

Storm Water Quality Management Plan

For

[Insert Development Name]

[Insert Development Address/Location]

[Insert Report Date]

Prepared by

[INSERT CIVIL ENGINEER NAME, PE NUMBER, AND STAMP]

[INSERT CIVIL ENGINEER COMPANY NAME]

[INSERT ADDRESS]

[INSERT CITY, STATE ZIP CODE]

[INSERT TELEPHONE NUMBER]

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[Note: red text in brackets is provided for guidance only. It should be deleted before the report is submitted. More detailed descriptions of the requirements are presented in the City of Lemon Grove BMP Design Manual. This template is designed to assist project applicants and is expected to apply to most projects. However, some projects may be able to take a different approach. While this template and the notes provided in it are intended to help the preparer, they are not intended as a complete substitute for the content of the City of Lemon Grove BMP Design Manual. Each applicant is responsible for understanding and complying with the requirements of the City of Lemon Grove BMP Design Manual.]

[Note 2: table templates and maps to assist applicants in completing required information for tables and appendices as part of this report are available for download from the stormwater page on the City of Lemon Grove website: <http://www.lemongrove.ca.gov/departments/development-services/stormwater>.]

1 Project Information

Table 1 summarizes basic project information.

Table 1. Project Summary

Project Name	
Address/Location	
APN(s)	
Total Project Size (acres or square feet)	
Project Description	

1.1 Requirements Applicability

A completed stormwater requirements applicability checklist, comprised of forms I-1, I-2, and I-3, is included in Appendix A. Additional detail about applicable requirements is provided below

No hydromodification exemptions apply to projects in Lemon Grove, so all projects within the City are subject to hydromodification requirements. Hydromodification projects must meet additional flow control requirements.

Table 2 indicates whether projects are exempt critical coarse sediment yield requirements. Projects that are exempt from hydromodification management requirements are automatically exempt from implementing critical coarse sediment yield area management measures. Supporting explanation for any exemptions claimed is provided in the table, and maps or figures are provided where applicable.

[See the [City of Lemon Grove stormwater website](#) for a map of critical coarse sediment yield areas]

Table 2. Critical Coarse Sediment Yield Area Management Requirements Applicability

Requirement	Exempt (Y/N)	If Exempt, Explain Why
Critical coarse sediment yield area management measures		

1.2 Eligibility for Special BMP Sizing or Selection Standards

Eligibility for reduced BMP sizing or using alternative BMPs is summarized in Table 3. Any items marked “Y” are explained briefly below the table.

Table 3. Applicability of Special BMP Sizing or Selection Standards

Project Type	Applicable (Y/N)
Redevelopment qualifying for reduced BMP sizing due to 50% rule (Y/N): See Form I-3 for details. Only impervious area created or replaced is considered to be a Priority Development Project for projects that meet this criterion. BMPs are therefore sized only for the impervious area created or replaced.	
Retrofitting or redevelopment of existing paved alleys, streets or roads that are designed and constructed in accordance with the USEPA Green Streets Guidance (Y/N): Eligible projects may select and design BMPs in accordance with green streets guidance. See Appendix J of the BMP Design Manual for details.	

[Include explanation of any items marked as “Y” in Table 3 here]

[**Note regarding alternative compliance.** Applicant-implemented alternative compliance projects may propose using onsite BMPs to treat run-on from offsite; see BMP Design Manual Section 1.8 for details. At this time, the City of Lemon Grove’s alternative compliance program does not allow for the use of offsite BMPs. However, after additional resources, such as a regional crediting system, have been developed the City may allow for the use of offsite BMPs in its alternative compliance program.]

2 Drainage Management Areas and Site Design BMPs

[The project must be divided into drainage management areas. A drainage management area is a portion of the site that all drains to a single discharge point. See Section 3.3.3 of the BMP Design Manual. Site Design BMPs must all be proposed as applicable and feasible. Implementing site design BMPs can reduce or even eliminate the need for structural BMPs.]

The entire project area has been divided into Drainage Management Areas (DMA), in accordance with the approach described in BMP Design Manual Section 3.3.3. Site design Low Impact Development (LID) BMPs have also been selected for the project, as summarized in Appendix B. Based on DMA characteristics and the extent of site design BMP implementation, each DMA has been classified using one of the following categories:

- A. Drains to a structural BMP
- B. Self-mitigating
- C. De minimis
- D. Self-retaining DMA treated using only site design (i.e., DCV after accounting for site design BMPs is zero)

The design capture volume (DCV) has been calculated for each DMA in categories A and D above. DCV calculations for these DMAs, including reductions to the DCV from site design BMP implementation, are included in Appendix C. Tables listing self-mitigating and de minimis DMAs and demonstrating how the listed BMPs meet the appropriate criteria from the BMP Design Manual are also included in Appendix C.

