoff volume, reduced infiltration, increased flow frequency).  |
| **5.** | **Significant impact on downstream channels and habitat integrity:** |
|  | Identify any changes resulting from the project that will have significant impact on downstream channels and habitat integrity. If off-site flows will be increased, this assessment requires a review of downstream areas. Areas with existing or future potential for flooding, erosion, and/or scour should be discussed. |
| **6.** | **Project hydrology analyses:** |
|  | Provide information from any previous analyses related to project’s potential hydrologic impacts such as reports prepared for previous CEQA documents, site approvals, or permits.  |

<For projects subject to Hydromodification Criteria, include the paragraphs below and delete the paragraphs for hydrologic and geotechnical conditions of concern below>

The South Orange County Hydromodification Control BMP Sizing Tool, (available at [www.cityofmissionviejo.org/green](http://www.cityofmissionviejo.org/green), select Pollution Prevention and then Development/Construction. This method is good for projects up to 10 acres), was used, to design and select the hydromodification BMPs. Include spreadsheet and calculations. Note that the tool has been developed for the project applicant to run different scenarios with different BMPs to determine which BMP is right for your site. You need only to include the data relevant to your selected BMP. Please refer to the “*Technical Guidance Document for the South Orange County Hydromodification Control BMP Sizing Tool”* at [www.cityofmissionviejo.org/green](http://www.cityofmissionviejo.org/green) (select Pollution Prevention and then Development/Construction) for more information on the Tool.

The following input values were used in the Tool:

* Catchment ID(s): – you pick a designation that you choose for your drainage areas (I,2,3, a,b,c, etc.). Note: that many projects will have more that one catchment area and therefore more than one catchment ID.
* Catchment area(s): – is the drainage area in acres that drains to the BMP.
* BMP Type: – the type of BMP you select for each drainage area – options in this tool include: Bioretention, Vault – open bottom, Vault - closed bottom, and Planter Box. Different scenarios for each catchment area can be run with this tool to help you determine which BMP you select for each catchment area. Each catchment area can have a different BMP.
* Soil Type: – the two options are A/B and C/D. A soil test may be required.

The final design is provided below: (include narrative of selection process, integration in project site, cross section, sizing, specs, etc.)

Although the above-mentioned Sizing Tool provides a straightforward means for sizing hydromodification control BMPs to meet the IHC, project applicants may prefer to conduct their own sizing analysis in order to: (1) best reflect specific hydrologic conditions at the project site; (2) use a type of BMP that is not included in the Sizing Tool; and/or (3) optimize a BMP design to reduce storage and footprint requirements. If that is the case, “Alternative Project-Specific Hydromod Analysis Methods” (available at [www.cityofmissionviejo.org/green](http://www.cityofmissionviejo.org/green) under Pollution Prevention, New Development and Construction) describes acceptable alternative methods for sizing BMPs.

<For projects not subject to the Hydromodification Criteria, include the paragraphs below and delete the paragraphs above regarding Hydromodification>

Hydrologic or geotechnical conditions of concern are identified through a review of on-site and downstream drainage paths. If the proposed project would cause or contribute flows to problems along on-site or downstream drainage paths, these problems or future problems are considered conditions of concern. Conditions of concern can include problems such as flooding, erosion, scour, and other impacts that can adversely affect channel and habitat integrity.

In order to identify conditions of concern, a comprehensive understanding of flow volume, rate, duration, energy, and peak flow is necessary. Often, a formal drainage study is necessary which considers the project area’s location in the larger watershed, topography, soil and vegetation conditions, percent impervious area, natural and infrastructure drainage features, and any other relevant hydrologic and environmental factors. As part of the study, the drainage report includes:

* Field reconnaissance to observe downstream conditions
* Computed rainfall and runoff characteristics including a minimum of peak flow rate, flow velocity, runoff volume, time of concentration and retention volume
* Establishment of site design, source control and treatment control measures to be incorporated and maintained to address downstream conditions of concern

If the downstream channel(s) is fully natural or partially improved with a significant potential for erosive conditions or alteration of habitat integrity to occur as a result of upstream development, a drainage study report, prepared by a registered civil engineer in the State of California, with experience in fluvial geomorphology and water resources management is required to be included in the WQMP. The drainage report may be referenced and a detailed summary provided that addresses the items above.

If a drainage report is required, use the following paragraph:

A drainage report was prepared for the proposed project by insert name of engineer, as required by the City, and is included as Attachment B. A summary of the drainage report is provided below. Complete the table and provide a detailed summary after the table of the required elements of the drainage report bulleted above.

If a drainage report is not required, use the following paragraph:

A drainage report was not prepared for the proposed project; however, a State of California registered civil engineer (insert name of engineer and engineering firm) reviewed the project for potential conditions of concern. The following is a summary of that review.

If a geotechnical report was required, also include the following sentence:

A geotechnical report was also prepared for the proposed project by insert name of engineer, as required by the City, and is included as Attachment C.

**Hydrology Report Summary (include if applicable)**

Provide a detailed summary of the required elements of the drainage report including a table of pre- and post-development peak flow rate, flow velocity, runoff volume, time of concentration and retention volume.

**Section 6 LID, Site Design, Source Control & Treatment Control Best Management Practices (BMPs)**

Minimizing a development’s effects on water quality and the environment can be most effectively achieved by using a combination of BMPs which include Low Impact Development (LID) Site Design, Source Control and Treatment Control measures. These design and control measures employ a multi-level strategy. The strategy consists of: 1) reducing or eliminating post-project runoff; 2) controlling sources of pollutants; and 3) treating storm water runoff before discharging it to the storm drain system or to receiving waters.

