City of Vista

STORMWATER STANDARDS MANUAL

Summary Outline

SECTION A. INTRODUCTION

A.1 Stormwater Standards Manual

This Stormwater Standards Manual (Manual) is to be used in conjunction with to the City of Vista Stormwater Management, and Discharge Control Program Ordinance (Ordinance) (See Vista Municipal Code Chapter 13.18). This Manual is not a stand-alone document, but must be read in conjunction with other parts of the Ordinance. In general, this Manual sets out in more detail, by project category, what Dischargers must do to comply with the Ordinance and to receive permits for projects and activities that are subject to the Ordinance.

A.2 Purposes

The purposes of this Manual are to establish clear minimum stormwater management requirements and controls, and to support of the following objectives stated in Section 13.18.020 of the Ordinance:

- Prohibiting polluted non-stormwater discharges to the Stormwater Conveyance System;
- Establishing minimum requirements for stormwater management, to prevent and reduce pollution;
- Establishing requirements for the management of stormwater flows from development projects, both to prevent erosion and to enhance existing water-dependent habitats;
- Establishing standards for the use of off-site facilities for stormwater management to supplement on-site facilities and practices at new development sites; and
- Establishing notice procedures and standards for adjusting stormwater management requirements where necessary.

SECTION B. GENERAL REQUIREMENTS FOR ALL DISCHARGERS

PART B.1—COMPLIANCE WITH DISCHARGE PROHIBITIONS

The City of Vista Stormwater Management and Discharge Control Program Ordinance addresses and defines two types of discharges, stormwater, and non-stormwater. "Stormwater" is defined as "surface runoff and drainage associated with storm events." "Non-stormwater" consists of all discharges (e.g., irrigation flows, wash water, etc.) that are not stormwater.

B.1.1 Prohibitions of Discharges

The Ordinance prohibits all non-stormwater discharges that are not specifically exempted. Illegal connections are also prohibited; and in some circumstances littering, dumps, and stockpiles are identified as illegal discharges. See Ordinance section 13.18.050.

The Ordinance also prohibits any discharge of pollutants in stormwater, unless the applicable requirements of the Ordinance have been met. See Ordinance section 13.18.050.

The applicable requirements for the Ordinance vary by category of discharger. The Ordinance includes water-quality related prohibitions for discharges from land development activities. The Ordinance also prohibits discharges from land disturbance and land development activities where pollutants in those discharges have not been prevented or reduced to the maximum extent practicable. For all other categories of stormwater dischargers, the objective of protecting receiving waters is pursued through the specification of required BMPs and the preservation of authority to issue site-specific requirements where needed.

B.1.2 Categorically Exempt Non-Stormwater Discharges

Ordinance section 13.18.060 provides exceptions to the prohibition in section 13.18.050 to the maximum extent permitted by State law. The following categories of non-stormwater discharge are currently allowable:

a) Diverted stream flows;
b) Rising ground waters;
c) Uncontaminated ground water infiltration [as defined at 40 CFR 35.2005(20)] to municipal separate storm sewer systems;
d) Uncontaminated pumped ground water;
e) Foundation drains;
f) Springs;
g) Water from crawl space pumps;
h) Footing drains;
i) Flows from riparian habitats and wetlands;
j) Water line flushing;
k) Landscape irrigation;
l) Discharges from potable water sources not subject to NPDES Permit No. CAG679001, other than main breaks;
m) Irrigation water;
n) Lawn watering;
o) Individual residential car washing; and
p) Dechlorinated swimming pool discharges.

The City will periodically determine which of these discharge types it has determined to be a significant source of pollutants to waters of the United States. Based on this determination, the City will establish the types of discharges that will continue to be conditionally allowed, or which

will be disallowed, into the Stormwater Conveyance System. At that time, the City may impose additional BMP requirements specific to those discharges that continue to be allowed.

PART B.2—BMP REQUIREMENTS APPLICABLE TO ALL DISCHARGERS

B.2.1 Overview of Best Management Practices (BMPs)

B.2.1.1: BMPs are schedules of activities, pollution prevention practices, pollution treatment practices or devices, prohibitions of practices, general good housekeeping practices, educational practices, maintenance procedures and other management practices or devices to prevent or reduce the discharge of pollutants directly or indirectly to stormwater, receiving waters or the stormwater conveyance system. BMPs also include, but are not limited to, treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage. Best management practices may include any type of pollution prevention and pollution control measure, approved by the City and consistent with Order No. 2007-0001.

