
VENTURA COUNTYWIDE STORMWATER QUALITY URBAN IMPACT
MITIGATION PLAN

FOR THE VENTURA COUNTY FLOOD CONTROL DISTRICT, THE
COUNTY OF VENTURA, AND THE CITIES OF VENTURA COUNTY

VENTURA COUNTYWIDE URBAN RUNOFF AND STORM WATER NPDES PERMIT

STORM WATER QUALITY URBAN IMPACT MITIGATION PLAN

BACKGROUND

The Ventura Countywide Stormwater Quality Management Program (Ventura Program) was established pursuant to Section 402(p) of the Federal Clean Water Act, which requires that all point source discharges of pollutants into waters of the United States, including discharges from municipal storm drain systems, be regulated by a National Pollutant Discharge Elimination System (NPDES) permit. On August 22, 1994 the California Regional Water Quality Control Board, Los Angeles Region (Regional Board), issued NPDES permit CAS063339 (Permit) to the Ventura County Flood Control District (VCFCD), the County of Ventura, and the cities of Camarillo, Fillmore, Moorpark, Ojai, Oxnard, Port Hueneme, San Buenaventura, Santa Paula, Simi Valley, and Thousand Oaks for discharges from municipal storm drain systems in Ventura County. On February 11, 1999 these twelve agencies, the Co-permittees, submitted a Stormwater Quality Management Plan (1999 Plan) in accordance with Title 23, California Code of Regulation and as required by Permit. The 1999 Plan served as application for reissuance of waste discharge requirements and presented activities designed to advance the municipal storm water program that the Co-permittees implemented during the first five-year permit term. The 1999 Plan included a program for development planning. The Regional Board accepted the 1999 Plan, however, delayed reissuance of the Permit. On March 8, 2000, the Regional Board approved a final Standard Urban Storm Water Mitigation Plan (SUSMP) for Los Angeles County and the Cities in Los Angeles County. Subsequently, at the request of the Regional Board, the Co-permittees prepared the Ventura Countywide Stormwater Quality Urban Impact Mitigation Plan (SQUIMP) to be consistent with SUSMP requirements and will be modifying the 1999 Plan to include the modified requirements.

The requirement to implement a program for development planning is based on, federal and state statutes including: Section 402 (p) of the Clean Water Act, Section 6217 of the Coastal Zone Act Reauthorization Amendments of 1990 ("CZARA"), and the California Water Code. The Clean Water Act amendments of 1987 established a framework for regulating storm water discharges from municipal, industrial, and construction activities under the NPDES program. The primary objectives of the municipal storm water program requirements are to:

1. Effectively prohibit non-storm water discharges, and

2. Reduce the discharge of pollutants from storm water conveyance systems to the Maximum Extent Practicable (MEP statutory standard).

The SQUIMP was developed as part of the municipal storm water program to address storm water pollution from new development and redevelopment by the private sector. This SQUIMP contains a list of the minimum required Best Management Practices (BMPs) that shall be used for a designated project. Additional BMPs may be required by ordinance or code adopted by the Co-permittees and applied generally or on a case by case basis. The Co-permittees are required to implement the requirements set herein in their own jurisdictions. Developers shall incorporate appropriate SQUIMP requirements into the project plans for the projects covered by the SQUIMP requirements. Each Co-permittee will approve the project plan as part of the development plan approval process.

All projects that fall into one of eight categories are identified in the Ventura Countywide Municipal Permit as requiring SQUIMPs. These categories are:

- Single-Family Hillside Residences
- 100,000 Square Foot Commercial Developments
- Automotive Repair Shops
- Retail Gasoline Outlets
- Restaurants
- Home Subdivisions with 10 or more housing units
- Location within or directly adjacent to or discharging directly to an environmentally sensitive area
- Parking lots with 5,000 square feet or more impervious parking or access surfaces or with 25 or more parking spaces and potentially exposed to storm water runoff

The SQUIMP requirements shall take effect not later than January 27, 2001 for projects identified herein that have not received development/planning permit approval or been deemed complete for processing prior to July 27, 2000..

DEFINITIONS

“100,000 Square Foot Commercial Development” means any commercial development that creates at least 100,000 square feet of impermeable area, including parking areas.

“Automotive Repair Shop” means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539.

“Best Management Practice (BMP)” means any program, technology, process, siting criteria, operational methods or measures, or engineered systems, which when implemented prevent, control, remove, or reduce pollution.

“Commercial Development” means any development on private land that is not heavy industrial or residential. The category includes, but is not limited to: hospitals, laboratories and other medical facilities, educational institutions, recreational facilities, plant nurseries, multi-apartment buildings, car wash facilities, mini-malls and other

Board Order No. 00-108, NPDES Permit No. CAS004002

business complexes, shopping malls, hotels, office buildings, public warehouses and other light industrial complexes.