For more detailed information on the use and design of BMPs please see:

* The California Stormwater Quality Association New Development and Redevelopment handbook. The handbook is available at [www.cabmphandbooks.com](http://www.cabmphandbooks.com).
* Technical Guidance Document (TGD) for Project Water Quality Management Plans (WQMPs) at [www.cityofmissionviejo.org/green](http://www.cityofmissionviejo.org/green) and select Pollution Prevention and then Development and Construction.
* Ventura County Technical Guidance Manual for Stormwater Quality Control Measures, <http://vcstormwater.org/index.php?option=com_content&view=article&id=32&Itemid=45>.
* Los Angeles County Department of Public Works LID Manual at: [www.dpw.lacounty.gov/wmd/dsp\_LowImpactDevelopment.cfm](http://www.dpw.lacounty.gov/wmd/dsp_LowImpactDevelopment.cfm).

**6.1 Low Impact Development/Site Design BMPs**

The most effective means of avoiding or reducing water quality and hydrologic impacts is through incorporation of measures into the project design. These measures should be taken into consideration early in the planning of a project as they can affect the overall design of a project.

LID BMPs are intended to collectively minimize directly connected impervious areas, limit loss of existing infiltration capacity, and protect areas that provide important water quality benefits necessary to maintain riparian and aquatic biota, and/or are particularly susceptible to erosion and sediment loss, as feasible. The design of the proposed project has incorporated site design concepts as described below.

Complete table below. Describe in detail how your project incorporates each of the concepts below (or provide an explanation as to why the concept was determined to be infeasible).

**Low Impact Development / Site Design BMPs**

|  |  |
| --- | --- |
| **1.** | **Minimize the impervious footprint of the project.** |
|  | Describe how your project minimizes impervious footprint. For example, the use of pervious pavement, construct streets, sidewalks and parking lot aisles to the minimum widths necessary, design shared driveways, etc. |
| **2.** | **Conserve natural areas, including existing trees, other vegetation and soils.** |
|  | Describe where and how your project conserves natural areas, maximizes canopy interception by preserving trees, etc. |
| **3.** | **Minimize soil compaction in landscaped areas.** |
|  | Describe where and how your project minimizes soil compaction. |
| **4.** | **Create landscape buffer zones for natural water bodies, where feasible and if buffer zones are not feasible, implement other buffer, such as trees, access restrictions, etc.** |
|  | Your project should incorporate landscaped buffer areas between sidewalks and streets. Please describe where this has been incorporated. |
| **5.** | **Minimize disturbances in natural drainages; for example, natural swales, topographic depressions, etc.** |
|  | Describe how your project minimizes disturbances in natural drainages. |
| **6.** | **Use of native or drought-tolerant trees/shrubs:**  |
|  | Describe how your project maximizes water conservation by preserving existing native trees/shrubs and planting additional native or drought-tolerant trees/shrubs. |
| **7.** | **Disconnect impervious surfaces through distributed pervious areas by draining rooftops into adjacent landscaping, using vegetated swales in lieu of underground piping, incorporating sheet flow over vegetated areas, incorporating low flow infiltration, etc.** |
|  | Describe how your project minimizes the use of impervious surfaces in the landscape design. |

**6.2 Source Control BMPs**

Source Control BMPs are measures focusing on reducing or eliminating post-project runoff and controlling sources of pollutants. Source Control BMPs must be included in all projects and can be represented in structural measures such as landscape, irrigation, signage considerations, materials, and design of areas; and non-structure measures such as requirements, cleaning, education, and maintenance.

Complete the following table. Indicate Y (Yes – included), N (No – not included) or N/A (Not Applicable) in the Included column for the listed BMPs. Provide a detailed description as to why or why not and how the BMP will be implemented. If not included or not applicable, provide an explanation.