B.2.2 Eroded Soils

B.2.2.1: Prior to the rainy season, Dischargers must remove or contain any significant accumulations of eroded soils from slopes previously disturbed by clearing or grading, if those eroded soils could otherwise enter the Stormwater Conveyance System or Receiving Waters during the rainy season.

B.2.3 Pollution Prevention

B.2.3.1: Dischargers employing ten or more persons on a full-time basis shall implement those stormwater pollution prevention practices that are generally recognized in that Discharger's industry or business as being effective and economically advantageous.

B.2.4 Prevention of Illegal Discharges

B.2.4.1: Illicit connections must be eliminated (even if the connection was established pursuant to a valid permit and was legal at the time it was constructed), and illegal discharge practices eliminated.

B.2.5 Slopes

B.2.5.1: Completed slopes that are more than five feet in height, more than 250 square feet in total area, and steeper than 3:1 (run-to-rise) that have been disturbed at any time by clearing, grading, or landscaping, shall be protected from erosion prior to the first rainy season following completion of the slope, and continuously thereafter.

B.2.6 Storage of Materials and Wastes

B.2.5.1: All materials and wastes with the potential to pollute urban runoff shall be stored in a manner that either prevents contact with rainfall and stormwater, or contains contaminated runoff for treatment and disposal.

B.2.6 Use of Materials

B.2.6.1: All materials with the potential to pollute urban runoff (including but not limited to cleaning and maintenance products used outdoors, fertilizers, pesticides and herbicides, etc.) shall be used in accordance with label directions. No such materials may be disposed of or rinsed into Receiving Waters or the Stormwater Conveyance System.

SECTION C. COMMERCIAL ACTIVITIES AND FACILITIES

Section C Outline

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- 3.6 Botanical and Zoological Gardens or Exhibits
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- 3.10 Cement Mixing or Cutting
- 3.11 Mobile Carpet, Drape, and Furniture Cleaning
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- 3.13 Pool and Fountain Cleaning
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- 3.18 Building Material Retailers and Storage
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Part 4 BMP Alternatives

Part 5 Reference Materials

PART C.1—GENERAL CONSIDERATIONS

C.1.1 Commercial Facilities and Activities Subject to this Section

This section establishes BMP requirements for owners and operators of Regulated Commercial Facilities and Activities. These requirements include three main elements; (1) standard requirements for all Regulated Commercial Facilities and Activities and (2) additional activity-specific requirements for all Regulated Commercial Facilities and Activities. Table C-1 below

summarizes the applicable sections of this Manual that apply to specific groups of Dischargers and activities.

A Regulated Commercial Facility and Activity is defined as "any non-residential facility engaged in business or commerce, whether for profit or not-for-profit, or publicly or privately owned, except for Regulated Industrial Facilities and Municipal Facilities." Residences are also included in this definition if they are used for commercial repair, maintenance, cleaning, manufacturing, food preparation or painting activity if that activity has the potential to result in discharges of non-stormwater or the discharge of pollutants to stormwater.
Requirements applicable to Regulated Commercial Facilities and Activities are restricted to facilities and activities within the City. Some activities subject to these requirements (mobile car washing, pool and fountain cleaning, etc.) are conducted from a myriad of locations, i.e., not solely at a single fixed facility or location. For this reason, Regulated Commercial Facilities and Activities include both the facility at which a business is located (e.g., the home office) and all locations at which operations or activities are conducted.

C.1.2 Responsibilities of Dischargers

Dischargers are required generally to comply with two inter-related sets of directives: (1) compliance with applicable discharge prohibition requirements, and (2) implementation of BMPs to prevent non-stormwater discharges and to reduce contaminants in stormwater discharges. All facilities and activities are subject to the generally applicable BMP requirements of Ordinance section 13.18.070 and section B of this Standards Manual, as well as the discharge prohibitions of Ordinance sections 13.18.050 and 13.18.060. Failure to comply with applicable discharge prohibitions is generally considered evidence of an inadequate BMP program, although BMPs can also be determined to be inadequate prior to the occurrence of actual discharges.