“Designated Public Access Points” means any pedestrian, bicycle, equestrian, or vehicular point of access to jurisdictional channels in the area of Ventura County subject to permit requirements.

“Directly Adjacent” means situated within 200 feet of the contiguous zone required for the continued maintenance, function, and structural stability of the environmentally sensitive area.

“Directly Connected Impervious Area (DCIA)” means the area covered by a building, impermeable pavement, and/ or other impervious surfaces, which drains directly into the storm drain without first flowing across permeable land area (e.g. lawns).

“Directly Discharging” means outflow from a drainage conveyance system that is composed entirely or predominantly of flows from the subject, property, development, subdivision, or industrial facility, and not commingled with the flows from adjacent lands.

“Environmentally Sensitive Area” means an area “in which plant or animal 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” (California Public Resources Code § 30107.5)

Areas subject to storm water mitigation requirements are: areas designated as an Area of Special Biological Significance (ASBS) by the State Water Resources Control Board, an area designated as a significant natural resource by the California Resources Agency, or an area identified by the Discharger as environmentally sensitive for water quality purposes, based on the Regional Board Basin Plan and Clean Water Act Section 303(d) Impaired Water-bodies List for the County of Ventura.

“Hillside” means property located in an area with known erosive soil conditions, where the development contemplates grading on any natural slope that is twenty-five percent or greater.

“Infiltration” means the downward entry of water into the surface of the soil.

“New Development” means land disturbing activities; structural development, including construction or installation of a building or structure, creation of impervious surfaces; and land subdivision.

“Parking Lot” means land area or facility for the temporary parking or storage of motor vehicles used personally, for business or for commerce with an impervious surface area of 5,000 square feet or more, or with 25 or more parking spaces.

“Redevelopment” means, but is not limited to, the expansion of a building footprint or

addition or replacement of a structure; structural development including an increase in gross floor area and/or exterior construction or remodeling; replacement of impervious surface that is not part of a routine maintenance activity; land disturbing activities related with structural or impervious surfaces. Redevelopment that results in the creation or addition of 5,000 square feet or more of impervious surfaces is subject to the requirements for storm water mitigation. If the creation or addition of impervious surfaces is fifty percent or more of the existing impervious surface area, then storm water runoff from the entire area (existing and additions) must be considered for purposes of storm water mitigation. If the creation or additions is less than fifty percent of the existing impervious area, then storm water runoff from only the addition area needs mitigation.

“Restaurant” means a stand-alone facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption. (SIC code 5812).

“Retail Gasoline Outlet” means any facility engaged in selling gasoline and lubricating oils.

“Source Control BMP” means any schedules of activities, structural devices, prohibitions of practices, maintenance procedures, managerial practices or operational practices that aim to prevent storm water pollution by reducing the potential for contamination at the source of pollution.

“Storm Event” means a rainfall event that produces more than 0.1 inch of precipitation and that, which is separated from the previous storm event by at least 72 hours of dry weather.

“Structural BMP” means any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution (e.g. canopy, structural enclosure). The category may include both Treatment Control BMPs and Source Control BMPs.

“Treatment” means the application of engineered systems that use physical, chemical, or biological processes to remove pollutants. Such processes include, but are not limited to, filtration, gravity settling, media adsorption, biodegradation, biological uptake, chemical oxidation and UV radiation.

“Treatment Control BMP” means any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media adsorption or any other physical, biological, or chemical process.

CONFLICTS WITH LOCAL PRACTICES

Where provisions of the SQUIMP requirements conflict with established local codes, (e.g., specific language of signage used on storm drain stenciling), the Co-permittees may continue the local practice and modify the SQUIMP to be consistent with the code,

except that to the extent that the standards in the SQUIMP are more stringent than those under local codes, such more stringent standards shall apply.

SQUIMP PROVISIONS APPLICABLE TO ALL CATEGORIES

REQUIREMENTS

1. PEAK STORM WATER RUNOFF DISCHARGE RATES

The Discharger shall control the post-development peak storm water runoff discharge rates to maintain or reduce pre-development downstream erosion, and to protect stream habitat.

2. CONSERVE NATURAL AREAS

If applicable, the following items are required and shall be implemented in the site layout during the subdivision design and approval process, consistent with applicable General Plan and Local Area Plan policies:

- Concentrate or cluster Development on portions of a site while leaving the remaining land in a natural undisturbed condition.
- Limit clearing and grading of native vegetation at a site to the minimum amount needed to build lots, allow access, and provide fire protection.
- Maximize trees and other vegetation at each site by planting additional vegetation, clustering tree areas, and promoting the use of native and/or drought tolerant plants.
- Promote natural vegetation by using parking lot islands and other landscaped areas.
- Preserve riparian areas and wetlands.