 **Table 6.1 Source Control Non-Structural BMPs**

| **Number** | **BMP and Objective** | **Included** |
| --- | --- | --- |
| **Routine Non-Structural BMPs (numbers correspond to those in City’s WQMP)** |
| **N1** | **Education for Property Owners, Tenants and Occupants:** Practical informational materials are provided to residents, occupants, or tenants to increase the public’s understanding of stormwater quality, sources of pollutants, and what they can do to reduce pollutants in stormwater.  | Y/N/NA |
|  | Explanation/Description: Add either explanation if not included or detailed description if included. Include educational materials as Appendix A. |  |
| **N2** | **Activity Restrictions:** Rules or guidelines for developments are established within appropriate documents (i.e., CC&Rs, lease terms, etc.) which prohibit activities that can result in discharges of pollutants.  | Y/N/NA |
|  | Explanation/Description: Add either explanation if not included or detailed description if included. An example of a restricted activity is no car washing or car maintenance on property. |  |
| **N3** | **Common Area Landscape Management:** Specific practices are followed and ongoing maintenance is conducted to minimize erosion and over-irrigation, conserve water, and reduce pesticide and fertilizer applications. | Y/N/NA |
|  | Explanation/Description: Add either explanation if not included or detailed description if included.  |  |
| **N4** | **BMP Maintenance:** In order to ensure adequate and comprehensive BMP implementation, all responsible parties are identified for implementing all non-structural BMPs and for structural BMPs, cleaning, inspection, and other maintenance activities are specified including responsible parties for conducting such activities. | Y/N/NA |
|  | Explanation/Description: Add either explanation if not included or detailed description if included.  |  |
| **N5** | **Title 22 CCR Compliance:** Hazardous waste is managed properly through compliance with applicable Title 22 regulations. | Y/N/NA |
|  | Explanation/Description: Add either explanation if not included or detailed description of applicable requirements and compliance activities if included. N/A for residential projects. |  |
| **N7** | **Spill Contingency Plan:** A Spill Contingency Plan is implemented to ensure that spills are managed properly by requiring stockpiling of clean-up materials, notification of responsible agencies, disposal of clean-up materials, documentation, etc. | Y/N/NA |
|  | Explanation/Description: Add either explanation if not included or detailed description if included. N/A for residential projects. |  |
| **N8** | **Underground Storage Tank Compliance:** Because of the known or potential presence of underground storage tanks (USTs) on the project site, applicable UST regulations apply and are adhered to in order to avoid harm to humans or the environment.  | Y/N/NA |
|  | Explanation/Description: Add either explanation if not included or detailed description if included. N/A for residential projects. |  |
| **N9** | **Hazardous Materials Disclosure Compliance:** Because hazardous materials or wastes will be generated, handled, transported, or disposed of in association with the project, measures are taken to comply with applicable local, state, and federal regulation to avoid harm to humans and the environment. | Y/N/NA |
|  | Explanation/Description: Add either explanation if not included or detailed description if included. N/A for residential projects. |  |
| **N10** | **Uniform Fire Code Implementation:** The project includes a hazardous material storage facility or other area regulated by Article 80 and therefore implements measures to comply with this section of the Uniform Fire Code. | Y/N/NA |
|  | Explanation/Description: Add either explanation if not included or detailed description if included. N/A for residential projects. |  |
| **N11** | **Common Area Litter Control:** Trash management and litter control procedures are specified, including responsible parties, and implemented to reduce pollution of drainage water.  | Y/N/NA |
|  | Explanation/Description: Add either explanation if not included or detailed description if included.  |  |
| **N12** | **Contractor/Employee Training:** Practical informational materials and/or training are provided to employees to increase their understanding of stormwater quality, sources of pollutants, and their responsibility for reducing pollutants in stormwater. | Y/N/NA |
|  | Explanation/Description: Add either explanation if not included or detailed description if included.  |  |
| **N13** | **Housekeeping of Loading Docks:** Cleaning and clean-up procedures are specified and implemented for loading dock areas to keep the area free from pollutants and reduce associated pollutant discharges. | Y/N/NA |
|  | Explanation/Description: Add either explanation if not included or detailed description if included.  |  |
| **N14** | **Drainage Facility Inspection:** Inspection procedures, schedules, and responsibilities are established for drainage facilities to ensure regular cleaning, inspection, and maintenance. | Y/N/NA |
|  | Explanation/Description: Add either explanation if not included or detailed description if included.  |  |
| **N15** | **Street Sweeping Private Streets and Parking Lots:** Street sweeping frequency and responsible parties are identified and regular sweeping is conducted to reduce pollution of drainage water. | Y/N/NA |
|  | Explanation/Description: Add either explanation if not included or detailed description if included.  |  |
| **N17** | **Retail Gasoline Outlets:** Specific operational and maintenance BMPs are implemented to the extent feasible to reduce potential for pollutant discharge from wash off by runoff, leaks, and spills. | Y/N/NA |
|  | Explanation/Description: Add either explanation if not included or detailed description if included. Include educational materials as Appendix A.N/A for residential projects. |  |
| **Source Control Structural BMPs (numbers correspond to the California BMP Handbook)** |
| **SD-10** | **Site Design and Landscape Planning:** Landscape planning methodologies are incorporated into project design to maximize water storage and infiltration opportunities and minimize surface and groundwater contamination from stormwater. | Y/N/NA |
|  | Explanation/Description: Add either explanation if not included or detailed description if included.  |  |
| **SD-11** | **Roof Runoff Controls:** Direct roof runoff away from paved areas and to pervious areas, cisterns, infiltration trenches, and/or storage areas for reuse to reduce total volume and rate of site runoff and retain pollutant on site. | Y/N/NA |
|  | Explanation/Description: Add either explanation if not included or detailed description if included.  |  |
| **SD-12** | **Efficient Irrigation:** Project plans include application methods to minimize irrigation water discharged into stormwater drainage systems. | Y/N/NA |
|  | Explanation/Description: Add either explanation if not included or detailed description if included.  |  |
| **SD-13** | **Storm Drain System Signs:** Stencils or affixed signs placed adjacent to storm drain inlets to prevent waste dumping at storm drain inlets. | Y/N/NA |
|  | Explanation/Description: Add either explanation if not included or detailed description if included.  |  |
| **SD-20** | **Pervious Pavements:** Porous concrete or asphalt, blocks with pervious spaces or joints, or grass or gravel surfaces are employed to reduce runoff volume and provides treatment. | Y/N/NA |
|  | Explanation/Description: Add either explanation if not included or detailed description if included. When pervious pavement (asphalt or concrete) is proposed, please include any geotechnical data supporting the use of permeable pavement for the site and provide a proposed cross-section and any relevant design information. |  |
| **SD-21** | **Alternative Building Materials:** Specialized building materials are employed that have lower potential to leach pollutants, and reduce need for future painting or other pollutant generating maintenance activities. For example, some treated wood contains pollutants that can leach out to the environment and some metal roofs and roofing materials result in high metal content in runoff. | Y/N/NA |
|  | Explanation/Description: Add either explanation if not included or detailed description if included.  |  |
| **SD-30** | **Fueling Areas:** Project plans are developed for cleaning, spill clean-up, containment, leak prevention, and incorporation of design to reduce rain and runoff that could come in contact with fueling areas. | Y/N/NA |
|  | Explanation/Description: Add either explanation if not included or detailed description if included.  |  |
| **SD-31** | **Maintenance Bays and Docks:** Project design incorporates measures to cover or otherwise eliminate run-on and -off from bays and docks, and direct connections to storm drain are eliminated. | Y/N/NA |
|  | Explanation/Description: Add either explanation if not included or detailed description if included.  |  |
| **SD-32** | **Trash Enclosures:** Trash storage areas are covered and enclosed to prevent introduction of trash and debris to site runoff. | Y/N/NA |
|  | Explanation/Description: Add either explanation if not included or detailed description if included.  |  |
| **SD-33** | **Vehicle and Equipment Washing Areas:** Designated wash areas or facilities are contained and wash water is reused, treated, or otherwise disposed of properly.  | Y/N/NA |
|  | Explanation/Description: Add either explanation if not included or detailed description if included.  |  |
| **SD-34** | **Outdoor Material Storage Areas:** Outdoor storage areas for materials containing pollutants, especially hazardous materials, are covered and enclosed, on impervious surfaces, and include secondary containment when applicable. | Y/N/NA |
|  | Explanation/Description: Add either explanation if not included or detailed description if included.  |  |
| **SD-35** | **Outdoor Work Areas:** Outdoor work areas are covered, contained, and treated as necessary to reduce opportunity of pollutants from work activities to enter stormwater. | Y/N/NA |
|  | Explanation/Description: Add either explanation if not included or detailed description if included.  |  |
| **SD-36** | **Outdoor Processing Areas:** Outdoor processing areas are covered, contained, and treated as necessary to reduce opportunity of pollutants from work activities to enter stormwater. | Y/N/NA |
|  | Explanation/Description: Add either explanation if not included or detailed description if included.  |  |

Include and complete the following if your project includes food service.

