Project Specific Water Quality Management Plan

*A Template for preparing Project Specific WQMPs for Priority Development Projects located within the* ***Santa Margarita Region*** *of Riverside County*

**Project Title:** Insert text here

**Development No:** Insert text here

**Design Review/Case No:** Insert text here

****

|  |
| --- |
| **Contact Information:** |
| **Prepared for:** Insert Developer Name, Address, and Phone Number |
| **Prepared by:** Insert Name and Title of Preparer, address, and Phone Number  |
|  |

|  |
| --- |
| [ ]  **Preliminary** |
| [ ]  **Final** |

**Original Date Prepared**: Insert text here

**Revision Date(s)**: Insert text here

*Prepared for Compliance with*

*Regional Board Order No*. **R9-2010-0016**

**A Brief Introduction**

The Municipal Separate Stormwater Sewer System (MS4) Permit[[1]](#footnote-1) for the **Santa Margarita Region** (SMR) requires preparation of a Project-Specific Water Quality Management Plan (WQMP) for all Development Projects as defined in section F.1.d.(1) of the Permit. This Project-Specific WQMP Template for Development Projects in the **Santa Margarita Region** has been prepared to help document compliance and prepare a WQMP submittal. Below is a flowchart for the layout of this Template that will provide the steps required to document compliance.

**OWNER’S CERTIFICATION**

This Project-Specific WQMP has been prepared for <Owner's Name> by <Preparer's Name> for the <Project Name> project.

This WQMP is intended to comply with the requirements of <Insert City or County Name> for <Insert Ordinance No.> which includes the requirement for the preparation and implementation of a Project-Specific WQMP.

The undersigned, while owning the property/project described in the preceding paragraph, shall be responsible for the implementation and funding of this WQMP and will ensure that this WQMP is amended as appropriate to reflect up-to-date conditions on the site. In addition, the property owner accepts responsibility for interim operation and maintenance of Stormwater Best Management Practices until such time as this responsibility is formally transferred to a subsequent owner. This WQMP will be reviewed with the facility operator, facility supervisors, employees, tenants, maintenance and service contractors, or any other party (or parties) having responsibility for implementing portions of this WQMP. At least one copy of this WQMP will be maintained at the project site or project office in perpetuity. The undersigned is authorized to certify and to approve implementation of this WQMP. The undersigned is aware that implementation of this WQMP is enforceable under <Insert City or County Name> Water Quality Ordinance (Municipal Code Section     ).

"I, the undersigned, certify under penalty of law that the provisions of this WQMP have been reviewed and accepted and that the WQMP will be transferred to future successors in interest."

Owner’s Signature Date

Owner’s Printed Name Owner’s Title/Position

**PREPARER’S CERTIFICATION**

“The selection, sizing and design of stormwater treatment and other stormwater quality and quantity control Best Management Practices in this plan meet the requirements of Regional Water Quality Control Board Order No. **R9-2010-0016** and any subsequent amendments thereto.”

Preparer’s Signature Date

Preparer’s Printed Name Preparer’s Title/Position

Preparer’s Licensure:

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# Project and Site Information

|  |
| --- |
| Project Information |
| Type of Project: | Insert text here (e.g., commercial, residential, etc.) |
| Planning Area: | Insert text here |
| Community Name: | Insert text here |
| Development Name: | Insert Planning Area / Community Name/ Development Name, if known |
| Project Location |
| Latitude & Longitude (DMS): Insert coordinates here |
| Project Watershed and Sub-Watershed: Insert text here |
| APN(s): Insert text here |
| Map Book and Page No.: Insert text here |
| Project Characteristics |
| Proposed or potential land use(s) | Insert text here |
| Proposed or Potential SIC Code(s) | Insert text here |
| Area of Impervious Project Footprint (SF) | Insert text here |
| Total area of proposed Impervious Surfaces within the Project Limits (SF)/or Replacement | Insert text here |
| Total Project Area (ac) | Insert text here |
| Does the project consist of offsite road improvements? | [ ]  Y [ ]  N |
| Does the project propose to construct unpaved roads? | [ ]  Y [ ]  N |
| Is the project part of a larger common plan of development (phased project)? | [ ]  Y [ ]  N |
| Is the project exempt from HMP Performance Standards? | [ ]  Y [ ]  N |
| Existing Site Characteristics |
| Total area of existing Impervious Surfaces within the project limits (SF) | Insert text here. |
| Is the project located within any Multi-Species Habitat Conservation Plan (MSHCP Criteria Cell? | [ ]  Y [ ]  N |
| If so, identify the Cell number: | Insert text here. |
| Are there any natural hydrologic features on the project site? | [ ]  Y [ ]  N |
| Is a Geotechnical Report attached? | [ ]  Y [ ]  N |
| If no Geotech. Report, list the Natural Resources Conservation Service (NRCS) soils type(s) present on the site (A, B, C and/or D) | Insert text here. |
| What is the Water Quality Design Storm Depth for the project? | Insert text here. |

## Maps and Site Plans

When completing your Project-Specific WQMP, include a map of the Project vicinity and existing site. In addition, include all grading, drainage, landscape/plant palette and other pertinent construction plans in Appendix 2. At a **minimum**, your WQMP Site Plan should include the following:

|  |  |
| --- | --- |
| * Drainage Management Areas (DMAs)
* Proposed Structural Best Management Practices (BMPs)
* Drainage Path
* Drainage infrastructure, inlets, overflows
 | * Source Control BMPs
* Buildings, Roof Lines, Downspouts
* Impervious Surfaces
* Standard Labeling
 |

Use your discretion on whether or not you may need to create multiple sheets or can appropriately accommodate these features on one or two sheets. Keep in mind that the Copermittee plan reviewer must be able to easily analyze your Project utilizing this template and its associated site plans and maps.

## Identify Receiving Waters

Using Table A.1 below, list in order of upstream to downstream, the Receiving Waters that the Project site is tributary to. Continue to fill each row with the Receiving Water’s 303(d) listed impairments (if any), designated Beneficial Uses, and proximity, if any, to a RARE Beneficial Use. Include a map of the Receiving Waters in Appendix 1. (<http://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/>)

Table A.1 Identification of Receiving Waters

|  |  |  |  |
| --- | --- | --- | --- |
| Receiving Waters | USEPA Approved 303(d) List Impairments | Designated Beneficial Uses | Proximity to RARE Beneficial Use |
| Insert name of 1st receiving water | List any 303(d) impairments of 1st receiving water, including Approved TMDL pollutant limitations | Insert designated beneficial use of 1st receiving water | Insert distance of project to RARE-designated waters (indicate whether feet, yards, or miles) |
| insert name of 2nd receiving water | List any 303(d) impairments of 2nd receiving water, including Approved TMDL pollutant limitations | Insert designated beneficial use of 2nd receiving water | Insert distance of project to RARE-designated waters (indicate whether feet, yards, or miles) |
| Insert name of 3rd receiving water | List any 303(d) impairments of 3rd receiving water, including Approved TMDL pollutant limitations | Insert designated beneficial use of 3rd receiving water | Insert distance of project to RARE-designated waters (indicate whether feet, yards, or miles) |

## Drainage System Susceptibility to Hydromodification

Using Table A.2 below, list in order of the point of discharge at the project site down to the Santa Margarita River, each drainage system or receiving water that the project site is tributary to. Continue to fill each row with the material of the drainage system, the storm drain susceptibility using the SWCT2 (Stormwater & Water Conservation Tracking Tool - <http://rivco.permitrack.com/>) or Map 2 of the Hydromodification Susceptibility Documentation Report and Mapping: Santa Margarita Region (Appendix D of the SMR HMP), and the condition for exempting the drainage system, if applicable. If the exemption includes receiving waters that were not evaluated in Appendix D, provide supporting documentation in Appendix 7 to demonstrate that they classify as Engineered, Fully Hardened and Maintained (EFHM) channels, consistent with the definition provided in Appendix D. Include a map exhibiting each drainage system and the associated susceptibility in Appendix 1.