3. MINIMIZE STORM WATER POLLUTANTS OF CONCERN

Storm water runoff from a site has the potential to contribute oil and grease, suspended solids, metals, gasoline, pesticides, and pathogens to the storm water conveyance system. The development shall be designed so as to minimize, to the maximum extent practicable, the introduction of pollutants of concern that may result in significant impacts, generated from site runoff of directly connected impervious areas (DCIA), to the storm water conveyance system. Pollutants of concern consist of any pollutants that exhibit one or more of the following characteristics: current loadings or historic deposits of the pollutant are impacting the beneficial uses of a receiving water, elevated levels of the pollutant are found in sediments of a receiving water and/or have the potential to bioaccumulate in organisms therein, or the detectable inputs of the pollutant are at concentrations or loads considered potentially toxic to humans and/or flora and fauna. The storm water pollutants of concern currently identified by the Program are total and fecal coliform, mercury, PAHs, DDT and byproducts, diazinon, sediment/TSS,

chlorpyrifos, copper, lead, thallium, bis(2-ethylhexyl)phthalate, and phosphorous. The program may amend the list of pollutants of concern as additional information becomes available.

In meeting this specific requirement, “minimization of the pollutants of concern” will require the incorporation of a BMP or combination of BMPs best suited to maximize the reduction of pollutant loadings in that runoff to the Maximum Extent Practicable. Those BMPs best suited for that purpose are those listed in the *Ventura Countywide Stormwater Quality Management Program’s Land Development Guidelines*; *California Storm Water Best Management Practices Handbooks*; *Caltrans Storm Water Quality Handbook: Planning and Design Staff Guide*; *Start at the Source (1999)* by Bay Area Stormwater Management Agencies Association, *Manual for Storm Water Management in Washington State*; *The Maryland Storm Water Design Manual*; *Florida Development Manual: A Guide to Sound Land and Water Management*; *Denver Urban Storm Drainage Criteria Manual, Volume 3 – Best Management Practices and Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters*, USEPA Report No. EPA-840-B-92-002, as “likely to have significant impact” beneficial to water quality for targeted pollutants that are of concern at the site in question. However, it is possible that a combination of BMPs not so designated may, in a particular circumstance, be better suited to maximize the reduction of the pollutants.

Examples of BMPs that can be used for minimizing the introduction of pollutants of concern generated from site runoff are identified in Table 2. All BMPs for development planning recommended in one of the above references may be used, subject to the criteria set in this SQUIMP.

4. PROTECT SLOPES AND CHANNELS

Project plans shall include BMPs consistent with local codes and ordinances and the SQUIMP to decrease the potential of slopes and/or channels from eroding and impacting storm water runoff:

- Convey runoff safely from the tops of slopes and stabilize disturbed slopes
- Utilize natural drainage systems to the Maximum Extent Practicable
- Control or reduce or eliminate flow to natural drainage systems to the Maximum Extent Practicable
- Stabilize permanent channel crossings
- Vegetate slopes with first consideration given to native or drought tolerant species
- Install energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels that enter unlined channels in accordance with applicable specifications to minimize erosion, with the approval of all agencies with jurisdiction, e.g., the U.S. Army Corps of Engineers and the California Department of Fish and Game

5. PROVIDE STORM DRAIN SYSTEM STENCILING AND SIGNAGE

Storm drain stencils are highly visible source controls that are typically placed directly adjacent to storm drain inlets. The stencil contains a brief statement that prohibits the dumping of improper materials into the storm water conveyance system. Graphical icons, either illustrating anti-dumping symbols or images of receiving water fauna, are effective supplements to the anti-dumping message.

- All storm drain inlets and catch basins within the project area shall be stenciled with prohibitive language (such as: "DON'T DUMP! DRAINS TO OCEAN") and/or graphical icons to discourage illegal dumping.
- Signs and prohibitive language and/or graphical icons, which prohibit illegal dumping, shall be posted at designated public access points along channels and creeks within the project area.
- Legibility of stencils and signs shall be maintained.