The sole responsibility for selecting and implementing BMPs that are adequate to comply with the requirements of the Ordinance and this Manual lies with the facility owner or operator. The City recognizes that the proper selection of BMPs depends on numerous factors that are specific to individual industry types and facilities, and therefore does not advocate or require the use of particular practices. Rather, the remainder of this section establishes standards that the City has determined are necessary to prevent discharges of pollutants to its conveyance system and receiving waters. In some instances, a wide range of potential BMP options is available to meet particular standards. In all instances, the City has endeavored to allow the greatest flexibility in determining the best means of compliance. Ultimately, the suitability of BMPs will be determined by their success in preventing polluted discharges from leaving the facility or work site.

At this time, the City does not require the application of structural treatment control BMPs (e.g., filtration, etc.) for existing commercial facilities as a standard measure. In most cases, compliance can be obtained through the use of an effective combination of source control BMPs. However, in some instances, businesses are required to evaluate the feasibility of such controls and to implement them if practicable. In other instances, the City may require the application of structural controls where significant or continued non-compliance is demonstrated. The categorical requirement of treatment control BMPs for any class of facility, however, would require an amendment of this Manual.

C.1.3 Inspection and Verification

Under its municipal stormwater permit, the City must conduct inspections of High Priority Commercial Facilities as needed to verify compliance with its stormwater ordinance and other applicable laws and regulations. The City may therefore conduct inspections of any or all of the High Priority Commercial Facilities described in Ordinance section 13.18.090. The City also

retains the discretion to conduct inspections of Other Regulated Commercial Facilities as needed to verify compliance with the Ordinance.

All discharge prohibition and BMP requirements described herein are applicable regardless of whether any facility or activity is subject to City inspections or any other form of compliance verification.

PART C.2—GENERAL STANDARDS APPLICABLE TO ALL REGULATED COMMERCIAL FACILITIES AND ACTIVITIES (GROUP 1 STANDARDS)

Except as otherwise noted, the standards described in this Part C.2 are applicable to all Regulated Commercial Facilities and Activities. The purpose of this section is to establish a baseline of reasonable, achievable, "common sense" standards that must be met for all Regulated Commercial Facilities and Activities. These are termed Group 1 Standards. Additional, more prescriptive standards are provided for specific activities conducted at Regulated Commercial Facilities detailed in Section C.3, below.

C.2.1 Employee Training

C.2.1.1: Dischargers employing ten or more persons on a full-time basis, and Regulated Commercial Facilities and Activities Dischargers, shall provide training at least annually to all employees with responsibility for actions related to the implementation of a facility's SWPPP. Training shall address notification requirements, inspections, record keeping, illicit connections and illegal discharge detection. Integration with other existing training programs is encouraged.

C.2.1.2: Documentation of training shall be maintained on-site at the location(s) where operations or activities are conducted, and shall be provided on request to City Authorized Enforcement Officials or Authorized Enforcement Staff.

C.2.1.3: Training shall be adequate to ensure compliance with the standards established in this Ordinance. Continued or significant non-compliance by facility employees with any condition of this Ordinance may be deemed evidence of an inadequate employee training program.

C.2.2 Stormwater Pollution Prevention Plans (SWPPPs)

If preparation of a SWPPP is directed by an authorized enforcement official pursuant to Section 13.018.070(D) of the Ordinance, that SWPPP shall include the applicable elements of a SWPPP specified in the State General Industrial Stormwater Permit.

C.2.3 Storm Drain Tileage and Signing

C.2.3.1: The use of storm drain tiles or other labeling is encouraged, but not required, for Regulated Commercial Facilities and Activities. Where used, storm drain tiles and signs should contain a brief statement that prohibits the dumping of improper materials into the Stormwater Conveyance System, graphical icons, either illustrating anti-dumping symbols or images of receiving water fauna, are effective supplements to the anti-dumping message. Naming the receiving water also has proven to increase the effectiveness of this signage by making it more personal (e.g. "NO DUMPING – DRAINS TO <insert applicable creek/waterbody>"). See Section G.4.9 of this manual for more specific information.