Table . Identification of Susceptibility to Hydromodification

| Drainage System | Drainage System Material | Susceptibility of Drainage System | Hydromodification Exemption |
| --- | --- | --- | --- |
| Insert name and length (in miles) of 1st drainage system | Identify either (1) the type of material of bed and bank for open channels; or (2) the material of storm drain pipes and conduits | Identify the susceptibility to hydromodication of 1st drainage system | Insert exemptions the 1st receiving water may qualify for. If none, insert NONE. |
| Insert name and length (in miles) of 2nd drainage system | Identify either (1) the type of material of bed and bank for open channels; or (2) the material of storm drain pipes and conduits | Identify the susceptibility to hydromodication of 2nd drainage system | Insert exemptions the 2nd receiving water may qualify for. If none, insert NONE. |
| Insert name and length (in miles) of 3rd drainage system | Identify either (1) the type of material of bed and bank for open channels; or (2) the material of storm drain pipes and conduits | Identify the susceptibility to hydromodication of 3rd drainage system | Insert exemptions the 3rd receiving water may qualify for. If none, insert NONE. |

## Additional Permits/Approvals required for the Project:

Table A.3 Other Applicable Permits

|  |  |
| --- | --- |
| Agency | Permit Required |
| State Department of Fish and Game, 1602 Streambed Alteration Agreement | [ ]  Y | [ ]  N |
| State Water Resources Control Board, Clean Water Act Section 401 Water Quality Certification | [ ]  Y | [ ]  N |
| US Army Corps of Engineers, Clean Water Act Section 404 Permit | [ ]  Y | [ ]  N |
| US Fish and Wildlife, Endangered Species Act Section 7 Biological Opinion | [ ]  Y | [ ]  N |
| Statewide Construction General Permit Coverage | [ ]  Y | [ ]  N |
| Statewide Industrial General Permit Coverage | [ ]  Y | [ ]  N |
| Western Riverside MSHCP Consistency Approval (e.g., JPR, DBESP) | [ ]  Y | [ ]  N |
| Other *(please list in the space below as required)*      | [ ]  Y | [ ]  N |

If yes is answered to any of the questions above, the Copermittee may require proof of approval/coverage from those agencies as applicable including documentation of any associated requirements that may affect this Project-Specific WQMP.

# Optimize Site Utilization (LID Principles)

Review of the information collected in Section ‘A’ will aid in identifying the principal constraints on site design and selection of LID BMPs as well as opportunities to reduce imperviousness and incorporate LID Principles into the site and landscape design. For example, **constraints** might include impermeable soils, high groundwater, groundwater pollution or contaminated soils, steep slopes, geotechnical instability, high-intensity land use, heavy pedestrian or vehicular traffic, utility locations or safety concerns. **Opportunities** might include existing natural areas, low areas, oddly configured or otherwise unbuildable parcels, easements and landscape amenities including open space and buffers (which can double as locations for LID Bioretention BMPs), and differences in elevation (which can provide hydraulic head). Prepare a brief narrative for each of the site optimization strategies described below. This narrative will help you as you proceed with your Low Impact Development (LID) design and explain your design decisions to others.

The 2010 SMR MS4 Permit further requires that LID Retention BMPs (Infiltration Only or Harvest and Use) be used unless it can be shown that those BMPs are infeasible. Therefore, it is important that your narrative identify and justify if there are any constraints that would prevent the use of those categories of LID BMPs. Similarly, you should also note opportunities that exist which will be utilized during project design. Upon completion of identifying Constraints and Opportunities, include these on your WQMP Site plan in Appendix 1.

**Site Optimization**

The following questions are based upon Section 3.2 of the WQMP Guidance Document. Review of the WQMP Guidance Document will help you determine how best to optimize your site and subsequently identify opportunities and/or constraints, and document compliance.

Did you identify and preserve existing drainage patterns? If so, how? If not, why?

*Insert narrative here*

Did you identify and protect existing vegetation? If so, how? If not, why?

*Insert narrative here*

Did you identify and preserve natural infiltration capacity? If so, how? If not, why?

*Insert narrative here*

Did you identify and minimize impervious area? If so, how? If not, why?

*Insert narrative here*

Did you identify and disperse runoff to adjacent pervious areas? If so, how? If not, why?

*Insert narrative here*

# Delineate Drainage Management Areas (DMAs)

Utilizing the procedure in Section 3.3 of the WQMP Guidance Document which discusses the methods of delineating and mapping your project site into individual DMAs, complete Table C.1 below to appropriately categorize the types of classification (e.g., Type A, Type B, etc.) per DMA for your Project site. Upon completion of this table, this information will then be used to populate and tabulate the corresponding tables for their respective DMA classifications.

Table C.1 DMA Classifications

|  |  |  |  |
| --- | --- | --- | --- |
| DMA Name or Identification | Surface Type(s)1 | Area (Sq. Ft.) | DMA Type |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

*1Reference Table 2-1 in the WQMP Guidance Document to populate this column*

Table C.2 Type ‘A’, Self-Treating Areas

|  |  |  |  |
| --- | --- | --- | --- |
| DMA Name or Identification | Area (Sq. Ft.) | Stabilization Type | Irrigation Type (if any) |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

Table C.3 Type ‘B’, Self-Retaining Areas

|  |  |
| --- | --- |
| Self-Retaining Area | Type ‘C’ DMAs that are draining to the Self-Retaining Area |
| DMAName/ ID | Post-project surface type | Area (square feet) | StormDepth (inches) | DMA Name / ID | [C] from Table C.4 = | Required Retention Depth (inches) |
| [A] | [B] | [C] | [D] |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

$$\left[D\right]=\left[B\right]+\frac{\left[B\right]∙[C]}{[A]}$$

Table C.4 Type ‘C’, Areas that Drain to Self-Retaining Areas

|  |  |
| --- | --- |
| DMA | Receiving Self-Retaining DMA |
| DMA Name/ ID | Area (square feet) | Post-project surface type | Runofffactor | Product | DMA name /ID | Area (square feet) | Ratio |
| [A] | [B] | [C] = [A] x [B] | [D] | [C]/[D] |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

*Note: (See Section 3.3 of WQMP Guidance Document) Ensure that partially pervious areas draining to a Self-Retaining area do not exceed the following ratio:*

$$\left(\frac{2}{Impervious Fraction}\right) :1$$

(Tributary Area**:** Self-Retaining Area)

Table C.5 Type ‘D’, Areas Draining to BMPs

|  |  |
| --- | --- |
| DMA Name or ID | BMP Name or ID |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
| *Note:* *More than one DMA may drain to a single LID BMP; however, one DMA may not drain to more than one BMP.* |

# Implement LID BMPs

## Infiltration Applicability

An assessment of the feasibility of utilizing Infiltration BMPs is required for all projects, *except in the following case:*

* Harvest and Use BMPs will be implemented to address the Design Capture Volume (see the Harvest and Use Assessment below) for all Drainage Management Areas AND the project is exempt from HMP Performance Standards (*Proceed to Section D.2 and Section E*).

If the above box remains unchecked, perform a site-specific evaluation of the feasibility of Infiltration BMPs using each of the applicable criteria identified in Chapter 3.4.1 of the WQMP Guidance Document and complete the remainder of Section D.1.

Is there an infiltration concern (see discussion in Chapter 2.3.4 of the WQMP Guidance Document for further details)? [ ]  Y [ ]  N

If yes has been checked, both Infiltration BMPs and Hydrologic Control BMPs that include an infiltration functionalities may not be feasible for the site. It is recommended that you contact your Copermittee to verify whether or not infiltration within the Project is infeasible.

**Geotechnical Report**

A Geotechnical Report or Phase I Environmental Site Assessment may be required by the Copermittee to confirm present and past site characteristics that may affect the use of Infiltration BMPs. In addition, the Copermittee, at their discretion, may not require a geotechnical report for small projects as described in Chapter 2 of the WQMP Guidance Document. If a geotechnical report has been prepared, include it in Appendix 3. In addition, if a Phase I Environmental Site Assessment has been prepared, include it in Appendix 4.

Is this project classified as a small project consistent with the requirements of Chapter 2 of the WQMP Guidance Document? [ ]  Y [ ]  N

**Infiltration Feasibility**

Table D.1 below is meant to provide a simple means of assessing which DMAs on your site support Infiltration BMPs and is discussed in the WQMP Guidance Document in Chapter 2.3.4. Check the appropriate box for each question and then list affected DMAs as applicable. If additional space is needed, add a row below the corresponding answer.

Table D.1 Infiltration Feasibility

|  |  |  |
| --- | --- | --- |
| **Does the project site…** | **YES** | **NO** |
| …have any DMAs with a seasonal high groundwater mark shallower than 10 feet? |  |  |
|  If Yes, list affected DMAs: |  |  |
| …have any DMAs located within 100 feet of a water supply well? |  |  |
|  If Yes, list affected DMAs: |  |  |
| …have any areas identified by the geotechnical report as posing a public safety risk where infiltration of stormwater could have a negative impact? |  |  |
|  If Yes, list affected DMAs: |  |  |
| …have measured in-situ infiltration rates of less than 1.6 inches / hour? |  |  |
|  If Yes, list affected DMAs: |  |  |
| …have significant cut and/or fill conditions that would preclude in-situ testing of infiltration rates at the final infiltration surface? |  |  |
|  If Yes, list affected DMAs: |  |  |
| …have any contaminated groundwater plume in the vicinity of the site? |  |  |
|  If Yes, list affected DMAs: |  |  |
| …geotechnical report identifies other site-specific factors that would preclude effective and safe infiltration? |  |  |
|  Describe here:  |  |  |

If you answered “Yes” to any of the questions above for any DMA, Infiltration BMPs should not be used for those DMAs and you should proceed to the assessment for Harvest and Use below.