**Equipment/Mat Washing Areas**:

Food Service Establishment (FSE) must dedicate a specific area for the washing of floor mats and other equipment. Options include:

* A properly-sized indoor mop or utility sink connected to the grease interceptor.
* A contained outdoor wash-down area connected to the grease interceptor that must be protected from rain water runoff.
* Adequate signage shall be provided to designate washing area and state the prohibition of discharging washwater to the storm drain system.
* Employees must be regularly trained to utilize designated areas for washing.

**NOTE: Washwater draining to parking lots, streets and storm drains is prohibited.**

Applicant must provide details show location on BMP Location Map.

* 1. **Treatment Control BMPs**

Treatment control BMPs utilize treatment mechanisms to remove pollutants that have entered stormwater runoff.

The following table identifies the treatment control BMPs included in the proposed project.

Select the treatment BMPs for this project from the following table. Delete rows of Treatment BMPs that were not selected. Indicate Y (Yes – included) or N (No – not included) in the Included column for the listed BMPs. If not included or not applicable, provide an explanation. If included, briefly state the location(s)*.*

**Table 6.2 Treatment Control BMPs**

| **Number** | **BMP and Objective** | **Included** |
| --- | --- | --- |
| **TC-10** | **Infiltration Trench:** A long, narrow rock-filled trench with no outlet receives water and stores it until it infiltrates into the underlying soil. It’s effective at removing most pollutants but can get clogged with sediment. | *Y/N* |
| **TC-11** | **Infiltration Basin:** A shallow impoundment designed to capture and hold stormwater until it infiltrates into underlying soil. Effective at removing most pollutants but requires large areas and may be constrained by soil types.  | *Y/N* |
| **TC-12** | Retention/Irrigation: Stormwater is captured in cistern, basin, trench, or other storage area and is subsequently used for irrigation of site landscaping. | *Y/N* |
| **TC-20** | **Wet Pond:** A constructed basin with a permanent pool of water throughout the year. Differs from wetlands because it is of greater depth. Treats stormwater runoff by settling and biological uptake. | *Y/N* |
| **TC-21** | **Constructed Wetland:** A constructed basin with permanent pool of shallow water throughout most of year with substantial vegetative coverage.  | *Y/N* |
| **TC-22** | Extended Detention Basin: A constructed basin with an outlet designed to detain stormwater for at least 48 hours to allow particles and pollutants to settle.  | *Y/N* |
| **MP-20** | **Wetland:** Similar to a constructed wetland but a self-contained, manufactured module with vegetation that mimics natural wetland processes. | *Y/N* |
| **TC-30** | **Vegetated Swale:** Open, shallow, vegetated channels that collect and slowly convey runoff through the property. Filters runoff through vegetation, subsoil matrix, and/or underlying soils; traps pollutants, promotes infiltration and reduces flow velocity. | *Y/N* |
| **TC-31** | **Vegetated Buffer Strip:** Vegetated surfaces that are designed to treat sheet flow from adjacent surfaces. Removes pollutants by deceleration, settling, and infiltration. | *Y/N* |
| **TC-32** | Bioretention: A soil- and plant-based filtration strategy that involves capturing stormwater in depressed landscaped areas. Bioretention practices are flexible strategies for using landscaping as treatment.  | *Y/N* |
| **TC-40** | **Media Filter (non-proprietary):** Usually two-chambered with a pretreatment settling basin and a filter bed filled with sand or other absorptive filter media.  | *Y/N* |
| **MP-40** | **Media Filter (proprietary):** Similar to constructed media filter but manufactured as self-contained filtering vaults, units, or cartridges.  | *Y/N* |
| **TC-50** | **Water Quality Inlet:** Vaults with chambers including screens, settling areas, and/or filter media to promote settling and/or separation of pollutants from stormwater. | *Y/N* |
| **MP-50** | **Wet Vault:** A vault with a permanent water pool and internal features to promote settling and/or separation of pollutants from stormwater.  | *Y/N* |
| **MP-51** | **Vortex Separator:** Similar to wet vaults but round and uses centrifugal action as primary separation mechanism.  | *Y/N* |
| **MP-52** | Drain Inserts: Boxes, trays, or socks with screens or filter fabric and may also include filter media. They are installed in inlets or catch basins and removal effectiveness for pollutants is generally low except for large sediment. | *Y/N* |
| **TC-60** | **Multiple Systems:** A system that uses two or more BMPs in series to increase treatment. Useful when one BMP does not provide sufficient treatment alone. | *Y/N* |

Provide narrative describing BMP, quantity, location and design, etc.

**6.3.1 SELECTION**

Provide a discussion supporting the selection of the proposed treatment control BMPs. The section should be based on achieving the highest removal possible of the primary pollutant(s) of concern associated with the project, as identified in Section 4. Include discussion regarding all BMPs that were considered for the project, but were not selected with detailed explanation(s) on why they were infeasible for the project.

### 6.3.2 Sizing

Sizing is required for all treatment control BMPs to demonstrate that the BMPs will provide adequate treatment for the flows or volumes of water that will be generated by the site. Separate sizing calculations and design specifications should be provided for each individual treatment control BMP and each treatment control BMP location identified for use in a project.