C.2.4 Annual Review of Facilities and Activities

C.2.4.1: Dischargers employing ten or more persons on a full-time basis, and Regulated Commercial Facilities and Activities Dischargers, shall review their facilities, activities, operations, and procedures at least annually to detect illicit connections and illegal discharges.

C.2.4.2: Illegal connections, as defined in Ordinance section 13.18.030, must be eliminated (even if the connection was established pursuant to a valid permit and was legal at the time it was constructed), and illegal discharge practices eliminated.

C.2.4.3: Corrective training shall be provided as needed (and documented in training records) whenever an illegal disposal practice is discovered.

C.2.5 Pollution Prevention

C.2.5.1: Dischargers employing ten or more persons on a full-time basis shall implement those stormwater pollution prevention practices that are generally recognized in that Discharger's industry or business as being effective and economically advantageous.

C.2.6 Materials and Waste Management

C.2.6.1: The following conditions apply to the storage, management, and disposal of hazardous materials and wastes at Regulated Commercial Facilities, where applicable:

(a) Hazardous materials and wastes shall be stored, managed, and disposed in accordance with applicable federal, state and local laws and regulations.

(b) Hazardous materials must be stored off the ground. Where practicable, overhead coverage shall be provided for all outside hazardous materials or waste storage areas. If overhead coverage is not available, stored materials shall be covered with an impervious material (e.g., a tarp, etc.).

(c) Drums and other containers shall be kept in good condition, and shall be kept securely closed when not in use.

(d) Secondary containment shall be provided around storage areas from which a significant potential exists to discharge materials or wastes to the Stormwater Conveyance System or Receiving Waters.

(e) Storage areas shall be inspected periodically, including at least once prior to the rainy season (October 1 – April 30) and quarterly during the rainy season.

(f) Solid Waste storage and disposal areas shall be inspected at least weekly.

(g) Wet cleaning (e.g., hosing, pressure washing, etc.) of solid waste storage and disposal areas shall only be allowed if adequate precautions have been taken to prevent the discharge of wash water into the Stormwater Conveyance System or Receiving Waters.

(h) Materials and equipment necessary for spill response shall be maintained and kept readily accessible, and all employees involved in the storage, management, or disposal of hazardous materials or wastes trained in their proper use.

(i) Significant spills shall be reported promptly to the City's Stormwater Hotline (760) 726-1340 x1686. Significant spills are those which discharge, or have the potential to discharge, contaminants directly or indirectly to the Stormwater Conveyance System or Receiving Waters. Spills which have been completely contained and cleaned up on-site are not considered significant unless they pose a threat to human health or safety.

C.2.6.2: The following conditions apply to the storage of solid waste at Regulated Commercial Facilities, where applicable:

(a) Trash storage and disposal areas shall be kept clean and free of debris.

(b) Dumpsters and other containers shall be maintained in good condition, and shall be kept securely closed when not in use.

(c) Materials and equipment necessary for the clean-up of trash and debris shall be maintained and kept readily accessible.

C.2.6.3: The following conditions apply to the loading and unloading of significant materials at Regulated Commercial Facilities, where applicable:

(a) Where practicable, loading / unloading of materials shall only be allowed in designated areas.

(b) Designated loading/unloading areas shall be regularly cleaned using dry methods (e.g., sweeping, vacuuming, etc.).

(c) Wet cleaning (e.g., hosing, pressure washing, etc.) of loading/unloading areas shall only be allowed if adequate precautions have been taken to prevent the discharge of wash water into the Stormwater Conveyance System or Receiving Waters, or to filter pollutants from the water prior to discharge.

(d) Storm drain inlets located within or down gradient of loading/unloading areas shall be covered or otherwise protected during loading/unloading activities to prevent the entry of materials.

(e) Loading/unloading equipment (e.g., forklifts, pallet jacks, etc.) shall be maintained in good condition, and preventative maintenance conducted as necessary to prevent leaks.

(f) Equipment and supplies stored in loading/unloading areas shall be properly maintained to prevent leaks and spills to the Stormwater Conveyance System or receiving Waters, and to prevent their contact with rainfall and run-on.

(g) Spills and leaks shall be promptly cleaned up and the generated wastes disposed of properly.