## Harvest and Use Assessment

Please check what applies*:*

 ☐ Reclaimed water will be used for the non-potable water demands for the Project.

☐Downstream water rights may be impacted by Harvest and Use as approved by the Regional Board (verify with the Copermittee).

☐The Design Capture Volume (DCV) will be addressed using Infiltration Only BMPs. In such a case, Harvest and Use BMPs are still encouraged, but it would not be required if the DCV will be infiltrated or evapotranspired.

If any of the above boxes have been checked, Harvest and Use BMPs need not be assessed for the site. If neither of the above criteria applies, follow the steps below to assess the feasibility of irrigation use, toilet use and other non-potable uses (e.g., industrial use).

**Irrigation Use Feasibility**

Complete the following steps to determine the feasibility of harvesting stormwater runoff for Irrigation Use BMPs on your site:

Step 1: Identify the total area of irrigated landscape on the site, and the type of landscaping used.

 *Total Area of Irrigated Landscape*: Insert Area (Acres)

 *Type of Landscaping (Conservation Design or Active Turf)*: List Landscaping Type

Step 2: Identify the planned total of all impervious areas on the proposed project from which runoff might be feasibly captured and stored for irrigation use. Depending on the configuration of buildings and other impervious areas on the site, you may consider the site as a whole, or parts of the site, to evaluate reasonable scenarios for capturing and storing runoff and directing the stored runoff to the potential use(s) identified in Step 1 above.

 *Total Area of Impervious Surfaces:* Insert Area (Acres)

Step 3: Cross reference the Design Storm depth for the project site (see Exhibit A of the WQMP Guidance Document) with the left column of Table 2-4 in Chapter 2 to determine the minimum area of Effective Irrigated Area per Tributary Impervious Area (EIATIA).

 *Enter your EIATIA factor*: EIATIA Factor

Step 4: Multiply the unit value obtained from Step 3 by the total of impervious areas from Step 2 to develop the minimum irrigated area that would be required.

 *Minimum required irrigated area*: Insert Area (Acres)

Step 5: Determine if harvesting stormwater runoff for irrigation use is feasible for the project by comparing the total area of irrigated landscape (Step 1) to the minimum required irrigated area (Step 4).

|  |  |
| --- | --- |
| **Minimum required irrigated area (Step 4)** | **Available Irrigated Landscape (Step 1)** |
| Insert Area (Acres) | Insert Area (Acres) |

**Toilet Use Feasibility**

Complete the following steps to determine the feasibility of harvesting stormwater runoff for toilet flushing uses on your site:

Step 1: Identify the projected total number of daily toilet users during the wet season, and account for any periodic shut downs or other lapses in occupancy:

 *Projected Number of Daily Toilet Users: Number of daily Toilet Users*

 *Project Type: Enter 'Residential', 'Commercial', 'Industrial' or 'Schools'*

Step 2: Identify the planned total of all impervious areas on the proposed Project from which runoff might be feasibly captured and stored for toilet use. Depending on the configuration of buildings and other impervious areas on the site, you may consider the Project site as a whole, or parts of the site, to evaluate reasonable scenarios for capturing and storing runoff and directing the stored runoff to the potential use(s) identified in Step 1 above.

 *Total Area of Impervious Surfaces: Insert Area (Acres)*

Step 3: Enter the Design Storm depth for the project site (see Exhibit A) into the left column of Table 2-3 in [Chapter 2](#Chapter2) to determine the minimum number or toilet users per tributary impervious acre (TUTIA).

 *Enter your TUTIA factor: TUTIA Factor*

Step 4: Multiply the unit value obtained from Step 3 by the total of impervious areas from Step 2 to develop the minimum number of toilet users that would be required.

 *Minimum number of toilet users: Required number of toilet users*

Step 5: Determine if harvesting stormwater runoff for toilet flushing use is feasible for the Project by comparing the Number of Daily Toilet Users (Step 1) to the minimum required number of toilet users (Step 4).

|  |  |
| --- | --- |
| **Minimum required Toilet Users (Step 4)** | **Projected number of toilet users (Step 1)** |
| Insert Area (Acres) | Insert Area (Acres) |

**Other Non-Potable Use Feasibility**

Are there other non-potable uses for stormwater runoff on the site (e.g. industrial use)? See Chapter 2 of the Guidance for further information. If yes, describe below. If no, write N/A.

Insert narrative description here.

Step 1: Identify the projected average daily non-potable demand, in gallons per day, during the Wet Season and accounting for any periodic shut downs or other lapses in occupancy or operation.

 *Average Daily Demand: Projected Average Daily Use (gpd)*

Step 2: Identify the planned total of all impervious areas on the proposed Project from which runoff might be feasibly captured and stored for the identified non-potable use. Depending on the configuration of buildings and other impervious areas on the site, you may consider the Project site as a whole, or parts of the site, to evaluate reasonable scenarios for capturing and storing runoff and directing the stored runoff to the potential use(s) identified in Step 1 above.

 *Total Area of Impervious Surfaces: Insert Area (Acres)*

Step 3: Enter the Design Storm Depth for the Project site (see Exhibit A) into the left column of Table 2-5 in [Chapter 2](#Chapter2) to determine the minimum demand for non-potable uses of stormwater runoff per tributary impervious acre.

 *Enter the factor from Table 2-3: Enter Value*

Step 4: Multiply the unit value obtained from Step 4 by the total of impervious areas from Step 3 to develop the minimum gpd of non-potable use that would be required.

 *Minimum required use: Minimum use required (gpd)*

Step 5: Determine if harvesting stormwater runoff for other non-potable use is feasible for the Project by comparing the Number of Daily Toilet Users (Step 1) to the minimum required number of toilet users (Step 4).

|  |  |
| --- | --- |
| **Minimum required non-potable use (Step 4)** | **Projected average daily use (Step 1)** |
| Minimum use required (gpd) | Projected Average Daily Use (gpd) |

If Irrigation, Toilet and Other Use feasibility anticipated demands are less than the applicable minimum values, Harvest and Use BMPs are not required and you should proceed to utilize LID Bioretention and Biotreatment BMPs, unless a site-specific analysis has been completed that demonstrates technical infeasibility as noted in D.3 below.

## Bioretention and Biotreatment Assessment

Other LID Bioretention and Biotreatment BMPs as described in Chapter 2.3 of the WQMP Guidance Document are feasible on nearly all development sites with sufficient advance planning.

*Select one of the following:*

☐ LID Bioretention/Biotreatment BMPs will be used for some or all DMAs of the Project as noted below in Section D.4

 ☐ A site-specific analysis demonstrating the technical infeasibility of all LID BMPs has been performed and is included in Appendix 5. If you plan to submit an analysis demonstrating the technical infeasibility of LID BMPs, request a pre-submittal meeting with the Copermittee with jurisdiction over the Project site to discuss this option. Proceed to Section E to document your alternative compliance measures.

## Other Limiting Geotechnical Conditions

Onsite retention may not be feasible due to specific geotechnical concerns identified in the Geotechnical Report. If any, describe below. If no, write N/A:

Insert narrative description here.

Table . Geotechnical Concerns for Onsite Retention Table

|  |  |  |
| --- | --- | --- |
| Type of Geotechnical Concern | DMAs Feasible (By Name or ID) | DMAs Infeasible (By Name or ID) |
| Collapsible Soil |  |  |
| Expansive Soil |  |  |
| Slopes |  |  |
| Liquefaction |  |  |
| Other |  |  |

## Feasibility Assessment Summaries

From the Infiltration, Harvest and Use, Bioretention and Biotreatment Sections above, complete Table D.3 below to summarize which LID BMPs are technically feasible, and which are not, based upon the established hierarchy.

Table D.3 LID Prioritization Summary Matrix

|  |  |  |
| --- | --- | --- |
| DMA Name/ID | **LID BMP Hierarchy** | No LID (Alternative Compliance) |
| 1. Infiltration
 | 1. Harvest and use
 | 1. Bioretention
 | 1. Biotreatment
 |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |

For those DMAs where LID BMPs are not feasible, provide a brief narrative below summarizing why they are not feasible, include your technical infeasibility criteria in Appendix 5, and proceed to Section E below to document Alternative Compliance measures for those DMAs. Recall that each proposed DMA must pass through the LID BMP hierarchy before alternative compliance measures may be considered.

Insert narrative description here.