The following information should be included in this section of the WQMP:

* Using the following Table, indicate whether the treatment control BMPs were designed using the Stormwater Quality Design Volume (SQDV) or the Stormwater Quality Design Flow (SQDF):

|  |  |
| --- | --- |
| **Treatment Control BMP** | **Design Basis** |
| Vegetated Grass StripsVegetated Grass SwalesProprietary Control Measures | SDQF |
| Dry Detention BasinWet Detention BasinConstructed WetlandDetention Basin/Sand FilterPorous Pavement DetentionPorous Landscape DetentionInfiltration BasinInfiltration TrenchMedia FilterProprietary Control Measures | SDQV |

* Show calculations and provide key design criteria to demonstrate that the selected BMPs will provide adequate treatment. Please refer to the California Stormwater Quality Association (CASQA) BMP Handbook for New Development/Redevelopment for reference [www.cabmphandbooks.com](http://www.cabmphandbooks.com).
* Provide cross sections and details, as appropriate.

**6.3.3 LOCATION**

Project-based (on-site) structural Treatment Control BMPs should be implemented as close to pollutant sources as possible to minimize costs and maximize pollutant removal prior to runoff entering receiving waters.

* Include verbal description of location of BMP(s) and describe the relationship/flow scenario between BMPs if more than one BMP is proposed (treatment train concept).
* Refer to the BMP Map.

**6.3.4 RESTRICTIONS ON USE OF INFILTRATION BMPS**

Include the following text if no infiltration BMPs are included:

The proposed project does not include infiltration BMPs.

Include the following text regarding restrictions of infiltration BMPs only if you are proposing an infiltration BMP such as infiltration trench or basin or porous pavement. Swales, biofilters, buffer strips, detention basins and constructed wetlands are not considered infiltration BMPs. Describe in detail how your project meets the restrictions.

The proposed project includes infiltration BMPs (BMPs that are designed to primarily function as infiltration devices) and meets the minimum restrictions on the use of infiltration BMPs as described below.

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Condition** | **Yes** | **No** |
| 1 | Does use of structural infiltration Treatment Control BMPs contribute to groundwater quality objectives being surpassed? |  | X |
| Explain:  |
| 2 | Are pollution prevention and Source Control BMPs implemented at a level that protects groundwater quality? | X |  |
| Explain:  |
| 3 | Do structural infiltration Treatment Control BMPs cause a nuisance or pollution (as defined in Water Code Section 13050)? |  | X |
| Explain:  |
| 4 | Does urban runoff from commercial developments undergo pretreatment to remove physical and chemical contaminants prior to infiltration? | X |  |
| Explain:  |
| 5 | Are dry weather flows diverted from infiltration devices except for non-stormwater discharges authorized according to 40 CFR 122.26(d)(2)(iv)(B)(1)? | X |  |
| Explain:  |
| 6 | Is the vertical distance from the base of any structural infiltration Treatment Control BMP to the seasonal high groundwater mark at least 10 feet? (Vertical distance criterion may be determined by the City) | X |  |
| Explain:  |
| 7 | Does the infiltration soil have adequate physical and chemical characteristics to support proper infiltration durations and treatment of urban runoff for the protection of groundwater? | X |  |
| Explain:  |
| 8 | Are structural infiltration Treatment Control BMPs used in areas of industrial activity, light industrial activity, or other land uses posing a threat to water quality? |  | X |
| Explain:  |
| 9 | Is the horizontal distance between the base of any structural infiltration Treatment Control BMP and any water supply well at least 100 feet? (Horizontal distance criterion may be determined by the City) | X |  |
| Explain:  |
| 10 | Does any entity implementing a structural infiltration Treatment Control BMP also mitigate any groundwater contamination caused by the infiltration system? | X |  |
| Explain:  |

**Section 7 Project Plan and BMP Location Map**

Figure 7.1 illustrates the proposed project and the Hydromodification, LID, Site Design, Treatment Control and Source Control structural BMPs that will be implemented pursuant to this WQMP. The following checklist identifies the required information that is included in the BMP map.

Include an 11 “x17” BMP project map including the elements listed in the following checklist and complete the checklist. The map must be clearly legible.

|  |  |
| --- | --- |
| **Included** | **Requirement** |
| **X** | Legend, north arrow, scale |
| **X** | Show drainage arrows, and drainage catchment areas |
| **X** | Entire property on one map (provided sufficient detail is shown) |
| **X** | Show structures to be constructed and removed |
| **X** | Show proposed and existing storm drain systems, including site outlet and/or connection to municipal storm drain system |
| **X** | Show all external hardscape surfaces such as walkways, driveways, pools, spas, patio areas, etc.  |
| **X** | Indicate the LID, site design, biofiltration, landscape areas and planters, pervious pavement, roof drains, etc. |
| **X** | Identify locations of all source control structural and treatment BMPs on the Map, including trash areas, wash areas, loading areas, storm drain markings/inlets, and grease control measures, when appropriate, etc. |
| **X** | Show nearby water bodies by name, if available |
| **X** | Provide cross-sections, details, specifications, etc., for BMPs, as appropriate. |

Section 8 Stormwater BMP Maintenance

The City does not accept stormwater structural BMPs as meeting the WQMP requirements standard, unless an Operations and Maintenance (O&M) Plan is prepared and a mechanism is in place that will ensure ongoing long-term maintenance of all structural and non-structural BMPs. Select the appropriate Maintenance Mechanism for you project (delete all others).

The Property Owner (insert name) hereby certifies that he/she/it will be the responsible party (RP) for implementation of this WQMP/O&M Plan into perpetuity. The RP shall implement all elements of the WQMP.

A Home Owner’s Association (HOA) will be created. The HOA will be responsible for implementation of all elements of this WQMP/O&M Plan into perpetuity. This responsibility is identified in the project’s CC&Rs.