[Standard DMA worksheets for DCV calculations, including a worksheet with example data filled in, and

An exhibit illustrating the delineated DMAs is included in Appendix D. The exhibit includes the following:

- Delineated DMA areas, along with a DMA ID (i.e., a name or ID number) for each DMA
- Natural and engineered conveyances within the project area and connections to offsite drainage systems
- Proposed buildings, paved areas, and other impervious surfaces
- Hydromodification point(s) of compliance, if applicable
- Critical coarse sediment yield areas to be protected, if any [Note, Google Earth and ArcGIS shapefiles of critical coarse sediment yield areas are available at www.projectcleanwater.org.]
- Pollutant source areas that require installation of pre-treatment BMPs, if applicable
- Location and size, as applicable, of all
 - Site design BMPs for which DCV reduction is claimed
 - Source control BMPs that can be mapped (operational source control BMPs, such as sweeping or education, are not included on the map)
 - Structural BMPs for pollutant control and hydromodification control

3 Structural BMPs

3.1 Pollutant Control BMPs

Structural BMPs for pollutant control must be designed to treat the DCV for all DMAs that drain to each structural pollutant control BMP, as calculated in Appendix C. Retention BMPs (infiltration, bioretention with no underdrain, or harvest and reuse) have been used to the maximum extent practicable. BMP sizing calculations and supporting information to justify the type of BMP selected are provided in Appendix E. All BMPs and necessary information to show conformance to the applicable design standards in the BMP Design Manual are reflected on the project’s plan sheets.

3.2 Hydromodification Controls

Table 5 summarizes hydromodification points of compliance and design criteria. Hydromodification design calculations and other supporting information, including electronic copies of continuous simulation model files where applicable, are provided in Appendix F.

Table 5. Hydromodification Points of Compliance (POC) Summary

POC ID	Receiving Water Body	Low Flow Threshold ¹	DMA IDs that Drain to the POC	Area of DMAs Draining to POC (ft ²)

Table 6. Structural BMP Summary Table

BMP ID No.	Structural BMP Type <i>(Select from the list below this table)</i>	Purpose(s)		DMA(s) draining to BMP	Construction Plan Sheet No(s).
		Pollutant Control	Hydromodification Control		

Structural BMP Types:

- Harvest and use (HU-1)
- Infiltration basin (INF-1)
- Bioretention (INF-2)
- Permeable pavement (INF-3)
- Biofiltration with partial retention (PR-1)
- Biofiltration (without retention) (BF-1)
- Biofiltration with Nutrient Sensitive Media Design (BF-2)
- Detention pond or vault for hydromodification management
- Other (describe)

Notes

- Proprietary Biofiltration (BF-3) can only be used if it meets the requirements of Appendix F of the BMP Design Manual.
- Flow-thru treatment control BMPs, unless used solely for pre-treatment, may only be used as part of an alternative compliance program. See Section 1.8 of the BMP Design Manual for more information.

Pre-treatment BMPs

All structural BMPs that will be used for pre-treatment purposes only are described below, including the type of BMP and which of the BMPs from the table above it provides pre-treatment for. Sizing calculations are included in Appendix E.

[Describe pretreatment BMPs, or, if none, state that none are proposed.]

4 Source Control BMPs

Source control BMPs must be implemented, where applicable and feasible. Source control BMPs proposed for the project are indicated on a completed version of Lemon Grove BMP Design Manual Appendix E.1, which is included as Appendix G of this SWQMP.

5 Operation and Maintenance

A copy of the maintenance agreement that the property owner will record against the property prior to project completion is also included in Appendix H. The project’s operation and maintenance plan (O&M Plan) for proposed BMPs, which will be attached to the maintenance agreement is also included in Appendix H. The O&M Plan includes the following components:

- An exhibit showing the locations of all proposed structural pollutant control and hydromodification management (flow control) BMPs proposed. This exhibit may be the same as the DMA exhibit provided in Appendix D.
- An exhibit showing applicable cross sections for all proposed structural pollutant control and hydromodification management BMPs proposed.
- Specific maintenance indicators and actions for each class of proposed structural BMP(s), based on the tables provided in Section 7.7 of the Lemon Grove BMP Design Manual.
- Additional information necessary to perform maintenance, if applicable:
 - Description of any features that are provided to facilitate inspection (e.g., observation ports, cleanouts, silt posts, or other features that allow the inspector to view necessary components of the structural BMP and compare to maintenance thresholds)
 - Instructions on how to access the structural BMP(s) to inspect and perform maintenance, if access is not straightforward
 - Recommended equipment to perform maintenance, if special equipment is required
 - Necessary special training or certification requirements for inspection and maintenance personnel such as confined space entry or hazardous waste management

[Note: all O&M Plan pages must be on 8.5" x 11" size paper to facilitate recording as an exhibit along with the maintenance agreement.]

A copy of the Stormwater Facilities Maintenance Agreement that the property owner will record against the property prior to project completion is also included in Appendix H. [A standard Stormwater Facilities Maintenance Agreement form is available on the City's website or upon request from Engineering.]

Appendix A

Completed Applicability Checklists (Forms I-1, I-2, and I-3)

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[Insert completed Forms I-1, I-2, and I-3 here]

Appendix B

Site Design BMP Checklist

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Site Design BMP Checklist for All Development Projects (Standard Projects and Priority Development Projects)	Appendix B
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All development projects must implement site design BMPs SD-1 through SD-8 where applicable and feasible. See Chapter 4 and Appendix E of the BMP Design Manual for information to implement site design BMPs shown in this checklist.

Also note that landscaping designed in accordance with the City’s Water Efficient Landscape Ordinance (Chapter 18.44 of the Lemon Grove Municipal Code) will likely meet several of the stormwater site design requirements (e.g. draining impervious surfaces to landscaping, using soil amendments, etc.)

Answer each category below pursuant to the following.