## LID BMP Sizing

Each LID BMP must be designed to ensure that the DCV will be addressed by the selected BMPs. First**,** calculate the DCV for each LID BMP using the VBMP worksheet in Appendix F of the LID BMP Design Handbook. Second**,** design the LID BMP to meet the required VBMP using a method approved by the Copermittee with jurisdiction over the Project site.Utilize the worksheets found in the LID BMP Design Handbook or consult with the Copermittee to assist you in correctly sizing your LID BMPs. Complete Table D.4 below to document the DCV and the Proposed Volume for each LID BMP. Provide the completed design procedure sheets for each LID BMP in Appendix 6. You may add additional rows to the table below as needed.

Table D.4 DCV Calculations for LID BMPs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| DMA Type/ID | DMA (square feet) | Post-Project Surface Type | Effective Impervious Fraction, If | DMA Runoff Factor | DMA Areas x Runoff Factor | *Enter BMP Name / Identifier Here* |
|  | [A] |  | [B] | [C] | [A] x [C] |
|  |  |  |  |  |  | *Design Storm Depth (in)* | *DCV,* **VBMP** *(cubic feet)* | *Proposed Volume on Plans (cubic feet)* |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  | AT = Σ[A]  |  | Σ= [D] | [E] | $$[F] = \frac{[D]x[E] }{12}$$ | [G] |

[B], [C] is obtained as described in Section 2.5 of the WQMP Guidance Document

[E] is obtained from Exhibit A in the WQMP Guidance Document

[G] is obtained from a design procedure sheet, such as in LID BMP Design Handbook and placed in Appendix 6

Each LID BMP must be designed to ensure that the Design Capture Volume (DCV) will be addressed by the selected BMPs. First**,** calculate the Design Capture Volume for each LID BMP using the ‘VBMP’ worksheet in Appendix F of the LID BMP Design Handbook. Second**,** design the LID BMP to meet the required VBMP using a method approved by the Copermittee.Utilize the worksheets found in the LID BMP Design Handbook or consult with your Copermittee. Complete Table D.5 below to document the Design Capture Volume and the Proposed Volume for each LID BMP. You can add rows to the table as needed. Alternatively, the Santa Margarita Hydrology Model (SMRHM) can be used to size LID BMPs to address the DCV and, if applicable, to size Hydrologic Control BMPs to meet the Hydrologic Performance Standard of the SMR HMP, as identified in Section E.

Table . LID BMP Sizing

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| BMP Name / ID | DMA No. | BMP Type / Description | Design Capture Volume (ft3) | Proposed Volume (ft3) |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

# Implement Hydrologic Control BMPs and Sediment Supply BMPs

If a completed Table A.2 demonstrates that the project is exempt from HMP Performance Standards, specify N/A of proceed to Section F, if applicable, and Section G.

## Onsite Feasibility of Hydrologic Control BMPs

An assessment of the feasibility of implementing onsite Hydrologic Control BMPs is required for all projects.

*Select one of the following:*

* Yes – The implementation of Hydrologic Control BMPs is feasible onsite. *(Proceed to Step E.3 and Step E.4)*
* *Or* -
* No – The project site is larger than one acre and the implementation of Hydrologic Control BMPs is not feasible onsite. *(Proceed to Step E.5 and Step F for Alternative Compliance upon approval of the Technical Feasibility Assessment by the Copermittee)*
* No – The project site is smaller than one acre and the implementation of Hydrologic Control BMPs is not feasible onsite. *(Proceed to Step E.2)*

If the reasons for infeasibility are different from those listed in Section D.1, describe the technical or spatial reasons that preclude the implementation of onsite Hydrologic Control BMPs. If none, write N/A:

Insert narrative description here.

Approval of the condition for infeasibility, if any, is required by the Copermittee. Has the condition for infeasibility been approved by the Copermittee?

[ ]  Y [ ]  N [ ]  N/A

## Meeting the HMP Performance Standard for Small Project Sites

*Select one of the following:*

* Yes – The project site is equal to or larger than one acre. *(Proceed to Step E.3, Step E.4, and Step E.5)*
* *Or* -
* No – The project site is less than one acre. *(Follow the remainder of Step E.2)*

Only a Simplified Technical Feasibility Study is required from the applicant. Complete the Simplified Technical Feasibility Study in Appendix 7, which must include, at a minimum, the soil conditions at the PDP, a demonstration of the lack of available space for onsite Hydrologic Control BMPs, an explanation of prohibitive costs to implement Hydrologic Control BMPs, and a written opinion from a Registered Geotechnical Engineer identifying the infeasibility due to geotechnical concerns.

*Select one of the following:*

* Yes – Onsite Hydrologic Control BMPs are feasible. *(Proceed to Step E., Step E.4, and Step E.5)*
* *Or* -
* No – Onsite Hydrologic Control BMPs are not feasible per the Simplified Technical Feasibility Study. *(Proceed to Section E.5 for Sediment Supply Performance Standard and Section F for Alternative Compliance)*

## Hydrologic Control BMP Selection

Capture of the DCV and achievement of the Hydrologic Performance Standard may be met by combined and/or separate structural BMPs. Similarly, compliance with the two identified requirements may be fully or partially achieved onsite.

For each DMA, identify in Table E.1 if the DCV is fully or partially captured onsite, if the Hydrologic Performance Standard is fully or partially met onsite (by using the SMRHM identified in Step E.4), and if structural BMPs for compliance with the LID requirement and the Hydrologic Performance Standard are combined.

Table E. LID & Hydromodification BMP Location

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| DMA | LID BMP | Hydrologic Control BMP | Combined BMP | BMP type and ID |
|  | [ ]  Onsite[ ]  Partially Onsite[ ]  Offsite[ ]  None Required |  [ ]  Onsite[ ]  Partially Onsite[ ]  Offsite[ ]  None Required | [ ]  Yes [ ]  No | Identify the ID and type of Hydrologic Control BMP to mitigate 1st DMA |
|  | [ ]  Onsite[ ]  Partially Onsite[ ]  Offsite[ ]  None Required | [ ]  Onsite[ ]  Partially Onsite[ ]  Offsite[ ]  None Required | [ ]  Yes [ ]  No | Identify the ID and type of Hydrologic Control BMP to mitigate 2nd DMA |
|  | [ ]  Onsite [ ]  Partially Onsite[ ]  Offsite[ ]  None Required | [ ]  Onsite [ ]  Partially Onsite[ ]  Offsite[ ]  None Required | [ ]  Yes [ ]  No | Identify the ID and type of Hydrologic Control BMP to mitigate 3rd DMA |

For each DMA provide a narrative describing if the DCV and the Hydrologic Performance Standard are to be fully managed onsite. If not, the narrative should detail how and where offsite structural BMPs will achieve management of the DCV and the Hydrologic Performance Standard.

DMA #1 - Insert narrative description here

DMA #2 - Insert narrative description here

DMA #3 - Insert narrative description here

## Hydrologic Control BMP Sizing

Each Hydrologic Control BMP must be designed to ensure that the flow duration curve of the post-development DMA will not exceed that of the pre-existing, naturally occurring, DMA by more than ten percent over a one-year period. Using SMRHM, the applicant shall demonstrate that the performance of each designed Hydrologic Control BMP complies with the Hydrologic Performance Standard. Complete Table E.2 below and identify, for each DMA, the type of Hydrologic Control BMP, if the SMRHM model confirmed the management (Identified as “passed” in SMRHM), the total volume capacity of the Hydrologic Control BMP, the Hydrologic Control BMP footprint at top floor elevation, and the drawdown time of the Hydrologic Control BMP. SMRHM summary reports should be documented in Appendix 7. Refer to the SMRHM Guidance Document for additional information on SMRHM. You can add rows to the table as needed.

Table E. Hydrologic Control BMP Sizing

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| BMP Name / ID | DMA No. | BMP Type / Description | SMRHM Passed | BMP Volume (ac-ft) | BMP Footprint (ac)  | Drawdown time (hr) |
|  |  |  | [ ]  |  |  |  |
|  |  |  | [ ]  |  |  |  |
|  |  |  | [ ]  |  |  |  |
|  |  |  | [ ]  |  |  |  |

## Implement Sediment Supply BMPs

The applicant may refer to Section 2.3 of the SMR HMP for a comprehensive description of the methodology to meet the Sediment Supply Performance Standard. Complete the following steps to determine compliance with the Sediment Supply Performance Standard:

Step 1: Identify if the site is a Significant Source of Bed Sediment Supply to the receiving channel

* Step 1.A – Is the Bed Sediment of onsite streams similar to that of receiving streams?

Rate the similarity: [ ]  High

[ ]  Medium

[ ]  Low

Results from the geotechnical and sieve analysis to be performed both onsite and in the receiving channel should be documented in Appendix 7. Of particular interest, the results of the sieve analysis, the soil erodibility factor, a description of the topographic relief of the project area, and the lithology of onsite soils should be reported in Appendix 7.

* Step 1.B – Are onsite streams capable of delivering Bed Sediment Supply from the site, if any, to the receiving channel?