(h) Loading / unloading areas shall be periodically inspected, and accumulations of debris, litter, waste, or other materials removed.

(i) Materials and equipment necessary for spill response shall be maintained and kept readily accessible and all employees conducting loading / unloading activities trained in their proper use.

(j) Significant spills shall be reported promptly to the City's Stormwater hotline or Engineering Department . Significant spills are those which discharge, or have the potential to discharge, contaminants directly or indirectly to the Stormwater Conveyance System or Receiving Waters. Spills of hazardous materials shall be reported to the City's Stormwater Hotline or Engineering Department. Spills that have been completely contained and cleaned up on-site are not considered significant unless they pose a threat to human health or safety.

C.2.7 Vehicles and Equipment

C.2.7.1: The following conditions apply to the fueling of vehicles and equipment at Regulated Commercial Facilities, where applicable:

(a) Precautions shall be taken to prevent spills and leaks during fueling activities.

(b) Materials and equipment necessary for spill response shall be maintained and kept readily accessible, and staff conducting fueling activities instructed in their proper use.

(c) Significant spills shall be reported promptly to the City's Stormwater Hotline or Engineering Department. Significant spills are those which discharge, or have the potential to discharge, contaminants directly or indirectly to the Stormwater Conveyance System or Receiving Waters. Spills of hazardous materials shall be reported to the City's Stormwater hotline or Engineering Department. Spills which have been completely contained and cleaned up on-site are not considered significant unless they pose a threat to human health or safety.

C.2.7.2: The following conditions apply to the maintenance and repair of vehicles and equipment at Regulated Commercial Facilities, where applicable:

(a) Precautions shall be taken to prevent spills and leaks during maintenance and repair activities.

(b) Materials and equipment necessary for spill response shall be maintained and kept readily accessible, and staff conducting maintenance and repair activities instructed in their proper use.

(c) Significant spills shall be reported promptly to the City's Stormwater Hotline or Engineering Department. Significant spills are those which discharge, or have the potential to discharge, contaminants directly or indirectly to the Stormwater Conveyance System or Receiving Waters. Spills of hazardous materials shall be reported to the City's Stormwater hotline or Engineering Department. Spills which have been completely contained and cleaned up on-site are not considered significant unless they pose a threat to human health or safety.

C.2.7.3: The following conditions apply to the washing of vehicles and equipment at Regulated Commercial Facilities, where applicable:

(a) Storm drain inlets located within or down gradient of wash areas shall be covered or otherwise protected to prevent the entry of wash water or rinse water.

(b) Where practicable, the introduction of pollutants (soaps, degreasers, etc.) to wash water shall be reduced or eliminated.

C.2.7.4: The following conditions apply to the outdoor storage of equipment at Regulated Commercial Facilities, where applicable:

(a) Drip pans or other methods of spill containment shall be used to prevent the discharge of materials to the Stormwater Conveyance System or Receiving Waters.

(b) Materials and equipment necessary for spill response shall be maintained and kept readily accessible.

(c) Significant spills shall be reported promptly to the City's Stormwater Hotline or Engineering Department. Significant spills are those which discharge, or have the potential to discharge, contaminants directly or indirectly to the Stormwater Conveyance System or Receiving Waters. Spills which have been completely

contained and cleaned up on-site are not considered significant unless they pose a threat to human health or safety.

C.2.8 Outdoor Areas

C.2.8.1: The following condition applies to rooftop areas at Regulated Commercial Facilities, where applicable:

(a) Materials which may contaminate stormwater shall not be stored on rooftops unless adequate precautions have been taken to prevent their contact with stormwater.

(b) Equipment located on rooftops (e.g., emergency generators, HVAC systems, etc.) shall be periodically inspected, and preventive maintenance conducted as necessary to prevent leaks and spills.

(c) Materials and substances (bird droppings, grease, leaves, etc.) that have accumulated on rooftops shall be periodically inspected and removed as necessary to prevent or reduce the discharge of contaminants directly or indirectly to the Stormwater Conveyance System or Receiving Waters.

C.2.8.2: The following conditions apply to parking areas at Regulated Commercial Facilities, where applicable:

(a) Parking areas shall be periodically cleaned using dry methods (manual sweeping, street sweepers, etc.). Wet methods shall only be used where adequate precautions have been taken to prevent the entry of wash water and other contaminants into the Stormwater Conveyance System or Receiving Waters.