- "Yes" means the project will implement the site design BMP as described in Chapter 4 and/or Appendix E of the BMP Design Manual. Discussion / justification is not required.
- "No" means the BMP is applicable to the project but it is not feasible to implement. Discussion / justification must be provided.
- "N/A" means the BMP is not applicable at the project site because the project does not include the feature that is addressed by the BMP (e.g., the project site has no existing natural areas to conserve). Discussion / justification may be provided.

Site Design Requirement	Applied?		
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SD-1 Maintain Natural Drainage Pathways and Hydrologic Features	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
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- Examples of BMPs in this category:
- Maintain natural drainage direction (typically, by minimizing grading that changes drainage directions and discharge points)
 - Maintain natural drainage courses (e.g., maintain existing natural gullies, channels, depressions, etc.)
 - Maintain, restore, or create buffer zones for natural water bodies
 - Incorporate street trees

Discussion / justification if SD-1 not implemented:

SD-2 Conserve Natural Areas, Soils, and Vegetation	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
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- Examples of BMPs in this category:
- Preserve existing trees, bushes, and/or other vegetation
 - Preserve natural areas on the site (leave them undisturbed)
 - Comply with State and federal law for avoiding or mitigating impacts of development in sensitive or protected areas, such as natural streams, wetlands, and areas providing habitat for listed species

Site Design BMP Checklist for All Development Projects (Standard Projects and Priority Development Projects)		Appendix B	
Discussion / justification if SD-2 not implemented:			
SD-3 Minimize Impervious Area	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Examples of BMPs in this category: <ul style="list-style-type: none"> • Construct roads, parking lot aisles, sidewalks, etc. to minimum necessary widths • Share parking lots or driveways with adjacent properties • Incorporate parking structures or underground parking • Decrease building footprint through compact and/or taller structures • Minimize impervious surfaces in landscape design • Incorporate landscaped center of cul-de-sac • Incorporate pervious (e.g., turf block) fire lane • Green roofs and/or pervious pavement per SD-5 and SD-6 below 			
Discussion / justification if SD-3 not implemented:			
SD-4 Minimize Soil Compaction	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Examples of BMPs in this category: <ul style="list-style-type: none"> • Protect planned green space and proposed landscaped areas during construction (i.e., so construction vehicles do not drive over them) • Re-till soil and/or add soil amendments to proposed landscaped areas (toward the end of the project, but before final landscaping work) 			
Discussion / justification if SD-4 not implemented:			
SD-5 Impervious Area Dispersion, SD-6 Runoff Collection, and SD-8 Harvesting and Using Precipitation	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Examples of BMPs in this category: <ul style="list-style-type: none"> • Drain rooftops to landscaping or planter boxes • Drain impervious parking lots, sidewalks, patios, and/or other paved areas to landscaping • Incorporate vegetated swales into the drainage design (e.g., instead of curb and gutter) • Incorporate pervious pavement for low traffic areas and/or walkways (see <i>Appendix E fact sheet SD-6B</i> of the BMP Design Manual) • Incorporate green roofs (see <i>Appendix E fact sheet SD-6A</i> of the BMP Design Manual) • Rain barrels (see <i>Appendix E fact sheet SD-8</i> of the BMP Design Manual) 			

Site Design BMP Checklist for All Development Projects (Standard Projects and Priority Development Projects)		Appendix B	
Discussion / justification if SD-5 and SD-6 not implemented:			
SD-7 Landscaping with Native or Drought Tolerant Species		<input type="checkbox"/> Yes	<input type="checkbox"/> No
<ul style="list-style-type: none"> See Appendix E, Fact Sheet PL of the BMP Design Manual for a recommended plant list 		<input type="checkbox"/> N/A	
Discussion / justification if SD-7 not implemented:			

Appendix C

Drainage Management Area Characteristics and Calculations

Indicate which items are included behind this cover sheet

Contents	Included (Y/N)
C.1. Self-Mitigating DMAs	
C.2. De Minimis DMAs	
C.3. DMA Design Capture Volume Calculations	

[Standard table formats for each of the above three items are provided in an Excel file available for download on the City's stormwater web page.]

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Appendix C.1. Self-Mitigating DMAs

Appendix C.2. De Minimis DMAs

Appendix C.3. DMA Design Capture Volume Calculations

Appendix D

Drainage Management Area and Hydromodification Exhibit

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Appendix E

Structural Pollutant Control BMP Design Backup

Indicate which items are included behind this cover sheet

Contents	Included (Y/N)
E.1. Harvest and Use Feasibility Screening (when applicable) <i>Required unless the entire project will use infiltration BMPs</i>	
E.2. Categorization of Infiltration Feasibility Condition (when applicable) <i>Required unless the project will use harvest and use BMPs</i>	
E.3. Pollutant Control BMP Design Worksheets / Calculations	
E.4. Geotechnical Report (when applicable)	

[Standard table formats for common BMP design worksheets (E.3) are located in an Excel file available for download on the City's stormwater web page. Additional worksheets are available in the BMP Design Manual appendices, which is available at the same website.]

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Harvest and Use Feasibility Checklist

Appendix E.1

1. Is there a demand for harvested water (check all that apply) at the project site that is reliably present during the wet season?