6. PROPERLY DESIGN OUTDOOR MATERIAL STORAGE AREAS

Outdoor material storage areas refer to storage areas or storage facilities solely for the storage of materials. Improper storage of materials outdoors may provide an opportunity for toxic compounds, oil and grease, heavy metals, nutrients, suspended solids, and other pollutants to enter the storm water conveyance system. Where proposed project plans include outdoor areas for permanent storage of materials that may contribute pollutants to the storm water conveyance system, the following Structural or Treatment BMPs are required:

- Materials with the potential to contaminate storm water shall be: (1) placed in an enclosure such as, but not limited to, a cabinet, shed, or similar structure that prevents contact with runoff or spillage to the storm water conveyance system; or (2) protected by secondary containment structures such as berms, dikes, or curbs.
- The storage area shall be paved and sufficiently impervious to contain leaks and spills.
- The storage area shall have a roof or awning to minimize collection of storm water within the secondary containment area.

7. PROPERLY DESIGN TRASH STORAGE AREAS

A trash storage area refers to an area where a trash receptacle or receptacles are located for use as a repository for solid wastes. Loose trash and debris can be easily transported by the forces of water or wind into nearby storm drain inlets, channels, and/or creeks. All trash container areas shall meet the following Structural or Treatment

Control BMP requirements (individual single family residences are exempt from these requirements):

- Trash container areas shall have drainage from adjoining roofs and pavement diverted around the area(s).
- Trash container areas shall be screened or walled to prevent off-site transport of trash.

8. PROVIDE PROOF OF ONGOING BMP MAINTENANCE

Improper maintenance is one of the most common reasons why water quality controls will not function as designed or systems to fail entirely. It is important to consider who will be responsible for maintenance of a permanent BMP and what equipment is required to perform the maintenance properly. As part of project review, if a project applicant has included or is required to include, Structural or Treatment Control BMPs in project plans, the Co-permittee shall require that the applicant provide verification of maintenance provisions through such means as may be appropriate, including, but not limited to legal agreements, covenants, CEQA mitigation requirements and/or Conditional Use Permits.

For all properties, the verification will include the developer's signed statement, as part of the project application, accepting responsibility for all structural and treatment control BMP maintenance until the time the property is transferred and, where applicable, a signed agreement from the public or private entity assuming responsibility for Structural or Treatment Control BMP maintenance. The transfer of property to a private or public owner shall have conditions requiring the recipient to assume responsibility for maintenance of any Structural or Treatment Control BMP included in the sales or lease agreement for that property. The condition of transfer shall include a provision that the property owners conduct maintenance inspection of all Structural or Treatment Control BMPs at least once a year and retain proof of inspection. For residential properties where the Structural or Treatment Control BMPs are located within a common area which will be maintained by a homeowner's association, language regarding the responsibility for maintenance shall be included in the projects conditions, covenants and restrictions (CC&Rs). Printed educational materials will be required to accompany the first deed transfer to highlight the existence of the requirement and to provide information on what storm water management facilities are present, signs that maintenance is needed, how the necessary maintenance can be performed, and assistance that the Co-permittee can provide. The transfer of this information shall also be required with any subsequent sale of the property.

If Structural or Treatment Control BMPs are located within a public area proposed for transfer, they will be the responsibility of the developer until they are accepted for transfer by the appropriate public agency. Structural or Treatment Control BMPs proposed for transfer shall meet design standards adopted by the public entity for the BMP installed and should be approved by the appropriate public agency prior to

installation.

9. DESIGN STANDARDS FOR STRUCTURAL OR TREATMENT CONTROL BMPs

Structural or Treatment Control BMPs selected for use at any project covered by this SQUIMP shall meet the design standards of this Section unless specifically exempted.

Volume-based and flow-based design standards may be used separately or in combination to equivalent treatment of storm water discharges. Volume-based criteria should be used in the sizing of detention/retention or infiltration structures; flow-based criteria should be used on swales, catch basin devices, or wetlands. Other, BMP-specific criteria may be applicable. Project applicants should refer to the *Ventura Countywide Storm Water Quality Management Program Land Development Guidelines* for further information.

Volume-based Post-construction Structural or Treatment Control BMPs shall be designed to mitigate (infiltrate or treat) storm water runoff from either:

1. the volume of annual runoff based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment by the method recommended in *California Stormwater Best Management Practices Handbook – Industrial/ Commercial*, (1993), the *Ventura Countywide Stormwater Quality Management Program Land Development Guidelines*, or
2. the 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area, from the formula recommended in *Urban Runoff Quality Management, WEF Manual of Practice No. 23/ ASCE Manual of Practice No. 87*, (1998), or
3. the volume of runoff produced from a 0.75 inch storm event, prior to its discharge to a storm water conveyance system, or
4. the volume of runoff produced from a historical-record based reference 24-hour rainfall criterion for "treatment" that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event,

OR

Flow Based Post-Construction Structural or Treatment Control BMPs shall be sized to handle the flow generated from either:

1. 10% of the 50-year design flow rate, or
2. a flow that will result in treatment of the same portion of runoff as treated using volumetric standards above, or
3. a rain event equal to at least 0.2 inches per hour intensity, or
4. a rain event equal to at least two times the 85th percentile hourly rainfall intensity for Ventura County

Limited Exclusion

Where the land area for development or redevelopment is less than 5,000 square feet, restaurants are excluded from the numerical Structural or Treatment Control BMP design standard requirement only.