Note to preparer: Below is some standard WQMP/O&M Language for the CC&Rs:

### *Water Quality Management Plan (WQMP)/Operation & Maintenance Plan (O&M). The Property is subject to all federal, state and local requirements of the National Pollutant Discharge Elimination System (“NPDES”) adopted pursuant to the Federal Clean Water Act. Pursuant to the City of Mission Viejo NPDES Storm Water Permit Program, a Water Quality Management Plan/Operation & Maintenance Plan (WQMP/O&M) for the Property has been prepared, copies of which are on file with the Association and the City. The WQMP/O&M identifies specific Best Management Practices (BMPs) to reduce the discharge of pollutants to stormwater facilities and waterways from the property. The Association and the Owners shall comply with all site design, source control and treatment control BMPs, as identified in the WQMP/O&M and perform all operation and maintenance, outreach/education and reporting activities, as specified in the WQMP/O&M to ensure that BMPs are functioning effectively into perpetuity. The costs of the Association’s portion of such operation and maintenance, outreach/education and reporting activities shall be treated as Common Expenses.*

### *The City may enter the Common Areas at any time for the purpose of administering and enforcing compliance by all members with (a) any permit issued to the City by the San Diego Regional Water Quality Control Board, as such permit may be amended from time to time, and (b) all NPDES requirements.*

#### 8.1 Operation and Maintenance (O&M) Plan

A detailed O&M Plan must be included in this WQMP. The O&M Plan must include detailed operations and maintenance instructions for all applicable BMPs. Depending on size and complexity of operation and maintenance required, a separate O&M Plan document may be required.

This O&M Plan describes the designated responsible party for implementation of this WQMP, including: operation and maintenance of all the structural BMP(s), conducting the training/educational program and duties, and any other necessary activities. The O&M Plan includes detailed inspection and maintenance requirements for all structural BMPs, including copies of any maintenance contract agreements, manufacturer’s maintenance requirements, permits, etc.

####  Responsible Party

The responsible party for implementation of this WQMP is:

 Name of person or HOA, etc.

 Address

 Phone number

 24-hour emergency contact #:

 Email:

####  Record Keeping

Parties responsible for the O&M plan shall retain records for at least 5 years.

All training and educational activities and BMP operation and maintenance shall be documented to verify compliance with this O&M Plan. A Training Log and Inspection and Maintenance Log are included in Appendix X of this document.

The **WQMP Verification Form** (Appendix X) shall be completed accurately and submitted, with associated documentation, to the City of Mission Viejo by September 30 of each year, or as requested by the City. **Failure to complete and submit the verification form will result in a noncompliance and enforcement actions may be taken.**

* + 1. **Vector Control**

Standing water which exists for longer than 72 hours may contribute to mosquito breeding areas. Best Management Practices (BMPs) shall be inspected for standing water on a regular basis. Standing water may indicate that the BMP is not functioning properly and proper action to remedy the situation shall be taken in a timely manner.

Elimination of standing water and managing garbage, lawn clippings, and pet droppings, can help decrease the presence of mosquitoes and flies in the area.

The Orange County Vector Control District may be contacted for more information and support at 714-971-2421 or 949-654-2421 or [www.ocvcd.org](http://www.ocvcd.org).

* + 1. **Required Permits**

This section must list any permits required for the implementation, operation, and maintenance of the BMPs. Possible examples are:

* Permits for connection to sanitary sewer
* Permits from California Department of Fish and Wildlife
* Encroachment Permits.

If no permits are required, a statement to that effect shall be made.

* + 1. **Inspections**

The City may conduct a site inspection to evaluate compliance with the Project WQMP, at any time, in accordance with Mission Viejo’s Municipal Code Chapter 6.65, Water Quality.

* + 1. **Operation and Maintenance Requirements**

Complete the Table below for each BMP included in this project. Delete each row that is not applicable to this project. Examples of Implementation, Inspection & Maintenance Requirements and Frequency are provided for some BMPs. Refer to referenced CASQA BMP Fact Sheets for more information on operation and maintenance requirements. Please review and modify as appropriate.

| **BMP** | **Implementation, Inspection and Maintenance Requirements** | **Frequency**  |
| --- | --- | --- |
| N1. Education for Property Owners, Tenants and Occupants | RP will insure that all owners & tenants will be given a copy of the recorded CC&Rs which will contain a section outlining the environmental awareness education materials at the close of escrow. RP shall distribute appropriate materials to owners, tenants and/or occupants via contract language, mailings, website or meeting.Brochures can be requested or downloaded from [www.ocwatersheds.com](http://www.ocwatersheds.com).Brochures and educational articles for RP distribution can also be requested from Mission Viejo Public Works Department or downloaded at [www.cityofmissionviejo.org/green](http://www.cityofmissionviejo.org/green). | Information to be initially provided to owners & tenants upon sale or lease agreement.Educational materials will be provided to owners and/or tenants annually, thereafter. |
| N2. Activity Restriction | Within the CC&Rs or lease agreement, the following activity restrictions shall be enforced: | Continuous |
| N3. Common Area Landscape Management & Efficient Landscape Design | Landscape Management includes:* Mitigation of the potential dangers of fertilizer and pesticide usage through the incorporation of an Integrated Pest Management Program (IPM).
* Monitor for runoff and efficiency regularly.
* Implementation of a water budget.
* Irrigation systems shall be automatically controlled and designed, installed, and maintained so as to minimize overspray and runoff onto streets, sidewalks, driveways, structures, windows, walls, and fences.
* Use of native and drought tolerant species when replanting
 | Inspected once a week |
| N11. Common Area Litter Control | Weekly sweeping and trash pick-up as necessary within all project areas and common landscape areas. Daily inspection of trash receptacles to ensure that lids are closed and pick up any excess trash on the ground, noting trash disposal violations by homeowners and reporting the violations to the HOA/RP for investigation. | Daily inspection and weekly sweeping and clean-up or as needed |
| N12. Contractor/Employee Training | All contractors shall be trained and made aware of this WQMP and operation and maintenance requirements of BMPs. | At first hire and annually thereafter for HOA personnel and employees, to include the educational materials contained in the approved Water Quality Management Plan. |
| N13. Housekeeping of Loading Docks |  |  |
| N14. Common Area Catch Basin Inspection | Catch basins will be owned, inspected and maintained by the HOA/RP. Catch basins will be inspected at a minimum on a yearly basis, and prior to the storm season, no later than October 1st of each year. | At a minimum, basins will be inspected and cleaned around October 1st of each year, prior to “first flush” storm, or as necessary after large storm events to clear inlets of trash, debris and silt.  |
| N15. Street Sweeping Private Streets and Parking Lots | Vacuum street sweeping will occur on a monthly basis | Minimum of once/monthly  |
| SD-13 Provide Storm Drain System Stenciling and Signage | All catch basins where applicable in paved areas, will be marked or stenciled with “*No Dumping - Drains to Ocean, No Descargue Basura*” language. This will be done in a location that can be clearly seen by all and will be routinely inspected and re-labeled, as necessary. Thereafter, the owner/operator shall routinely inspect and re-label the catch basins, as necessary. | Catch basin labels will be inspected once annually and relabeled as necessary to maintain legibility. |
| SD-34 Design and Construct Outdoor Material Storage Areas to Reduce Pollutant Introduction |  |  |
| Sd-32 Design and Construct Trash and Waste Storage Areas to Reduce Pollutant Introduction | Trash will be removed by the local private solid waste management contractor on a weekly basis for proper disposal of the trash to landfill; with recyclable materials and green wastes to be processed offsite.  | Trash dumpster shall be kept in a non-leaking condition. |
| SD-31 Loading Docks |  |  |
| SD-31 Maintenance Bays |  |  |
| SD-33 Vehicle Wash Areas |  |  |
| SD-36 Outdoor Processing Areas |  |  |
| SD-33 Equipment Wash Areas |  |  |
| SD-30 Fueling Areas |  |  |
| Wash Water Controls for Food Preparation Areas |  |  |
| **Hydromod/LID/Treatment BMP # 1****Include Name/Type of BMP** | Per recommendations of CASQA BMP Handbook ([www.caBMPHandbooks.com](http://www.caBMPHandbooks.com)) or manufacturer’s recommendations.Include any maintenance guidelines/fact sheet and describe here. Include applicable manufacturer O&M info. ONLY INCLUDE USEFUL INFO, such as O&M requirements or checklist; do not include, for example, the whole product catalog. The intent is to develop a CONCISE and USER-FRIENDLY document. | As recommended. |
| **Hydromod/LID/Treatment BMP # 1****Include Name/Type of BMP** | Include applicable manufacturer O&M info. ONLY INCLUDE USEFUL INFO, such as O&M requirements or checklist; do not include, for example, the whole product catalog. The intent is to develop a CONCISE and USER-FRIENDLY document. | As recommended. |