- Toilet and urinal flushing
- Landscape irrigation
- Other: _____

2. If there is a demand; estimate the anticipated average wet season demand over a period of 36 hours. Guidance for planning level demand calculations for toilet/urinal flushing and landscape irrigation is provided in BMP Design Manual Appendix B, Section B.3.2.

[Provide a summary of calculations here]

3. Provide the total DCV calculated for the project site, as presented in Appendix C.

DCV = _____ (cubic feet)

3a. Is the 36 hour demand greater than or equal to the DCV?

- Yes / No 
- 

3b. Is the 36 hour demand greater than 0.25DCV but less than the full DCV?

- Yes / No 
- 

3c. Is the 36 hour demand less than 0.25DCV?

- Yes
- 

Harvest and use appears to be feasible. Conduct more detailed evaluation and sizing calculations to confirm that DCV can be used at an adequate rate to meet drawdown criteria.

Harvest and use may be feasible. Conduct more detailed evaluation and sizing calculations to determine feasibility. Harvest and use may only be able to be used for a portion of the site, or (optionally) the storage may need to be upsized to meet long term capture targets while draining in longer than 36 hours.

Harvest and use is considered to be infeasible.

Is harvest and use feasible based on further evaluation?

- Yes, refer to Appendix E to select and size harvest and use BMPs.
- No, select alternate BMPs.

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Categorization of Infiltration Feasibility Condition		Appendix E.2	
Criteria	Screening Question	Yes	No
3	<p>Can infiltration greater than 0.5 inches per hour be allowed without increasing risk of groundwater contamination (shallow water table, stormwater pollutants or other factors) that cannot be mitigated to an acceptable level?</p> <p>The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.</p>		
<p>Provide basis:</p> <p>Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.</p>			
4	<p>Can infiltration greater than 0.5 inches per hour be allowed without causing potential water balance issues such as change of seasonality of ephemeral streams or increased discharge of contaminated groundwater to surface waters?</p> <p>The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.</p>		
<p>Provide basis:</p> <p>Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.</p>			
Part 1 Result*	<p>If all answers to rows 1 - 4 are “Yes” a full infiltration design is potentially feasible. The feasibility screening category is Full Infiltration</p> <p>If any answer from row 1-4 is “No”, infiltration may be possible to some extent but would not generally be feasible or desirable to achieve a “full infiltration” design. Proceed to Part 2</p>		
<p><i>*To be completed using gathered site information and best professional judgment considering the definition of MEP in the MS4 Permit. Additional testing and/or studies may be required by Agency/Jurisdictions to substantiate findings</i></p>			

Part 2 – Partial Infiltration vs. No Infiltration Feasibility Screening Criteria

Would infiltration of water in any appreciable amount be physically feasible without any negative consequences that cannot be reasonably mitigated?

Criteria	Screening Question	Yes	No
5	Do soil and geologic conditions allow for infiltration in any appreciable rate or volume? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2 and Appendix D.		

Provide basis:

Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.

6	Can Infiltration in any appreciable quantity be allowed without increasing risk of geotechnical hazards (slope stability, groundwater mounding, utilities, or other factors) that cannot be mitigated to an acceptable level? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2.		
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Provide basis:

Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.

Categorization of Infiltration Feasibility Condition		Appendix E.2	
Criteria	Screening Question	Yes	No
7	Can Infiltration in any appreciable quantity be allowed without posing significant risk for groundwater related concerns (shallow water table, stormwater pollutants or other factors)? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.		
<p>Provide basis:</p> <p>Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.</p>			
8	Can infiltration be allowed without violating downstream water rights? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.		
<p>Provide basis:</p> <p>Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.</p>			
Part 2 Result**	<p>If all answers from row 1-4 are yes then partial infiltration design is potentially feasible. The feasibility screening category is Partial Infiltration.</p> <p>If any answer from row 5-8 is no, then infiltration of any volume is considered to be infeasible within the drainage area. The feasibility screening category is No Infiltration.</p>		
<p><i>**To be completed using gathered site information and best professional judgment considering the definition of MEP in the MS4 Permit. Additional testing and/or studies may be required by the City to substantiate findings.</i></p>			

Appendix E.3. Pollutant Control BMP Design Worksheets / Calculations

Appendix E.4. Geotechnical Report

[Delete if not applicable]

Appendix F

Hydromodification Flow Control Design Backup

Indicate which items are included behind this cover sheet

Contents	Included (Y/N)
F.1. Management of Critical Coarse Sediment Yield Areas F.1.1. Exhibit showing project drainage boundaries marked on WMAA Critical Coarse Sediment Yield Area Map <i>Optional analyses for Critical Coarse Sediment Yield Area Determination (when applicable; see Section 6.2 of the BMP Design Manual)</i>	
F.1.2 Verification of Geomorphic Landscape Units Onsite	
F.1.3 Downstream Systems Sensitivity to Coarse Sediment	
F.1.4 Optional Additional Analysis of Potential Critical Coarse Sediment Yield Areas Onsite	
F.2. Geomorphic Assessment of Receiving Channels (when applicable) <i>Required if a low flow threshold other than 0.1Q2 is selected.</i>	
F.3. Flow Control Facility Design <i>Must include structural BMP drawdown calculations and overflow design summary. See Chapter 6 and Appendix G of the BMP Design Manual.</i>	
F.4. Copies of Electronic Files from Continuous Simulation Modeling (when applicable) <i>Required when a continuous simulation model is run using SDHM, SWMM, etc. Model files must be provided electronically (on CD or DVD).</i>	
F.5. Vector Control Plan (when applicable) <i>Required when any structural BMP will not drain in 96 hours.</i>	

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Appendix F.1.1. Exhibit showing project drainage boundaries marked on WMAA Critical Coarse Sediment Yield Area Map

[Delete if not applicable]

Appendix F.1.2. Verification of Geomorphic Landscape Units Onsite

[Delete if not applicable]

Downstream Systems Requirements for Preservation of Coarse Sediment Supply

Appendix F.1.3

When it has been determined that potential critical coarse sediment yield areas exist within the project site, the next step is to determine whether downstream systems would be sensitive to reduction of coarse sediment yield from the project site. Use this form to document the evaluation of downstream systems requirements for preservation of coarse sediment supply.