10. PROVISIONS APPLICABLE TO INDIVIDUAL PRIORITY PROJECT CATEGORIES

REQUIREMENTS

A. 100,000 SQUARE FOOT COMMERCIAL DEVELOPMENTS

1. PROPERLY DESIGN LOADING/UNLOADING DOCK AREAS

Loading/unloading dock areas have the potential for material spills to be quickly transported to the storm water conveyance system. To minimize this potential, the following design criteria are required:

- Cover loading dock areas or design drainage to minimize run-on and runoff of storm water.
- Direct connections to storm drains from depressed loading docks (truck wells) are prohibited.

2. PROPERLY DESIGN REPAIR/MAINTENANCE BAYS

Oil and grease, solvents, car battery acid, coolant and gasoline from the repair/maintenance bays can negatively impact storm water if allowed to come into contact with storm water runoff. Therefore, design plans for repair bays shall include the following:

- Repair/maintenance bays shall be indoors or designed in such a way that does not allow storm water run-on or contact with storm water runoff.
- Design a repair/maintenance bay drainage system to capture all washwater, leaks and spills. Connect drains to a sump for collection and disposal. Direct connection of the repair/maintenance bays to the storm drain system is prohibited. If required by local jurisdiction, obtain an Industrial Waste Discharge Permit.

3. PROPERLY DESIGN VEHICLE/EQUIPMENT WASH AREAS

The activity of vehicle/equipment washing/steam cleaning has the potential to contribute metals, oil and grease, solvents, phosphates, and suspended solids to the storm water

conveyance system. Include, in the project plans, an area for washing/steam cleaning of vehicles and equipment. The area in the site design shall be:

- Self-contained and/or covered, equipped with a clarifier, or other pretreatment facility, and properly connected to a sanitary sewer.

B. RESTAURANTS

1. PROPERLY DESIGN EQUIPMENT/ACCESSORY WASH AREAS

The activity of outdoor equipment/accessory washing/steam cleaning has the potential to contribute metals, oil and grease, solvents, phosphates, and suspended solids to the storm water conveyance system. Include in the project plans an area for the washing/steam cleaning of equipment and accessories. This area shall be:

- Self-contained, connected to a grease interceptor, and properly connected to a sanitary sewer.
- If the wash area is to be located outdoors, it shall be covered, paved, have secondary containment, be connected to a grease interceptor and be connected to the sanitary sewer.

C. RETAIL GASOLINE OUTLETS

1. PROPERLY DESIGN FUELING AREA

Fueling areas have the potential to contribute oil and grease, solvents, car battery acid, coolant and gasoline to the storm water conveyance system. The project plans shall include the following BMPs:

- The fuel dispensing area shall be covered with an overhanging roof structure or canopy. The canopy's minimum dimensions shall be equal to or greater than the area within the grade break. The canopy shall not drain onto the fuel dispensing area, and the canopy downspouts shall be routed to prevent drainage across the fueling area.
- The fuel dispensing area shall be paved with Portland cement concrete (or equivalent smooth impervious surface), and the use of asphalt concrete shall be prohibited.
- The fuel dispensing area shall have a 2% to 4% slope to prevent ponding, and shall be separated from the rest of the site by a grade break that prevents run-on of storm water to the extent practicable.
- At a minimum, the concrete fuel dispensing area shall extend 6.5 feet (2.0 meters) from the corner of each fuel dispenser, or the length at which the hose and nozzle assembly may be operated plus 1 foot (0.3 meter), whichever is less.

D. AUTOMOTIVE REPAIR SHOPS

1. PROPERLY DESIGN FUELING AREA

Fueling areas have the potential to contribute oil and grease, solvents, car battery acid, coolant and gasoline to the storm water conveyance system. Therefore, design plans, which include fueling areas, shall contain the following:

- The fuel dispensing area shall be covered with an overhanging roof structure or canopy. The cover's minimum dimensions shall be equal to or greater than the area within the grade break. The cover shall not drain onto the fuel dispensing area and the downspouts shall be routed to prevent drainage across the fueling area.
- The fuel dispensing areas shall be paved with Portland cement concrete (or equivalent smooth impervious surface), and the use of asphalt concrete shall be prohibited.
- The fuel dispensing area shall have a 2% to 4% slope to prevent ponding, and shall be separated from the rest of the site by a grade break that prevents run-on of storm water.
- At a minimum, the concrete fuel dispensing area shall extend 6.5 feet (2.0 meters) from the corner of each fuel dispenser, or the length at which the hose and nozzle assembly may be operated plus 1 foot (0.3 meter), whichever is less.