**Appendix A**

**EDUCATIONAL MATERIALS**

**The following is a selection of Educational Materials for Homeowners, Contractors and employees that address BMPS and water quality issues. Many are available in English and Spanish.**

To meet the educational requirements of this O&M Plan, educational brochures can be downloaded or requested at no charge at [www.ocwatersheds.com](http://www.ocwatersheds.com) for inclusion on a website, in a newsletter or mailed to property owners, tenants and/or contractors. Property owners, tenants, staff and/or contractors must receive education/training at least once per year.

| **Brochure** | **Pollutant(s) Addressed** | **Activities Addressed** |
| --- | --- | --- |
| "The Ocean Begins At Your Front Door" – English, Spanish, Vietnamese | Household hazardous waste, trash, motor oil, chlorine, overwatering, green waste, dirt, pesticides/fertilizer, pet waste | Household maintenance and activities (i.e., hosing driveway), automotive maintenance and washing, pool maintenance, landscape and gardening, trash disposal, pet care  |
| Homeowners Guide for Sustainable Water Use Pamphlet | Household hazardous waste, trash, motor oil, chlorine, overwatering, green waste, dirt, pesticides/fertilizer, pet waste | Preventing urban runoff through low-impact development in residential properties, water conservation, use of IPM techniques and California-friendly landscaping, general water pollution prevention methods |
| "Help Prevent Ocean Pollution: Your Local Used Oil Collection Center" - South– English, Spanish, Vietnamese | Motor Oil | Automotive Maintenance, Disposal of Used Motor Oil |
| “Help Prevent Ocean Pollution: Tips for Pool Maintenance” – English, Spanish | Chlorine, runoff | Pool Drainage/Maintenance |
| “Help Prevent Ocean Pollution: Tips for Landscape and Gardening” – English, Spanish | Fertilizer, pesticide, dirt, overwatering, green waste | Landscape maintenance, pesticide/fertilizer application, proper disposal of household hazardous waste and green waste |
| “Help Prevent Ocean Pollution: Tips for Pet Care” – English, Spanish | Surfactants, chemicals, pet waste | Proper disposal of pet waste, proper pet bathing techniques |
| “Help Prevent Ocean Pollution: Household Tips” – English, Spanish | Household hazardous waste, pet waste, pesticides/fertilizers, overwatering, green waste, surfactants, motor oil, trash | Household maintenance and activities (i.e. hosing driveway), automotive maintenance and washing, pool maintenance, landscape and gardening, trash disposal, pet care |
| “Help Prevent Ocean Pollution: Proper Disposal of Household Hazardous Materials” – English, Spanish, Vietnamese | Household hazardous wastes | Proper identification and disposal of household hazardous wastes |
| “Help Prevent Ocean Pollution: Maintenance Practices for Your Business” – English, Spanish | Fertilizer, pesticides, green waste, overwatering, trash, toxic substances | Landscape maintenance, proper application of pesticides and fertilizers, trash management, proper storage of materials |
| “Help Prevent Ocean Pollution: Tips for Using Concrete and Mortar” – English, Spanish | Concrete and mortar, slurry | Proper preparation, use, clean up and disposal of concrete and mortar |
| *Responsible Pest Control* | Pesticides | Proper identification of pests, selection of least toxic chemical, proper pesticide application, spill prevention and proper storage and disposal of pesticides (use of Integrated Pest Management (IPM) techniques) |
| *Help Prevent Ocean Pollution: Residential Pool, Landscape and Hardscape Drains*English, Spanish | Chlorine, chemicals, pet waste, green waste, overwatering, motor oil and vehicle fluids | Pool maintenance, spill prevention, proper disposal of household hazardous waste, proper disposal of pet waste, proper use of pesticides and fertilizers, proper vehicle maintenance |
| *Help Prevent Ocean Pollution: Proper Use and Disposal of Paint*English, Spanish | Paint, chemicals | Proper use, storage and disposal of paint |
| *Help Prevent Ocean Pollution: Tips for Home Improvement Projects*English, Spanish | Construction debris, concrete, paint, household hazardous waste, sediment | Proper storage of construction materials, recycling of construction materials, proper disposal of household hazardous waste, proper erosion and spill control |
| *Help Prevent Ocean Pollution: Children’s Coloring & Activity Book* | Trash, pet waste, motor oil, green waste | Litter control, proper disposal of pet waste, proper spill clean-up (e.g., use of cat litter) |
| *Help Prevent Ocean Pollution: Tips for the Automotive Industry*English, Spanish | Motor oil, metals, surfactants, toxic substances, dirt | Proper maintenance and washing practices for automobiles, proper storage and disposal of automotive liquids and materials |
| *Help Prevent Ocean Pollution: Tips for the Home Mechanic*  | Motor oil, metals, surfactants, toxic substances | Proper maintenance and washing practices for automobiles and automotive detailing materials, proper storage and disposal of automotive liquids and materials, use of used oil collection centers |
| *Compliance Best Management Practices for Mobile Businesses* | Surfactants, toxic substances, dirt, metals | Mobile car washing and detailing, proper high-pressure cleaning, proper storage and disposal of washwater from mobile automotive detailing, washing and carpet and fabric cleaning |
| *Help Prevent Ocean Pollution: A Guide for Food Service Facilities*English, Spanish, Vietnamese | Grease, food waste, trash | Proper food waste disposal, proper grease and oil disposal, proper procedures for spill cleanup, proper maintenance of trash dumpsters, proper floor mat cleaning, proper wastewater disposal |