1	Will the project discharge runoff to a hardened MS4 system (pipe or lined channel) or an un-lined channel?	<input type="checkbox"/> Hardened MS4 system	Go to 2
		<input type="checkbox"/> Un-lined channel	Go to 4
2	Will the hardened MS4 system convey sediment (e.g., a concrete-lined channel with steep slope and cleansing velocity) or sink sediment (e.g., flat slopes, constrictions, treatment BMPs, or ponds with restricted outlets within the system will trap sediment and not allow conveyance of coarse sediment from the project site to an un-lined system).	<input type="checkbox"/> Convey	Go to 3
		<input type="checkbox"/> Sink	Go to 7
3	What kind of receiving water will the hardened MS4 system convey the sediment to?	<input type="checkbox"/> Un-lined channel	Go to 4
		<input type="checkbox"/> Lake <input type="checkbox"/> Reservoir <input type="checkbox"/> Bay	Go to 7
		<input type="checkbox"/> Lagoon <input type="checkbox"/> Ocean	Go to 6
4	Is the un-lined channel impacted by deposition of sediment? This condition must be documented by the local agency.	<input type="checkbox"/> Yes	Go to 7
		<input type="checkbox"/> No	Go to 5
5	End – Preserve coarse sediment supply to protect un-lined channels from accelerated erosion due to reduction of coarse sediment yield from the project site unless further investigation determines the sediment is not critical to the receiving stream. Sediment that is critical to receiving streams is the sediment that is a significant source of bed material to the receiving stream (bed sediment supply) (see Section 6.2.3 and Appendix H.2 of the manual).		
6	End – Provide management measures for preservation of coarse sediment supply (protect beach sand supply).		

Downstream Systems Requirements for Preservation of Coarse Sediment Supply		Appendix F.1.3
7	End – Downstream system does not warrant preservation of coarse sediment supply, no measures for protection of critical coarse sediment yield areas onsite are necessary. Use the space below to describe the basis for this finding for the project.	

[If not applicable, Appendix F.1.3 may be deleted from the SWQMP document submitted to the City.]

Appendix F.1.4. Optional Additional Analysis of Potential Critical Coarse Sediment Yield Areas Onsite

[Delete if not applicable]

Appendix F.2. Geomorphic Assessment of Receiving Channels

[Delete if not applicable]

Appendix F.3. Flow Control Facility Design

Appendix F.4. Copies of Electronic Files from Continuous Simulation Modeling

[Delete if not applicable]

Appendix F.5. Vector Control Plan

[Delete if not applicable]

Appendix G

Source Control BMP Checklist

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Source Control BMP Requirements

The following worksheet provides direction about requirements for different source control BMPs. BMPs for particular sources are generally applicable unless that source is not present on the project. The project's SWQMP shall propose source control BMPs in accordance with the direction in this worksheet, as applicable and feasible.

How to use this worksheet:

1. Review the first column (sources) and identify which of these potential sources of stormwater pollutants apply to your site. Check each box that applies.
2. Review the second column (BMPs to be shown on plans) and incorporate all of the corresponding applicable BMPs in the plans for your project. If a BMP is shown only on the building or landscape plans, but those plans have not been completed at the time of SWQMP submittal, the BMP may be described narratively in the next column instead. The narrative description shall commit to including the BMP on the appropriate plan set once that plan set is completed.
3. Review the third column (Additional BMPs and Narrative Description).
 - a) Select any of the additional BMPs to be implemented at the project.
 - b) Fill out the following information in the "Narrative Description" section:
 - i. Any additional narrative needed to describe the BMPs selected for this source control category
 - ii. An explanation of any special conditions or situations that require omitting BMPs or substituting alternatives
 - iii. Description of any additional source control BMPs to be implemented

Source Control BMP Checklist

Appendix G

If These Sources Will Be on the Project Site

... Then Your SWQMP Shall Implement These Source Control BMPs, as Applicable and Feasible