(b) Prior to any improvement or expansion project, parking areas designed to accommodate 100 or more vehicles shall be evaluated to establish the level of post-construction BMPs that will meet the MEP standards. Treatment or infiltration BMPs shall be installed if necessary to meet the MEP standard. Installed controls shall be inspected and maintained as necessary to ensure their continued proper functioning.

C.2.8.3: The following conditions apply to landscaping and grounds keeping conducted at Regulated Commercial Facilities, where applicable:

(a) Precautions shall be taken to prevent spills, leaks, and over-application of chemical products during landscaping and grounds keeping activities.

(b) Precautions shall be taken to prevent over-irrigation of landscaped areas.

(c) Pesticides, herbicides, fertilizers, and other chemical products shall be used in accordance with label directions. These products shall not be disposed to streets or gutters, but shall be collected and properly disposed.

(d) Grounds and landscaped areas shall be periodically inspected. Litter, debris, organic matter (leaves, cut grass, etc.), and other materials with the potential to contaminate stormwater shall be collected and properly disposed.

(e) Materials and equipment necessary for spill response shall be maintained and kept readily accessible, and employees trained in their proper use.

(f) Significant spills shall be reported promptly to the City's Stormwater Hotline or Engineering Department. Significant spills are those which discharge, or have the potential to discharge, contaminants directly or indirectly to the Stormwater Conveyance System or Receiving Waters. Spills of hazardous materials shall be reported to the City's Stormwater hotline or Engineering Department. Spills which have been completely contained and cleaned up on-site are not considered significant unless they pose a threat to human health or safety.

Table C-1: Applicable Requirements by Standards Manual Section

This table summarizes broadly applicable minimum requirements for specific activities at Regulated Commercial Facilities. It is intended as a reference only. Dischargers are responsible for identifying the specific requirements that are applicable to their particular operations as described in the text of this Manual

Specific Activities or Facility Types	Group 2 Standards Applicable to Specific Activities at Regulated Commercial Facilities
Motor Vehicle and Equipment Repair, Maintenance, Fueling, and Cleaning	3.1
Retail and Wholesale Fueling	3.2
Motor Vehicle and Other Vehicle Body Repair and Painting	3.3
Painting and Coating	3.4
Eating and Drinking Establishments, Including Food Markets	3.5
Botanical and Zoological Gardens and Exhibits	3.6 (plus 3.1, 3.5, 3.16, and 3.17)
Golf Courses, parks, and Other Recreational Facilities	3.7(plus 3.5, 3.16, and 3.17)
Nurseries and Greenhouses	3.8
Parking Lots and Storage Facilities	3.9
Cement Mixing and Cutting	3.10
Mobile Carpet, Drape, and Furniture Cleaning	3.11
Masonry	3.12
Pool and Fountain Cleaning	3.13
Portable Sanitary Services	3.14
Mobile Vehicle Washing	3.15
Pest Control Services	3.16
Landscaping, Including Cemeteries	3.17
Building Material Retailers and Storage	3.18
Power Washing	3.19
Animal Facilities	3.20

PART C.3—ADDITIONAL REQUIREMENTS APPLICABLE TO SPECIFIC ACTIVITIES AT REGULATED COMMERCIAL FACILITIES (GROUP 2 STANDARDS)

Regulated Commercial Facilities and Activities that require the implementation of activity-specific BMPs are those that are specifically designated in section 13.18.090(B)(1) of this Ordinance. That definition includes but is not limited to businesses in the City engaged in any of the following activities:

a) Automobile repair, maintenance, fueling, or cleaning;
b) Airplane repair, maintenance, fueling, or cleaning;
c) Boat mechanical repair, maintenance, fueling, or cleaning;
d) Equipment repair, maintenance, fueling, or cleaning;
e) Motor vehicle and other vehicle body repair or painting;
f) Mobile automobile or other vehicle washing;
g) Motor vehicle (or other vehicle) parking lots and storage facilities;
h) Retail or wholesale fueling;
i) Pest control services;
j) Eating or drinking establishments, including food markets;
k) Mobile carpet, drape or furniture cleaning;
l) Cement mixing or cutting;
m) Masonry;
n) Painting and coating;
o) Botanical or zoological gardens and exhibits;
p) Landscaping;
q) Nurseries and greenhouses;
r) Golf courses, parks and other recreational areas/facilities;
s) Cemeteries;
t) Pool and fountain cleaning;
u) Portable sanitary services;
v) Building material retailers and storage;
w) Animal facilities; and
x) Power washing services.