Rate the potential: [ ]  High

[ ]  Medium

[ ]  Low

Results from the analyses of the sediment delivery potential to the receiving channel should be documented in Appendix 7 and identify, at a minimum, the Sediment Source, the distance to the receiving channel, the onsite channel density, the project watershed area, the slope, length, land use, and rainfall intensity.

* Step 1.C – Will the receiving channel adversely respond to a change in Bed Sediment Load?

Rate the need for bed sediment supply:

 [ ]  High

[ ]  Medium

[ ]  Low

Results from the in-stream analysis to be performed both onsite should be documented in Appendix 7. The analysis should, at a minimum, quantify the bank stability and the degree of incision, provide a gradation of the Bed Sediment within the receiving channel, and identify if the channel is sediment supply-limited.

* Step 1.D – Summary of Step 1

Summarize in Table E.3 the findings of Step 1 and associate a score (in parenthesis) to each step. The sum of the three individual scores determines if a stream is a significant contributor to the receiving stream.

* Sum is equal to or greater than eight - Site is a significant source of sediment bed material – all on-site streams must be preserved or by-passed within the site plan. The applicant shall proceed to Step 2 for all onsite streams.
* Sum is greater than five but lower than eight. Site is a source of sediment bed material – some of the on-site streams must be preserved (with identified streams noted). The applicant shall proceed to Step 2 for the identified streams only.
* Sum is equal to or lower than five. Site is not a significant source of sediment bed material. The applicant may advance to Section F.

Table E.3 Triad Assessment Summary

|  |  |  |
| --- | --- | --- |
| **Step** | **Rating** | **Total Score** |
| 1.A | [ ]  High (3) | [ ]  Medium (2) | [ ]  Low (1) |  |
| 1.B | [ ]  High (3) | [ ]  Medium (2) | [ ]  Low (1) |  |
| 1.C | [ ]  High (3) | [ ]  Medium (2) | [ ]  Low (1) |  |
| Significant Source Rating of Bed Sediment to the receiving channel(s) |  |

Step 2: Preservation of Identified Onsite Channels

Onsite streams identified as a Significant Source of Bed Sediment should be avoided in the site design.

*Check one of the following:*

[ ]  The site design does avoid all onsite channels identified as a Significant Source of Bed Sediment *(The applicant may disregard subsequent steps of Section E.5 and directly advance directly to Section F.*)

* *Or* -

[ ]  The site design **does NOT avoid** all onsite channels identified as a Significant Source of Bed Sediment *(The applicant may proceed with the subsequent steps of Section E.5).*

Provide in Appendix 7 a site map that identifies all onsite channels and highlights those onsite channels that were identified as a Significant Source of Bed Sediment. The site map shall demonstrate, if feasible, that the site design avoids those onsite channels identified as a Significant Source of Bed Sediment. In addition, the applicant shall describe the characteristics of each onsite channel identified as a Significant Source of Bed Sediment. If the design plan cannot avoid the onsite channels, please provide a rationale for each channel individually.

Identified Channel #1 - Insert narrative description here

Identified Channel #2 - Insert narrative description here

Identified Channel #3 - Insert narrative description here

Step 3: By-Pass of Upstream Drainage(s) to Preserve the discharge of Bed Sediment Supply to the receiving channel(s)

Onsite channels identified as a Significant Source of Bed Sediment Supply should be by-passed the discharge of Bed Sediment Supply to the receiving channel(s).

*Check one of the following:*

[ ]  The site design does avoid and/or bypass all onsite channels identified as a source of Bed Sediment Supply *(The applicant may directly advance to Section F.*)

* *Or* -

[ ]  The site design **does NOT avoid or by-pass** all onsite channels identified as a source of Bed Sediment Supply *(The applicant may proceed to an Alternative Approach, as defined in Section F).*

Provide in Appendix 7 a site map that identifies all onsite channels and highlights those onsite channels that were identified as a Significant Source of Bed Sediment Supply. The site map shall demonstrate, if feasible, that the site design avoids or by-passes those onsite channels of significant Bed Sediment Supply to the receiving channel(s). In addition, the applicant shall describe the characteristics of each onsite channel identified as a Significant Source of Bed Sediment Supply. If the design plan cannot avoid or by-pass the onsite channels, please provide a rationale for each channel individually.

Identified Channel #1 - Insert narrative description here

Identified Channel #2 - Insert narrative description here

Identified Channel #3 - Insert narrative description here

# Alternative Compliance

LID BMPs and Hydrologic Control BMPs are expected to be feasible on virtually all projects. Where LID BMPs and/or Hydrologic Control BMPs have been demonstrated to be infeasible as documented in Section D and/or Section E, respectively, other Treatment Control BMPs or alternative compliance approaches must be used (subject LID waiver and/or HMP alternative compliance approval by the Copermittee).

In addition, if supporting documentation demonstrates the infeasibility to implement Sediment Supply BMPs onsite (See Section E.5), the applicant may refer to Section F.5.

Check one of the following boxes:

* LID Principles, LID BMPs, Hydrologic Control BMPs, and Sediment Supply BMPs have been incorporated into the site design to fully address all Drainage Management Areas. No alternative compliance measures are required for this project and thus this Section is not required to be completed.
* *Or* **-**
* LID Principles and LID BMPs have NOT been incorporated into the site design to fully address the LID requirements for all Drainage Management Areas AND HMP Performance Standards are not fully addressed in the following Drainage Management Areas.
	+ The following Drainage Management Areas are unable to be addressed using LID BMPs. A site specific analysis demonstrating technical infeasibility of LID BMPs has been approved by the Copermittee and included in Appendix 5. The following alternative compliance measures on the following pages are being implemented to ensure that any pollutant loads expected to be discharged by not incorporating LID BMPs, are fully mitigated. The applicant should complete Section F.1, Section F.2, and Section F.3, as applicable.
	+ A site specific analysis demonstrating technical infeasibility of Hydrologic Control BMPs and Sediment Supply BMPs has been approved by the Copermittee and included in Appendix 7. Projects less than one acre have completed the Simplified Technical Feasibility Study. The applicant should complete Section F.5 and/or Section F.6, as applicable.

List DMAs Here.

* *Or -*
* LID Principles and LID BMPs have been incorporated into the site design to fully address the DCV for all Drainage Management Areas. However, HMP Performance Standards are not fully addressed in the following Drainage Management Areas. A site specific analysis demonstrating technical infeasibility of Hydrologic Control BMPs and Sediment Supply BMPs has been approved by the Copermittee and included in Appendix 7. Projects less than one acre have completed the Simplified Technical Feasibility. The applicant should complete Section F.5 and/or Section F.6, as applicable.

List DMAs Here.

## Identify Pollutants of Concern

Utilizing Table A.1 from Section A above which noted your project’s Receiving Waters and their associated USEPA approved 303(d) listed impairments, cross reference this information with that of your selected Priority Development Project Category in Table F.1 below. If the identified General Pollutant Categories are the same as those listed for your Receiving Waters, then these will be your Pollutants of Concern and the appropriate box or boxes will be checked on the last row. The purpose of this is to document compliance and to help you appropriately plan for mitigating your Pollutants of Concern in lieu of implementing LID BMPs.

Table F.1 Potential Pollutants by Land Use Type

|  |  |
| --- | --- |
| Priority Development Project Categories and/or Project Features (check those that apply) | General Pollutant Categories |
| Bacterial Indicators | Metals | Nutrients | Pesticides | Toxic Organic Compounds | Sediments | Trash & Debris | Oil & Grease |
| [ ]  | Detached Residential Development  | P | N | P | P | N | P | P | P |
| [ ]  | Attached Residential Development  | P | N | P | P | N | P | P | P(2) |
| [ ]  | Commercial/Industrial Development | P(3) | P | P(1) | P(1) | P(5) | P(1) | P | P |
| [ ]  | Automotive Repair Shops | N | P | N | N | P(4, 5) | N | P | P |
| [ ]  | Restaurants (>5,000 ft2) | P | N | N | N | N | N | P | P |
| [ ]  | Hillside Development (>5,000 ft2) | P | N | P | P | N | P | P | P |
| [ ]  | Parking Lots (>5,000 ft2) | P(6) | P | P(1) | P(1) | P(4) | P(1) | P | P |
| [ ]  | Retail Gasoline Outlets | N | P | N | N | P | N | P | P |
| **Project Priority Pollutant(s) of Concern** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| P = Potential N = Not Potential (1) A potential Pollutant if non-native landscaping exists or is proposed onsite; otherwise not expected(2) A potential Pollutant if the project includes uncovered parking areas; otherwise not expected(3) A potential Pollutant is land use involving animal waste(4) Specifically petroleum hydrocarbons(5) Specifically solvents(6) Bacterial indicators are routinely detected in pavement runoff  |

## Stormwater Credits

Projects that cannot implement LID BMPs but nevertheless implement Smart Growth Principles are potentially eligible for Stormwater Credits. Utilize Table 3-7 within the WQMP Guidance Document to identify your Project Category and its associated Water Quality Credit. If not applicable, write N/A.