Potential Sources of Pollutants	Permanent BMPs—Show on Plans <i>(BMPs shown only on building or landscape plans can be described narratively if the applicable plan set has not yet been prepared at the time of SWQMP submittal)</i>	Additional BMPs and Narrative Description
<ul style="list-style-type: none"> <input type="checkbox"/> A. Onsite storm drain inlets <input type="checkbox"/> Not Applicable 	<ul style="list-style-type: none"> <input type="checkbox"/> Locations of inlets and catch basins. <input type="checkbox"/> Note associated with each inlet and catch basin: Mark all inlets with prohibitive language (such as “No Dumping! Flows to Bay” or similar). <input type="checkbox"/> Note associated with each public access point along channels and creeks within the project area: Post signs with prohibitive language and/or graphical icons, which prohibit illegal dumping. 	<ul style="list-style-type: none"> <input type="checkbox"/> Maintain legibility of stencils and signs (periodically repaint or replace inlet markings/signage). <input type="checkbox"/> Provide stormwater pollution prevention information to new site owners, lessees, or operators. <hr/> <p><u>Narrative Description:</u></p>
<ul style="list-style-type: none"> <input type="checkbox"/> B. Interior floor drains and elevator shaft sump pumps <input type="checkbox"/> Not Applicable 	<ul style="list-style-type: none"> <input type="checkbox"/> Show that interior floor drains and elevator shaft sump pumps will be plumbed to the sanitary sewer system. <i>(typically on building plans)</i> 	<ul style="list-style-type: none"> <input type="checkbox"/> Inspect and maintain drains to prevent blockages and overflow. <hr/> <p><u>Narrative Description:</u></p>
<ul style="list-style-type: none"> <input type="checkbox"/> C. Drains within interior parking garages <input type="checkbox"/> Not Applicable 	<ul style="list-style-type: none"> <input type="checkbox"/> Show that parking garage floor drains, except for drains that receive runoff from areas exposed to precipitation, will be plumbed to the sanitary sewer system. <i>(typically on building plans)</i> 	<ul style="list-style-type: none"> <input type="checkbox"/> Inspect and maintain drains to prevent blockages and overflow. <hr/> <p><u>Narrative Description:</u></p>

Source Control BMP Checklist

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If These Sources Will Be on the Project Site

... Then Your SWQMP Shall Implement These Source Control BMPs, as Applicable and Feasible

Potential Sources of Pollutants

Permanent BMPs—Show on Plans

(BMPs shown only on building or landscape plans can be described narratively if the applicable plan set has not yet been prepared at the time of SWQMP submittal)

Additional BMPs and Narrative Description

- D1.** Need for future indoor & structural pest control
- Not Applicable

- Provide Integrated Pest Management information to owners, lessees, and operators.
- Note building design features that discourage entry of pests.

Narrative Description:

Source Control BMP Checklist

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If These Sources Will Be on the Project Site

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Potential Sources of Pollutants	Permanent BMPs—Show on Plans <i>(BMPs shown only on building or landscape plans can be described narratively if the applicable plan set has not yet been prepared at the time of SWQMP submittal)</i>	Additional BMPs and Narrative Description
<input type="checkbox"/> D2. Landscape Design/ Outdoor Pesticide Use <input type="checkbox"/> Not Applicable	<input type="checkbox"/> Show self-retaining landscape areas, if any. <input type="checkbox"/> Show stormwater treatment facilities, if any. <input type="checkbox"/> For nurseries, garden centers, and similar facilities, show how irrigation water in the nursery/garden center will be prevented from reaching the storm drain system. <i>Show the following on the landscape or irrigation plans:</i> <input type="checkbox"/> Existing trees, shrubs, and ground cover to be undisturbed and retained. <input type="checkbox"/> Landscape and irrigation designed to prevent irrigation runoff to the storm drain system, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution. <input type="checkbox"/> Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of periodic saturated soil conditions. <input type="checkbox"/> Use of native or pest-resistant plant species. <input type="checkbox"/> Use of plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions	<input type="checkbox"/> Provide IPM information to new owners, lessees and operators. <hr/> <u>Narrative Description:</u>
<input type="checkbox"/> E. Pools, spas, ponds, decorative fountains, and other water features. <input type="checkbox"/> Not Applicable	<input type="checkbox"/> Show location of water feature.	<u>Narrative Description:</u>

Source Control BMP Checklist

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If These Sources Will Be on the Project Site	... Then Your SWQMP Shall Implement These Source Control BMPs, as Applicable and Feasible	
Potential Sources of Pollutants	Permanent BMPs—Show on Plans <i>(BMPs shown only on building or landscape plans can be described narratively if the applicable plan set has not yet been prepared at the time of SWQMP submittal)</i>	Additional BMPs and Narrative Description
<input type="checkbox"/> F. Food service <input type="checkbox"/> Not Applicable	<input type="checkbox"/> For restaurants, grocery stores, and other food service operations, show location (indoors or in a covered area outdoors) of a floor sink or other area for cleaning floor mats, containers, and equipment. <i>(typically on building plans)</i> <input type="checkbox"/> On the drawing, show a note that this drain will be connected to a grease interceptor before discharging to the sanitary sewer system. <i>(typically on building plans)</i> <input type="checkbox"/> Show a note indicating that waste containers for oils, grease, and fats will be stored indoors. Alternatively, if it is not feasible to store these containers indoors, show a designated storage structure that provides coverage for these waste containers.	<input type="checkbox"/> Include the following in lease agreements: “Tenant shall maintain grease interceptor to prevent blockages and overflow.” <hr/> <u>Narrative Description:</u>
<input type="checkbox"/> G. Refuse areas <input type="checkbox"/> Not Applicable	<input type="checkbox"/> Show where site refuse and recycled materials will be handled and stored for pickup. See local municipal requirements for sizes and other details of refuse areas. <input type="checkbox"/> For designated refuse areas located outdoors, show all of the following: <ol style="list-style-type: none"> 1. Permanent structural overhead coverage (e.g. roof) 2. Grading and structures (e.g. berms) to prevent run-on from surrounding areas and to prevent runoff from the refuse area. 3. Structures (e.g. walls, screens) to protect against wind dispersal. <input type="checkbox"/> Any drains from dumpsters or compactors shall be connected to a grease removal device before discharge to sanitary sewer.	<u>Narrative Description:</u>