2. PROPERLY DESIGN REPAIR/MAINTENANCE BAYS

Oil and grease, solvents, car battery acid, coolant and gasoline from the repair/maintenance bays can negatively impact storm water if allowed to come into contact with storm water runoff. Therefore, design plans for repair bays shall include the following:

- Repair/maintenance bays shall be indoors or designed in such a way that does not allow storm water run-on or contact with storm water runoff.
- Design a repair/maintenance bay drainage system to capture all wash-water, leaks and spills. Connect drains to a sump for collection and disposal. Direct connection of the repair/maintenance bays to the storm drain system is prohibited. If required by local jurisdiction, an Industrial Waste Discharge Permit should be obtained.

3. PROPERLY DESIGN VEHICLE/EQUIPMENT WASH AREAS

The activity of vehicle/equipment washing/steam cleaning has the potential to contribute metals, oil and grease, solvents, phosphates, and suspended solids to the storm water conveyance system. Include, in the project plans, an area for washing/steam cleaning of vehicles and equipment. This area shall be:

- Self-contained and/or covered, equipped with a clarifier, or other pretreatment facility, and properly connected to a sanitary sewer or to a permitted disposal facility.

4. PROPERLY DESIGN LOADING/UNLOADING DOCK AREAS

Loading/unloading dock areas have the potential for material spills to be quickly transported to the storm water conveyance system. To minimize this potential, the following design criteria are required:

- Cover loading dock areas or design drainage to minimize run-on and runoff of storm water
- Direct connections to storm drains from depressed loading docks (truck wells) are prohibited

E. PARKING LOTS

1. PROPERLY DESIGN PARKING AREA

Parking lots contain pollutants such as heavy metals, oil and grease, and polycyclic aromatic hydrocarbons that are deposited on parking lot surfaces by motor vehicles. These pollutants are directly transported to surface waters. To minimize the offsite transport of pollutants, the following design criteria are required:

- Reduce impervious land coverage of parking areas
- Infiltrate runoff before it reaches the storm drain system
- Treat runoff before it reaches the storm drain system

2. PROPERLY DESIGN TO LIMIT OIL CONTAMINATION AND PERFORM MAINTENANCE

Parking lots may accumulate oil, grease, and water insoluble hydrocarbons from vehicle drippings and engine system leaks.

- Treat to remove oil and petroleum hydrocarbons at parking lots that are heavily used (e.g. fast food outlets, lots with 25 or more parking spaces, sports event parking lots, shopping malls, grocery stores, discount warehouse stores)

- Ensure adequate operation and maintenance of treatment systems, particularly sludge and oil removal, and system fouling/plugging prevention control

11. WAIVER

A Co-permittee may, through adoption of an ordinance or code incorporating the treatment requirements of the SQUIMP, provide for a waiver from the requirement if impracticability for a specific property can be established. A waiver for impracticability shall be granted only when all other Structural or Treatment Control BMPs have been considered and rejected as infeasible. Recognized situations of impracticability include, (i) extreme limitations of space for treatment on a redevelopment project, (ii) unfavorable or unstable soil conditions at a site to attempt infiltration, and (iii) risk of ground water contamination because a known unconfined aquifer lies beneath the land surface or an existing or potential underground source of drinking water is less than 10 feet from the soil surface. Any other justification for impracticability shall be separately petitioned by the Co-permittee and submitted to the Regional Board for consideration. The Regional Board may consider approval of the waiver justification or may delegate the authority to approve a class of waiver justifications to the Regional Board Executive Officer. The supplementary waiver justification becomes recognized and effective only after approval by the Regional Board or the Regional Board Executive Officer. A waiver granted by a Co-permittee to any development or redevelopment project may be revoked by the Regional Board Executive Officer for cause and with proper notice upon petition.

If a waiver is granted for impracticability, the Co-permittee shall require the project proponent to transfer the savings in cost, as determined by the Co-permittee, to a storm water mitigation fund operated by a public agency or a non-profit entity to be used to promote regional or alternative solutions for storm water pollution in the watershed.