Table F.2 Stormwater Credits

|  |  |
| --- | --- |
| Qualifying Project Categories | Credit Percentage2 |
|  |  |
|  |  |
|  |  |
| *Total Credit Percentage1* |  |
| *1Cannot Exceed 50%**2Obtain corresponding data from Table 3-7 in the WQMP Guidance Document* |

## Sizing Criteria

After you appropriately considered Stormwater Credits for your Project, utilize Table F.3 below to appropriately size them to the DCV, or Design Flow Rate, as applicable. Please reference Chapter 3.5.5 of the WQMP Guidance Document for further information.

Table F.3 Treatment Control BMP Sizing

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| DMA Type/ID | DMA (square feet) | Post-Project Surface Type | Effective Impervious Fraction, If | DMA Runoff Factor | DMA x Runoff Factor |  | *Enter BMP Name / Identifier Here* |
|  | [A] |  | [B] | [C] | [A] x [C] |  |
|   |   |   |   |   |   | *Design Storm Depth (in)* | *Minimum DCV or Design Flow Rate (cubic feet or cfs)* | *Total Storm Water Credit % Reduction* | *Proposed Volume or Flow on Plans (cubic feet or cfs)* |
|   |   |   |   |   |   |
|   |   |   |   |   |   |
|   |   |   |   |   |   |
|   |   |   |   |   |   |
|   |   |   |   |   |   |
|  | AT = Σ[A]  |  | Σ= [D] | [E] | $$[F] = \frac{[D]x[E] }{[G]}$$ | [F] X (1-[H]) | [I] |

[B], [C] is obtained as described in Section 2.5 from the WQMP Guidance Document

[E] is obtained from Exhibit A in the WQMP Guidance Document

[G] is for Flow-Based Treatment Control BMPs [G] = 43,560, for Volume-Based Control Treatment BMPs, [G] = 12

[H] is from the Total Stormwater Credit Percentage as Calculated from Table E.2 above

[I] as obtained from a design procedure sheet from the BMP manufacturer and should be included in Appendix 6

## Treatment Control BMP Selection

Treatment Control BMPs typically provide proprietary treatment mechanisms to treat potential Pollutants in runoff, but do not sustain significant biological processes. Treatment Control BMPs must have a removal efficiency of a medium or high effectiveness as quantified below:

* **High**: equal to or greater than 80% removal efficiency
* **Medium**: between 40% and 80% removal efficiency

Such removal efficiency documentation (e.g., studies, reports, etc.) as further discussed in Chapter 3.5.2 of the WQMP Guidance Document, must be included in Appendix 6. In addition, ensure that proposed Treatment Control BMPs are properly identified on the WQMP Site Plan in Appendix 1.

Table F.4 Treatment Control BMP Selection

|  |  |  |
| --- | --- | --- |
| Selected Treatment Control BMP Name or ID1 | Priority Pollutant(s) of Concern to Mitigate2 | Removal Efficiency Percentage3 |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| *1 Treatment Control BMPs must not be constructed within Receiving Waters. In addition, a proposed Treatment Control BMP may be listed more than once if they possess more than one qualifying pollutant removal efficiency.**2 Cross Reference Table E.1 above to populate this column.**3 As documented in a Copermittee Approved Study and provided in Appendix 6.* |

## Hydrologic Performance Standard – Alternative Compliance Approach

Alternative compliance options are only available if the governing Copermittee has acknowledged the infeasibility of onsite Hydrologic Control BMPs and approved an alternative compliance approach. Attach to Appendix 7 the Technical Feasibility Study (Projects equal or greater than one acre) or Simplified Technical Feasibility Study (Projects less than one acre) along with a written approval from the Copermittee. The applicant may refer to Section 2.2.iv of the SMR HMP for extensive guidelines on the alternative compliance approach.

*Select the pursued alternative and describe the specifics of the alternative:*

* Offsite Hydrologic Control Management within the same channel system

Insert narrative description here

* In-Stream Restoration Project

Insert narrative description here

**For Offsite Hydrologic Control BMP Option**

Each Hydrologic Control BMP must be designed to ensure that the flow duration curve of the post-development DMA will not exceed that of the pre-existing, naturally occurring, DMA by more than ten percent over a one-year period. Using SMRHM, the applicant shall demonstrate that the performance of each designed Hydrologic Control BMP is equivalent with the Hydrologic Performance Standard for onsite conditions. Complete Table F.4 below and identify, for each Hydrologic Control BMP, the equivalent DMA the Hydrologic Control BMP mitigates, that the SMRHM model passed, the total volume capacity of the BMP, the BMP footprint at top floor elevation, and the drawdown time of the BMP. SMRHM summary reports for the alternative approach should be documented in Appendix 7. Refer to the SMRHM Guidance Document for additional information on SMRHM. You can add rows to the table as needed.

Table F. Offsite Hydrologic Control BMP Sizing

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| BMP Name / Type | Equivalent DMA (ac) | SMRHM Passed | BMP Volume (ac-ft) | BMP Footprint (ac)  | Drawdown time (hr) |
|  |  | [ ]  |  |  |  |
|  |  | [ ]  |  |  |  |
|  |  | [ ]  |  |  |  |
|  |  | [ ]  |  |  |  |

**For Instream Restoration Option**

Attach to Appendix 7 the technical report detailing the condition of the receiving channel subject to the proposed hydrologic and sediment regimes. Provide the full design plans for the in-stream restoration project that have been approved by the Copermittee.

## Sediment Supply Performance Standard - Alternative Compliance

The alternative compliance option to the Sediment Supply Performance Standard is only available if the governing Copermittee has approved the investigation of alternative Bed Sediment Supply options. Attach to Appendix 7 the Technical Feasibility Study, along with the modeling analysis, the long-term monitoring program, and the potential corrective actions, that demonstrate the performance of the overall alternative compliance program. The applicant may refer to Section 2.3.ii of the SMR HMP for extensive guidelines on the alternative compliance approach.

Provide a narrative describing the alternative Bed Sediment Supply approach, including the long-term monitoring program and the findings of the numerical modeling.

Insert narrative description here

# Source Control BMPs

Source Control BMPs include permanent, structural features that may be required in your Project plans — such as roofs over and berms around trash and recycling areas — and Operational BMPs, such as regular sweeping and “housekeeping”, that must be implemented by the site’s occupant or user. The Maximum Extent Practicable (MEP) standard typically requires both types of BMPs. In general, Operational BMPs cannot be substituted for a feasible and effective structural BMP. Using the Pollutant Sources/Source Control Checklist in Appendix 8, review the following procedure to specify Source Control BMPs for your site:

1. *Identify Pollutant Sources*: Review Column 1 in the Pollutant Sources/Source Control Checklist. Check off the potential sources of Pollutants that apply to your site.
2. *Note Locations on Project-Specific WQMP Exhibit*: Note the corresponding requirements listed in Column 2 of the Pollutant Sources/Source Control Checklist. Show the location of each Pollutant source and each permanent Source Control BMP in your Project-Specific WQMP Exhibit located in Appendix 1.
3. *Prepare a Table and Narrative*: Check off the corresponding requirements listed in Column 3 in the Pollutant Sources/Source Control Checklist. In the left column of Table G.1 below, list each potential source of Pollutants on your site (from those that you checked in the Pollutant Sources/Source Control Checklist). In the middle column, list the corresponding permanent, Structural Source Control BMPs (from Columns 2 and 3 of the Pollutant Sources/Source Control Checklist) used to prevent Pollutants from entering runoff. Add additional narrative in this column that explains any special features, materials or methods of construction that will be used to implement these permanent, Structural Source Control BMPs.
4. *Identify Operational Source Control BMPs:* To complete your table, refer once again to the Pollutant Sources/Source Control Checklist. List in the right column of your table the Operational BMPs that should be implemented as long as the anticipated activities continue at the site. Copermittee stormwater ordinances require that applicable Source Control BMPs be implemented; the same BMPs may also be required as a condition of a use permit or other revocable Discretionary Approval for use of the site.

Table G.1 Structural and Operational Source Control BMP

|  |  |  |
| --- | --- | --- |
| Potential Sources of Runoff Pollutants | Structural Source Control BMPs | Operational Source Control BMPs |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

# Construction Plan Checklist

Populate Table H.1 below to assist the plan checker in an expeditious review of your project. The first two columns will contain information that was prepared in previous steps, while the last column will be populated with the corresponding plan sheets. This table is to be completed with the submittal of your final Project-Specific WQMP.