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If These Sources Will Be on the Project Site

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Potential Sources of Pollutants

Permanent BMPs—Show on Plans

(BMPs shown only on building or landscape plans can be described narratively if the applicable plan set has not yet been prepared at the time of SWQMP submittal)

Additional BMPs and Narrative Description

- H.** Industrial processes.
- Not Applicable

Show outdoor process area, if applicable. If all industrial processes will take place in building, note that in the source control BMP in the SWQMP, but nothing needs to be shown on the plans.

Narrative Description:

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If These Sources Will Be on the Project Site

... Then Your SWQMP Shall Implement These Source Control BMPs, as Applicable and Feasible

Potential Sources of Pollutants

Permanent BMPs—Show on Plans

(BMPs shown only on building or landscape plans can be described narratively if the applicable plan set has not yet been prepared at the time of SWQMP submittal)

Additional BMPs and Narrative Description

- I. Outdoor storage of equipment or materials. (See rows J and K for source control measures for vehicle cleaning, repair, and maintenance.)
- Not Applicable

- Show any outdoor storage areas. For all outdoor storage areas show all structures used to meet the following requirements:
 - Materials stored outdoors shall be covered, contained, and/or elevated to prevent stormwater and non-stormwater from contacting and/or transporting materials and pollutants to the storm drain system. Some examples of cover are roofs, awnings, and tarps. Where coverage is not feasible or is cost prohibitive, alternative approaches such as installing berms around the stored materials, directing runoff to pervious areas, or installing treatment devices may be allowed.
 - Hazardous materials and wastes shall be stored, managed, and disposed in accordance with federal, state, and local laws and regulations. Hazardous materials and wastes and their primary storage containers shall also be stored such that they will not come into contact with stormwater, even if leaks or spills occur. Hazardous materials and wastes generated by business activities are additionally regulated by the County of San Diego Department of Environmental Health. Disposal of hazardous wastes using an authorized hazardous waste collection service is required. Store hazardous materials and wastes, and their primary storage containers, with sufficient cover and/or containment to prevent contact with stormwater.
 - Runoff from roofs and downspouts shall be directed away from storage areas.

- Where appropriate, reference documentation of compliance with the requirements of local Hazardous Materials Programs for:
 - Hazardous Waste Generation
 - Hazardous Materials Release Response and Inventory
 - California Accidental Release Prevention Program
 - Aboveground Storage Tank
 - Uniform Fire Code Article 80 Section 103(b) & (c) 1991
 - Underground Storage Tank

Narrative Description:

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If These Sources Will Be on the Project Site

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Potential Sources of Pollutants

Permanent BMPs—Show on Plans

(BMPs shown only on building or landscape plans can be described narratively if the applicable plan set has not yet been prepared at the time of SWQMP submittal)

Additional BMPs and Narrative Description

- J. Vehicle and Equipment Cleaning
- Not Applicable

- Show on drawings as appropriate:
Development projects that include areas for washing, steam cleaning, or other cleaning of vehicles or equipment shall incorporate the following features into the design of such areas, as applicable.
 1. Self-contained, and covered with a roof or overhang;
 2. Have a grade or berm area to prevent run-on from surrounding areas;
 3. Equipped with a clarifier, grease interceptor, or other pretreatment facility, as appropriate;
 4. Properly connected to a sanitary sewer; and
 5. No storm drains are located in wash areas; or
 6. Other features that are comparable and equally effective

- All connections to the sanitary sewer system shall obtain appropriate permits.
- If a car wash area is not provided, describe measures taken to discourage onsite car washing and explain how these will be enforced.

Narrative Description:

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If These Sources Will Be on the Project Site

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Potential Sources of Pollutants

Permanent BMPs—Show on Plans

(BMPs shown only on building or landscape plans can be described narratively if the applicable plan set has not yet been prepared at the time of SWQMP submittal)

Additional BMPs and Narrative Description

- K. Vehicle/ Equipment Repair and Maintenance**
- Not Applicable

- Accommodate all vehicle equipment repair and maintenance indoors. Or designate an outdoor work area and show all structures needed to meet the following requirements for outdoor work areas:
 1. Area is covered (e.g. with roof or canopy)
 2. Area is protected from runoff from upstream areas (e.g. with berms)
 3. Spills or by-products are prevented from escaping the contained work area
- Add a note on the plans that states either (1) there are no floor drains, or (2) floor drains are connected to a sump for collection and disposal or to wastewater pretreatment systems prior to discharge to the sanitary sewer.

- Applicable permits must be obtained for connections to the sanitary sewer system.