12. LIMITATION ON USE OF INFILTRATION BMPs

Three factors significantly influence the potential for storm water to contaminate ground water. They are (i) pollutant mobility, (ii) pollutant abundance in storm water, (iii) and soluble fraction of pollutant. The risk of contamination of groundwater may be reduced by pretreatment of storm water. A discussion of limitations and guidance for infiltration practices is contained in, *Potential Groundwater Contamination from Intentional and Non-Intentional Storm water Infiltration, Report No. EPA/600/R-94/051, USEPA (1994)*.

The distance of the groundwater table from the infiltration BMP may also be a factor determining the risk of contamination. A historic high water table distance separation of ten feet depth in California presumptively poses negligible risk for storm water not associated with industrial activity or high vehicular traffic except in cases where

groundwater basins are unconfined. Unconfined groundwater basins and vulnerable unconfined aquifers are areas that have been identified by the County of Ventura Public Works Agency, Water Resources Division and the Regional Board as areas where the application of infiltration BMPs should be limited to those that provide pre-treatment to ensure groundwater is protected from pollutants of concern.

Infiltration BMPs are not recommended for areas of industrial activity or areas subject to high vehicular traffic (25,000 or greater average daily traffic (ADT) on main roadway or 15,000 or more ADT on any intersecting roadway) unless appropriate pretreatment is provided to ensure groundwater is protected and the infiltration BMP is not rendered ineffective by overload.

13. ALTERNATIVE CERTIFICATION FOR STORM WATER TREATMENT MITIGATION

In lieu of conducting detailed BMP review to verify Structural or Treatment Control BMPs adequacy, a Co-permittee may elect to accept a signed certification from a Civil Engineer or a Licensed Architect registered in the State of California, that the plan meets the criteria established herein. The Co-permittee is encouraged to verify that certifying person(s) have been trained on BMP design for water quality, not more than two years prior to the signature date. Training conducted by an organization with storm water BMP design expertise (e.g., a University, American Society of Civil Engineers, American Society of Landscape Architects, American Public Works Association, or the California Water Environment Association) may be considered qualifying.

14. RESOURCES AND REFERENCE

TABLE 1

SUGGESTED RESOURCES	HOW TO GET A COPY
<p>Ventura Countywide Stormwater Quality Management Program Land Development Guidelines</p> <p>Presents guidance for designing storm water BMPs</p>	<p>Ventura County Flood Control District 800 South Victoria Avenue Ventura, CA 93009 805-650-4064</p>
<p>Start at the Source (1999) by Bay Area Stormwater Management Agencies Association</p> <p>Detailed discussion of permeable pavements and alternative driveway designs presented.</p>	<p>Bay Area Stormwater Management Agencies Association 2101 Webster Street Suite 500 Oakland, CA 510-286-1255</p>
<p>Design of Stormwater Filtering Systems (1996) by Richard A. Claytor and Thomas R. Schuler</p> <p>Presents detailed engineering guidance on ten different storm water-filtering systems.</p>	<p>Center for Watershed Protection 8391 Main Street Ellicott City, MD 21043 410-461-8323</p>
<p>Better Site Design: A Handbook for Changing Development Rules in Your Community (1998)</p> <p>Presents guidance for different model development alternatives.</p>	<p>Center for Watershed Protection 8391 Main Street Ellicott City, MD 21043 410-461-8323</p>
<p>Design Manual for Use of Bioretention in Stormwater Management (1993)</p> <p>Presents guidance for designing bioretention facilities.</p>	<p>Prince George's County Watershed Protection Branch 9400 Peppercorn Place, Suite 600 Landover, MD 20785</p>
<p>Operation, Maintenance and Management of Stormwater Management (1997)</p> <p>Provides a thorough look at storm water practices including, planning and design considerations, programmatic and regulatory aspects, maintenance considerations, and costs.</p>	<p>Watershed Management Institute, Inc. 410 White Oak Drive Crawfordville, FL 32327 850-926-5310</p>