Table H.1 Construction Plan Cross-reference

|  |  |  |
| --- | --- | --- |
| BMP No. or ID | BMP Identifier and Description | Corresponding Plan Sheet(s) |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

Note that the updated table — or Construction Plan WQMP Checklist — is **only a reference tool** to facilitate an easy comparison of the construction plans to your Project-Specific WQMP. The Copermittee with jurisdiction over the Project site can advise you regarding the process required to propose changes to the approved Project-Specific WQMP.

# Operation, Maintenance and Funding

The Copermittee with jurisdiction over the Project site will periodically verify that BMPs on your Project are maintained and continue to operate as designed. To make this possible, the Copermittee will require that you include in Appendix 9 of this Project-Specific WQMP:

1. A means to finance and implement maintenance of BMPs in perpetuity, including replacement cost.
2. Acceptance of responsibility for maintenance from the time the BMPs are constructed until responsibility for operation and maintenance is legally transferred. A warranty covering a period following construction may also be required.
3. An outline of general maintenance requirements for the Stormwater BMPs you have selected.
4. Figures delineating and designating pervious and impervious areas, location, and type of Stormwater BMP, and tables of pervious and impervious areas served by each facility. Geo-locating the BMPs using a coordinate system of latitude and longitude is recommended to help facilitate a future statewide database system.
5. A separate list and location of self-retaining areas or areas addressed by LID Principles that do not require specialized Operations and Maintenance or inspections but will require typical landscape maintenance as noted in Chapter 5, in the WQMP Guidance. Include a brief description of typical landscape maintenance for these areas.

The Copermittee with jurisdiction over the Project site will also require that you prepare and submit a detailed BMP Operation and Maintenance Plan that sets forth a maintenance schedule for each of the BMPs built on your site. An agreement assigning responsibility for maintenance and providing for inspections and certification may also be required.

Details of these requirements and instructions for preparing a BMP Operation and Maintenance Plan are in Chapter 5 of the WQMP Guidance Document.

|  |  |
| --- | --- |
| Maintenance Mechanism: | Insert text here. |

Will the proposed BMPs be maintained by a Homeowners’ Association (HOA) or Property Owners Association (POA)?

|  |  |
| --- | --- |
| [ ]  Y | [ ]  N |

Include your Operation and Maintenance Plan and Maintenance Mechanism in Appendix 9. Additionally, include all pertinent forms of educational materials for those personnel that will be maintaining the proposed BMPs within this Project-Specific WQMP in Appendix 10.