**Regulatory Information**

1. Mission Viejo Municipal Code Chapter 6.65 Water Quality
2. Mission Viejo Municipal Code Chapter 8.12 Water Efficient Landscaping and 9.27 Landscaping Standards and Requirements

Both of the above Code Chapters are available on the City’s website at:[www.cityofmissionviejo.org](http://www.cityofmissionviejo.org) Select “Municipal Codes” under “Services”.

**Appendix X**

**BMP Operation & Maintenance and Training Logs**

**BMP OPERATION & MAINTENANCE LOG**

**pROJECT nAME**

|  |  |
| --- | --- |
| **Today’s Date:** |  |
| **Name of Person Performing Activity (Printed):** |  |
| **Signature:** |  |

| **BMP Name****(As Shown in O&M Plan)** | **Brief Description of Implementation, Maintenance, and Inspection Activity Performed** |
| --- | --- |
|  |  |
|  |  |
|  |  |
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 **Sample training/educational log**

|  |  |
| --- | --- |
| **Date of Training/Educational Activity:** |  |
| **Name of Person Performing Activity (Printed):** |  |
| **Signature:** |  |

 **Topic of Training/Educational Activity:**

|  |  |
| --- | --- |
|  |  |

| **Name of Participant** | **Signature of Participant** |
| --- | --- |
|  |  |
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**For newsletter or mailer educational activities, please include the following information:**

* Date of mailing
* Number distributed
* Method of distribution
* Topics addressed

If a newsletter article was distributed, please include a copy of it.

**Appendix F**

**CITY OF MISSION VIEJO**

**WATER QUALITY MANAGEMENT PLAN (WQMP) VERIFICATION SURVEY**

This form must be modified to reflect the BMPs in this WQMP

|  |  |
| --- | --- |
| Project Name/Site Address: |  |
| Responsible Party : |  |
| Contact Phone: |  |  | Contact Email: |  |

1. Have your contractors (landscape, maintenance, etc.) been educated regarding the applicable requirements to prevent pollution as outlined in the WQMP?

[ ]  Yes [ ]  No Name of Landscape/Maintenance Contractor:

Method of education (contract language, Copy of O&M, educational brochures, etc.): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Have the storm drains and inlets been inspected and maintained, at a minimum, annually prior to October 1st?

[ ]  Yes [ ]  No Date of Last Inspection/Maintenance:

Maintenance conducted by:

1. Have you observed any runoff from the irrigation system?

[ ]  Yes [ ]  No If yes, how was the problem resolved?

1. What type of Integrated Pest Management (IPM) practices are used on site?

1. Are native and/or drought-tolerant plants established and considered for any new landscaping?

[ ]  Yes [ ]  No

1. Have the storm drain stencils been inspected annually for legibility prior to Oct. 1?

 [ ]  Yes [ ]  No Total number of stencils on site: \_\_\_\_\_\_\_\_\_\_

 How many inlets required restenciling/date of restenciling? \_\_\_\_\_\_\_\_\_\_\_/\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Have education materials been distributed to the residents/tenants/contractors within the past year?

 [ ]  Yes [ ]  No Topic/Date of Distribution: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_/\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Method of Distribution: newsletter, billing insert, etc.:

1. Is street sweeping conducted weekly?

 [ ]  Yes [ ]  No Contractor:

1. Are trash areas in common area inspected daily?

 [ ]  Yes [ ]  No

1. Have any vector concerns been observed (standing water, mosquito larvae, etc.)? If yes, please contact Orange County Vector Control District at www.ocvcd.org.

 [ ]  Yes [ ]  No

1. Have the treatment BMPs been inspected and maintained per Manufacturer’s instructions? (Attach invoices and inspection/maintenance forms)

 [ ]  Yes [ ]  No

1. Have there been any issues with operation and maintenance of the treatment BMPs units?

I certify that the above information is correct and that the BMPs for this project have been implemented and operated and maintained in accordance with the Operation and Maintenance (O&M) Plan on site and on file at the City.

Print Name of Responsible Party

Signature (required) Date

***This form must be completed and submitted to the City by September 30 each year.***

**City of Mission Viejo • 200 Civic Center • Mission Viejo • 92691**

**Attn: Public Works Department**

**Email:** **dcarson@cityofmissionviejo.org**

**Ph: 949-470-8458**

**Fax: 949-581-5394**