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<p>California Storm Water Best Management Practices Handbooks (1993) for Construction Activity, Municipal, and Industrial/Commercial</p> <p>Presents a description of a large variety of Structural BMPs, Treatment Control, BMPs and Source Control BMPs</p>	<p>Los Angeles County Department of Public Works Cashiers Office 900 S. Fremont Avenue Alhambra, CA 91803 626-458-6959</p>
<p>Second Nature: Adapting LA's Landscape for Sustainable Living (1999) by Tree People</p> <p>Detailed discussion of BMP designs presented to conserve water, improve water quality, and achieve flood protection.</p>	<p>Tree People 12601 Mullholland Drive Beverly Hills, CA 90210 818-753-4600</p>
<p>Florida Development Manual: A Guide to Sound Land and Water Management (1988)</p> <p>Presents detailed guidance for designing BMPs</p>	<p>Florida Department of the Environment 2600 Blairstone Road, Mail Station 3570 Tallahassee, FL 32399 850-921-9472</p>
<p>Stormwater Management in Washington State (2000) Vols. 1-5</p> <p>Presents detailed guidance on BMP design for new development and construction.</p>	<p>Department of Printing State of Washington Department of Ecology P.O. Box 798 Olympia, WA 98507-0798 360-407-7529</p>
<p>Maryland Stormwater Design Manual (2000)</p> <p>Presents guidance for designing storm water BMPs</p>	<p>Maryland Department of the Environment 2500 Broening Highway Baltimore, MD 21224 410-631-3000</p>
<p>Texas Nonpoint Source Book – Online Module (1998)www.txnpsbook.org</p> <p>Presents BMP design and guidance information on-line</p>	<p>Texas Statewide Storm Water Quality Task Force North Central Texas Council of Governments 616 Six Flags Drive Arlington, TX 76005 817-695-9150</p>
<p>Urban Storm Drainage, Criteria Manual – Volume 3, Best Management Practices (1999)</p> <p>Presents guidance for designing BMPs</p>	<p>Urban Drainage and Flood Control District 2480 West 26th Avenue, Suite 156-B Denver, CO 80211 303-455-6277</p>
<p>National Storm water Best Management Practices (BMP) Database, Version 1.0</p> <p>Provides data on performance and evaluation of storm water BMPs</p>	<p>American Society of Civil Engineers 1801 Alexander Bell Drive Reston, VA 20191 703-296-6000</p>

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<p>Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters (1993) Report No. EPA-840-B-92-002.</p> <p>Provides an overview of, planning and design considerations, programmatic and regulatory aspects, maintenance considerations, and costs.</p>	<p>National Technical Information Service U.S. Department of Commerce Springfield, VA 22161 800-553-6847</p>
<p>Caltrans Storm Water Quality Handbook: Planning and Design Staff Guide (Best Management Practices Handbooks (1998)</p> <p>Presents guidance for design of storm water BMPs</p>	<p>California Department of Transportation P.O. Box 942874 Sacramento, CA 94274-0001 916-653-2975</p>

TABLE 2

EXAMPLE BEST MANAGEMENT PRACTICES (BMPs)

The following are examples of BMPs that can be used for minimizing the introduction of pollutants of concern that may result in significant impacts, generated from site runoff to the storm water conveyance system. (See Table 1: Suggested Resources for additional sources of information):

- Provide reduced width sidewalks and incorporate landscaped buffer areas between sidewalks and streets. However, sidewalk widths shall still comply with regulations for the Americans with Disabilities Act and other life safety requirements.
- Design residential streets for the minimum required pavement widths needed to comply with all zoning and applicable ordinances to support travel lanes; on-street parking; emergency, maintenance, and service vehicle access; sidewalks; and vegetated open channels.
- Comply with all zoning and applicable ordinances to minimize the number of residential street cul-de-sacs and incorporate landscaped areas to reduce their impervious cover. The radius of cul-de-sacs should be the minimum required to accommodate emergency and maintenance vehicles. Alternative turnarounds should be considered.
- Use permeable materials for private sidewalks, driveways, parking lots, or interior roadway surfaces (examples: hybrid lots, parking groves, permeable overflow parking, etc.).
- Use open space development that incorporates smaller lot sizes.
- Reduce building density.
- Comply with all zoning and applicable ordinances to reduce overall lot imperviousness by promoting alternative driveway surfaces and shared driveways that connect two or more homes together.
- Comply with all zoning and applicable ordinances to reduce the overall imperviousness associated with parking lots by providing compact car spaces, minimizing stall dimensions, incorporating efficient parking lanes, and using pervious materials in spillover parking areas.
- Direct rooftop runoff to pervious areas such as yards, open channels, or vegetated areas, and avoid routing rooftop runoff to the roadway or the storm water conveyance system.
- Biofilters including vegetated swales and strips
- Extended/dry detention basins
- Infiltration basin
- Infiltration trenches or vaults
- Wet detention basins/wet ponds
- Constructed wetlands

TABLE 2 (Continued)

- Catch basin inserts
- Continuous flow deflection/separation systems
- Storm drain inserts
- Media filtration
- Bioretention facility
- Foundation planting
- Catch basin screens
- Normal flow storage/separation systems
- Clarifiers
- Filtration systems
- Primary waste water treatment systems
- Dry Wells¹
- Cistern

¹ The proponent must ensure that this BMP complies with all applicable federal, state, and local requirements for siting, construction, operation and maintenance.