# Acronyms, Abbreviations and Definitions

|  |  |
| --- | --- |
| 2010 SMR MS4 Permit | Order No. R9-2010-0016, an NPDES Permit issued by the San Diego Regional Water Quality Control Board. |
| Applicant | Public or private entity seeking the discretionary approval of new or replaced improvements from the Copermittee with jurisdiction over the project site. The Applicant has overall responsibility for the implementation and the approval of a Priority Development Project. The WQMP uses consistently the term “user” to refer to the applicant such as developer or project proponent. The WQMP employs also the designation “user” to identify the Registered Professional Civil Engineer responsible for submitting the Project-Specific WQMP, and designing the required BMPs.  |
| Best Management Practice (BMP) | Defined in 40 CFR 122.2 as schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. In the case of municipal storm water permits, BMPs are typically used in place of numeric effluent limits. |
| BMP Fact Sheets | BMP Fact Sheets are available in the LID BMP Design Handbook. Individual BMP Fact Sheets include sitting considerations, and design and sizing guidelines for seven types of structural BMPs (infiltration basin, infiltration trench, permeable pavement, harvest-and-use, bioretention, extended detention basin, and sand filter). |
| California Stormwater Quality Association (CASQA) | Publisher of the California Stormwater Best Management Practices Handbooks, available at [www.cabmphandbooks.com](http://www.cabmphandbooks.com). |
| Conventional Treatment Control BMP | A type of BMP that provides treatment of stormwater runoff. Conventional treatment control BMPs, while designed to treat particular Pollutants, typically do not provide the same level of volume reduction as LID BMPs, and commonly require more specialized maintenance than LID BMPs. As such, the 2010 SMR MS4 Permit and this WQMP require the use of LID BMPs wherever feasible, before Conventional Treatment BMPs can be considered or implemented. |
| Copermittees | The 2010 SMR MS4 Permit identifies the Cities of Murrieta, Temecula, and Wildomar, the County, and the District, as Copermittees for the SMR.  |
| County | The abbreviation refers to the County of Riverside in this document. |
| CEQA | California Environmental Quality Act - a statute that requires state and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible. |
| CIMIS | California Irrigation Management Information System - an integrated network of 118 automated active weather stations all over California managed by the California Department of Water Resources. |
| CWA | Clean Water Act - is the primary federal law governing water pollution. Passed in 1972, the CWA established the goals of eliminating releases of high amounts of toxic substances into water, eliminating additional water pollution by 1985, and ensuring that surface waters would meet standards necessary for human sports and recreation by 1983.CWA Section 402(p) is the federal statute requiring NPDES permits for discharges from MS4s. |
| CWA Section 303(d) Waterbody | Impaired water in which water quality does not meet applicable water quality standards and/or is not expected to meet water quality standards, even after the application of technology based pollution controls required by the CWA. The discharge of urban runoff to these water bodies by the Copermittees is significant because these discharges can cause or contribute to violations of applicable water quality standards. |
| Design Storm | The 2010 SMR MS4 Permit has established the 85th percentile, 24-hour storm event as the "Design Storm". The applicant may refer to Exhibit A to identify the applicable Design Storm Depth (D85) to the project. |
| DCV | Design Capture Volume (DCV) is the volume of runoff produced from the Design Storm to be mitigated through LID Retention BMPs, Other LID BMPs and Volume Based Conventional Treatment BMPs, as appropriate.  |
| Design Flow Rate | The design flow rate represents the minimum flow rate capacity that flow-based conventional treatment control BMPs should treat to the MEP, when considered.  |
| DCIA  | Directly Connected Impervious Areas - those impervious areas that are hydraulically connected to the MS4 (i.e. street curbs, catch basins, storm drains, etc.) and thence to the structural BMP without flowing over pervious areas.  |
| Discretionary Approval | A decision in which a Copermittee uses its judgment in deciding whether and how to carry out or approve a project. |
| District | Riverside County Flood Control and Water Conservation District. |
| DMA | A Drainage Management Area - a delineated portion of a project site that is hydraulically connected to a common structural BMP or conveyance point. The Applicant may refer to Section 3.3 for further guidelines on how to delineate DMAs.  |
| Drawdown Time | Refers to the amount of time the design volume takes to pass through the BMP. The specified or incorporated drawdown times are to ensure that adequate contact or detention time has occurred for treatment, while not creating vector or other nuisance issues. It is important to abide by the drawdown time requirements stated in the fact sheet for each specific BMP. |
| Effective Area | Area which 1) is suitable for a BMP (for example, if infiltration is potentially feasible for the site based on infeasibility criteria, infiltration must be allowed over this area) and 2) receives runoff from impervious areas. |
| ESA | An Environmental Sensitive Area (ESA) designates an area "in which plants or animals life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which would be easily disturbed or degraded by human activities and developments". (Reference: California Public Resources Code § 30107.5). |
| ET | Evapotranspiration (ET) is the loss of water to the atmosphere by the combined processes of evaporation (from soil and plant surfaces) and transpiration (from plant tissues). It is also an indicator of how much water crops, lawn, garden, and trees need for healthy growth and productivity |
| FAR | The Floor Area Ratio (FAR) is the total square feet of a building divided by the total square feet of the lot the building is located on. |
| Flow-Based BMP | Flow-based BMPs are conventional treatment control BMPs that are sized to treat the design flow rate. |
| FPPP | Facility Pollution Prevention Plan  |
| HCOC | Hydrologic Condition of Concern - Exists when the alteration of a site’s hydrologic regime caused by development would cause significant impacts on downstream channels and aquatic habitats, alone or in conjunction with impacts of other projects.  |
| HMP | Hydromodification Management Plan – Plan defining Performance Standards for PDPs to manage increases in runoff discharge rates and durations.  |
| Hydrologic Control BMP | BMP to mitigate the increases in runoff discharge rates and durations and meet the Performance Standards set forth in the HMP. |
| HSG | Hydrologic Soil Groups – soil classification to indicate the minimum rate of infiltration obtained for bare soil after prolonged wetting. The HSGs are A (very low runoff potential/high infiltration rate), B, C, and D (high runoff potential/very low infiltration rate) |
| Hydromodification | The 2010 SMR MS4 Permit identifies that increased volume, velocity, frequency and discharge duration of storm water runoff from developed areas has the potential to greatly accelerate downstream erosion, impair stream habitat in natural drainages, and negatively impact beneficial uses.  |
| JRMP | A separate Jurisdictional Runoff Management Plan (JRMP) has been developed by each Copermittee and identifies the local programs and activities that the Copermittee is implementing to meet the 2010 SMR MS4 Permit requirements.  |
| LID | Low Impact Development (LID) is a site design strategy with a goal of maintaining or replicating the pre-development hydrologic regime through the use of design techniques. LID site design BMPs help preserve and restore the natural hydrologic cycle of the site, allowing for filtration and infiltration which can greatly reduce the volume, peak flow rate, velocity, and pollutant loads of storm water runoff. |
| LID BMP | A type of stormwater BMP that is based upon Low Impact Development concepts. LID BMPs not only provide highly effective treatment of stormwater runoff, but also yield potentially significant reductions in runoff volume – helping to mimic the pre-project hydrologic regime, and also require less ongoing maintenance than Treatment Control BMPs. The applicant may refer to Chapter 2. |
| LID BMP Design Handbook | The LID BMP Design Handbook was developed by the Copermittees to provide guidance for the planning, design and maintenance of LID BMPs which may be used to mitigate the water quality impacts of PDPs within the County.  |
| LID Bioretention BMP | LID Bioretention BMPs are bioretention areas are vegetated (i.e., landscaped) shallow depressions that provide storage, infiltration, and evapotranspiration, and provide for pollutant removal (e.g., filtration, adsorption, nutrient uptake) by filtering stormwater through the vegetation and soils. In bioretention areas, pore spaces and organic material in the soils help to retain water in the form of soil moisture and to promote the adsorption of pollutants (e.g., dissolved metals and petroleum hydrocarbons) into the soil matrix. Plants use soil moisture and promote the drying of the soil through transpiration.The 2010 SMR MS4 Permit defines “retain” as to keep or hold in a particular place, condition, or position without discharge to surface waters. |
| LID Biotreatment BMP | BMPs that reduce stormwater pollutant discharges by intercepting rainfall on vegetative canopy, and through incidental infiltration and/or evapotranspiration, and filtration, and other biological and chemical processes. As stormwater passes down through the planting soil, pollutants are filtered, adsorbed, biodegraded, and sequestered by the soil and plants, and collected through an underdrain.  |
| LID Harvest and Reuse BMP | BMPs used to facilitate capturing Stormwater Runoff for later use without negatively impacting downstream water rights or other Beneficial Uses.  |
| LID Infiltration BMP | BMPs to reduce stormwater runoff by capturing and infiltrating the runoff into in-situ soils or amended onsite soils. Typical LID Infiltration BMPs include infiltration basins, infiltration trenches and pervious pavements. |
| LID Retention BMP |  BMPs to ensure full onsite retention without runoff of the DCV such as infiltration basins, bioretention, chambers, trenches, permeable pavement and pavers, harvest and reuse. |
| LID Principles | Site design concepts that prevent or minimize the causes (or drivers) of post-construction impacts, and help mimic the pre-development hydrologic regime.  |
| MEP | Maximum Extent Practicable - standard established by the 1987 amendments to the CWA for the reduction of Pollutant discharges from MS4s. Refer to Attachment C of the 2010 SMR MS4 Permit for a complete definition of MEP. |
| MF | Multi-family – zoning classification for parcels having 2 or more living residential units. |
| MS4 | Municipal Separate Storm Sewer System (MS4) is a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or designated and approved management agency under section 208 of the CWA that discharges to waters of the United States; (ii) Designated or used for collecting or conveying storm water; (iii) Which is not a combined sewer; (iv) Which is not part of the Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.26. |
| New Development Project | Defined by the 2010 MS4 permit as 'Priority Development Projects' if the project, or a component of the project meets the categories and thresholds described in Section 1.1.1. |
| NPDES | National Pollution Discharge Elimination System - Federal program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 318, 402, and 405 of the CWA. |
| NRCS | Natural Resources Conservation Service |
| PDP  | Priority Development Project - Includes New Development and Redevelopment project categories listed in Section F.1.d(2) of Order No. R9-2009-0002.  |
| Priority Pollutants of Concern | Pollutants expected to be present on the project site and for which a downstream water body is also listed as Impaired under the CWA Section 303(d) list or by a TMDL. |
| Project-Specific WQMP | A plan specifying and documenting permanent LID Principles and Stormwater BMPs to control post-construction Pollutants and stormwater runoff for the life of the PDP, and the plans for operation and maintenance of those BMPs for the life of the project.  |
| Receiving Waters | Waters of the United States.  |
| Redevelopment Project | The creation, addition, and or replacement of impervious surface on an already developed site. Examples include the expansion of a building footprint, road widening, the addition to or replacement of a structure, and creation or addition of impervious surfaces. Replacement of impervious surfaces includes any activity that is not part of a routine maintenance activity where impervious material(s) are removed, exposing underlying soil during construction. Redevelopment does not include trenching and resurfacing associated with utility work; resurfacing existing roadways; new sidewalk construction, pedestrian ramps, or bike lane on existing roads; and routine replacement of damaged pavement, such as pothole repair.Project that meets the criteria described in Section 1.  |
| Runoff Fund | Runoff Funds have not been established by the Copermittees and are not available to the Applicant. If established, a Runoff Fund will develop regional mitigation projects where PDPs will be able to buy mitigation credits if it is determined that implementing onsite controls is infeasible.  |
| San Diego Regional Board | San Diego Regional Water Quality Control Board - The term "Regional Board", as defined in Water Code section 13050(b), is intended to refer to the California Regional Water Quality Control Board for the San Diego Region as specified in Water Code Section 13200. State agency responsible for managing and regulating water quality in the SMR.  |
| SCCWRP | Southern California Coastal Water Research Project  |
| Site Design BMP | Site design BMPs prevent or minimize the causes (or drivers) of post-construction impacts, and help mimic the pre-development hydrologic regime.  |
| SF | Parcels with a zoning classification for a single residential unit. |
| SMC | Southern California Stormwater Monitoring Coalition  |
| SMR | The Santa Margarita Region (SMR) represents the portion of the Santa Margarita Watershed that is included within the County of Riverside.  |
| Source Control BMP | Source Control BMPs land use or site planning practices, or structural or nonstructural measures that aim to prevent runoff pollution by reducing the potential for contamination at the source of pollution. Source control BMPs minimize the contact between Pollutants and runoff. |
| Stormwater Credit | Stormwater Credit can be claimed by an Applicant if certain development practices that provide broad-scale environmental benefits to communities are incorporated into the project design. Refer to Section 3.5.4 for additional information on Stormwater Credits. |
| Structural BMP | Structures designed to remove pollutants from stormwater runoff and mitigate hydromodification impacts. |
| SWPPP | Storm Water Pollution Prevention Plan  |
| Tentative Tract Map | Tentative Tract Maps are required for all subdivision creating five (5) or more parcels, five (5) or more condominiums as defined in Section 783 of the California Civil Code, a community apartment project containing five (5) or more parcels, or for the conversion of a dwelling to a stock cooperative containing five (5) or more dwelling units.  |
| TMDL | Total Maximum Daily Load - the maximum amount of a Pollutant that can be discharged into a waterbody from all sources (point and non-point) and still maintain Water Quality Standards. Under CWA Section 303(d), TMDLs must be developed for all waterbodies that do not meet Water Quality Standards after application of technology-based controls. |
| USEPA | United States Environmental Protection Agency |
| Volume-Based BMP | Volume-Based BMPs applies to BMPs where the primary mode of pollutant removal depends upon the volumetric capacity such as detention, retention, and infiltration systems. |
| WQMP | Water Quality Management Plan |
| Wet Season | The 2010 SMR MS4 Permit defines the wet season from October 1 through April 30. |

  Maps and Site Plans

*Location Map, WQMP Site Plan and Receiving Waters Map*

 Construction Plans

*Grading and Drainage Plans*

 Soils Information

*Geotechnical Study and Other Infiltration Testing Data*

 Historical Site Conditions

*Phase I Environmental Site Assessment or Other Information on Past Site Use*

 LID Infeasibility

*LID Technical Infeasibility Analysis*

 BMP Design Details

*BMP Sizing, Design Details and other Supporting Documentation*

 Hydromodification

*Supporting Detail Relating to compliance with the HMP Performance Standards*

 Source Control

*Pollutant Sources/Source Control Checklist*

  O&M

*Operation and Maintenance Plan and Documentation of Finance, Maintenance and Recording Mechanisms*

  Educational Materials

*BMP Fact Sheets, Maintenance Guidelines and Other End-User BMP Information*

1. Order No. R9-2010-0016, NPDES No. CAS0108766, Waste Discharge Requirements for Discharges from the MS4 Draining the County of Riverside, the Incorporated Cities of Riverside County, and the Riverside County Flood Control and Water Conservation District within the San Diego Region, California Regional Water Quality Control Board, November 10, 2010. [↑](#footnote-ref-1)