Narrative Description:

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If These Sources Will Be on the Project Site	... Then Your SWQMP Shall Implement These Source Control BMPs, as Applicable and Feasible	
Potential Sources of Pollutants	Permanent BMPs—Show on Plans <i>(BMPs shown only on building or landscape plans can be described narratively if the applicable plan set has not yet been prepared at the time of SWQMP submittal)</i>	Additional BMPs and Narrative Description
<input type="checkbox"/> L. Fuel Dispensing Areas <input type="checkbox"/> Not Applicable	<input type="checkbox"/> Fueling areas shall have impermeable floors (i.e., Portland cement concrete or equivalent smooth impervious surface) that are (1) graded at the minimum slope necessary to prevent ponding; and (2) separated from the rest of the site by a grade break that prevents run-on of stormwater to the MEP. The fueling area shall be defined as the area extending a minimum of 6.5 feet from the corner of each fuel dispenser or the length at which the hose and nozzle assembly may be operated plus a minimum of one foot, whichever is greater. <input type="checkbox"/> Fueling areas shall be covered by a canopy that extends a minimum of ten feet in each direction from each pump. [Alternative: The fueling area must be covered and the cover’s minimum dimensions must be equal to or greater than the area within the grade break or fuel dispensing area.] The canopy [or cover] shall not drain onto the fueling area.	<u>Narrative Description:</u>

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If These Sources Will Be on the Project Site

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Potential Sources of Pollutants	Permanent BMPs—Show on Plans <i>(BMPs shown only on building or landscape plans can be described narratively if the applicable plan set has not yet been prepared at the time of SWQMP submittal)</i>	Additional BMPs and Narrative Description
<p>M. Loading Docks</p> <p><input type="checkbox"/> Not Applicable</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Show a preliminary design for the loading dock area, including roofing and drainage. Loading docks shall be covered and/or graded to minimize run-on to and runoff from the loading area. Roof downspouts shall be positioned to direct stormwater away from the loading area. Water from loading dock areas should be drained to the sanitary sewer system where feasible. Direct connections to storm drains from depressed loading docks are prohibited. <input type="checkbox"/> Loading dock areas draining directly to the sanitary sewer shall be equipped with a spill control valve or equivalent device, which shall be kept closed during periods of operation. <input type="checkbox"/> Provide a roof overhang over the loading area or install door skirts (cowling) at each bay that enclose the end of the trailer. 	<p><u>Narrative Description:</u></p>
<p><input type="checkbox"/> N. Fire Sprinkler Test Water</p> <p><input type="checkbox"/> Not Applicable</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Show how fire sprinkler test water will be drained to the sanitary sewer system. 	<p><u>Narrative Description:</u></p>
<p><input type="checkbox"/> O.1 Boiler drain lines</p> <p><input type="checkbox"/> Not Applicable</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Show how boiler drain lines will be directly or indirectly connected to the sanitary sewer system or otherwise will not discharge to the storm drain system. 	<p><u>Narrative Description:</u></p>
<p><input type="checkbox"/> O.2 Condensate drain lines</p> <p><input type="checkbox"/> Not Applicable</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Show how condensate drain lines, including air conditioning condensate, will, if not directed to the sanitary sewer, discharge to landscaped areas (if the flow is small enough that runoff will not occur) or will otherwise not discharge to the storm drain system. 	<p><u>Narrative Description:</u></p>

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If These Sources Will Be on the Project Site	... Then Your SWQMP Shall Implement These Source Control BMPs, as Applicable and Feasible	
Potential Sources of Pollutants	Permanent BMPs—Show on Plans <i>(BMPs shown only on building or landscape plans can be described narratively if the applicable plan set has not yet been prepared at the time of SWQMP submittal)</i>	Additional BMPs and Narrative Description
<input type="checkbox"/> O.3 Rooftop equipment <input type="checkbox"/> Not Applicable	<input type="checkbox"/> Show how rooftop mounted equipment with potential to produce pollutants will have overhead coverage and/or have secondary containment.	<u>Narrative Description:</u>
<input type="checkbox"/> O.4 Drainage sumps <input type="checkbox"/> Not Applicable	<input type="checkbox"/> Show how any drainage sumps onsite will feature a sediment sump to reduce the quantity of sediment in pumped water.	<u>Narrative Description:</u>
<input type="checkbox"/> O.5 Roofing, gutters, and trim <input type="checkbox"/> Not Applicable	<input type="checkbox"/> Show that roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff will be avoided.	<u>Narrative Description:</u>
<input type="checkbox"/> P. Plazas, sidewalks, and parking lots. <input type="checkbox"/> Not Applicable		<input type="checkbox"/> Plazas, sidewalks, and parking lots shall be swept regularly, or cleaned using an equally effective method, to prevent the accumulation of litter and debris. <hr/> <u>Narrative Description:</u>

Appendix H

Operation and Maintenance

Indicate which items are included behind this cover sheet

Contents	Included (Y/N)
H.1. Operation and Maintenance Plan <i>Note: all pages of the O&M Plan must be on 8.5" x 11" paper (either portrait or landscape orientation is acceptable).</i>	
H.2. Draft Stormwater Facilities Maintenance Agreement (where applicable) <i>The maintenance agreement must be completed with project-specific information and submitted as a draft. The maintenance agreement will be recorded at the end of the project rather than at the time of SWQMP approval. Maintenance agreements are not required for projects when the City will be responsible for all BMP operation and maintenance.</i>	

[See the main body of the SWQMP template for a list of required components in the O&M Plan and references to applicable BMP Design Manual tables that can be incorporated into the O&M Plan.]

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Appendix H.1. Operation and Maintenance Plan

Appendix H.2. Draft Stormwater Facilities Maintenance Agreement

[Delete if not applicable]