In addition to the general requirements set out for all Group 1 Dischargers in Section C.2, above, the requirements described below (Group 2 Standards) apply to each of these facility or activity types. Like the Group 1 Standards, they focus on a core set of activities that are common to many facilities and business types. However, because these facilities and activities are considered a high threat to water quality, a correspondingly higher standard of compliance is required.

C.3.1 Motor Vehicle and Equipment Repair, Maintenance, Fueling, and Cleaning

In addition to the applicable requirements of Section C.2, especially section C.2.7.2, the conditions in this subsection apply to the repair and maintenance of vehicles and equipment. The term "Motor vehicle" is defined in Ordinance section 13.18.030. In the context of these requirements, it includes all categories of vehicle contained in that definition plus airplanes.

C.3.1.1: Storm drain inlets located within or down gradient of maintenance and repair areas shall be protected to prevent the entry of spilled fluids (e.g., fuel, oil, grease, or antifreeze).

C.3.1.2: Maintenance and repair equipment shall be kept clean to avoid the build up of grease and oil.

C.3.1.3: Fluids shall be drained from any retired vehicles or equipment stored on site.

C.3.1.4: Only dry cleaning methods shall be used on maintenance and repair areas unless adequate precautions have been taken to prevent the discharge of wash water to the Stormwater Conveyance System or Receiving Waters (e.g., the discharge is directed to the sanitary sewer, a sump, etc.).

C.3.1.5: Drip pans, containers, or other methods of drip and spill containment shall be utilized at all times during the repair or maintenance of vehicles and equipment.

C.3.1.6: The retrofitting of existing facilities with structural controls such as low-flow sumps or oil/water separators shall be considered to prevent the entry of spills into the stormwater conveyance system or receiving waters. The use of structural controls is not required, but is encouraged where practicable. Pursuant to Ordinance section 13.18.040(D), the City may order the use of structural controls.

C.3.1.7: Repair and maintenance activities shall be conducted only in designated work areas.

C.3.1.8: Repair and maintenance work must be conducted indoors or under cover whenever practicable. If this work cannot be conducted indoors or under cover, other precautions must be taken to prevent the discharge of contaminants into the Stormwater Conveyance System or Receiving Waters.

C.3.1.9: Significant repair and maintenance work on boats may not be conducted over water. Minor engine work and routine changing of oil or other fluids are not considered significant, but may only be conducted over water if adequate precautions have been taken to prevent the entry of pollutants into the water.

C.3.1.10: As necessary to prevent the entry of pollutants into the Stormwater Conveyance System or Receiving Waters, designated work areas shall utilize structural controls to (1) prevent the discharge of spills from the work area, (2) prevent run-on from contacting work surfaces and pollutants, and (3) prevent rainfall from contacting work surfaces and pollutants. Pursuant to Ordinance section 13.18.040(D), the City may order the use of structural controls.

C.3.1.11: Storm drain inlets located within or down gradient of fueling areas shall be covered or otherwise protected (e.g., with an oil water separator) to prevent the entry of spilled fuel.

C.3.1.12: Vehicles and equipment shall only be fueled in areas where adequate precautions have been taken to prevent the entry of spills into the Stormwater Conveyance System or Receiving Waters. Designated fueling areas are required where practicable.

C.3.1.13: The retrofitting of existing facilities with structural controls such as low-flow sumps or oil/water separators shall be considered to prevent the entry of spills into the Stormwater Conveyance System or Receiving Waters. The use of structural controls is not required, but is encouraged where practicable. Pursuant to Ordinance section 13.18.040(D), the City may order the use of structural controls.

C.3.1.14: Vehicles and equipment shall only be washed in areas where adequate precautions have been taken to prevent the entry of wash water and other contaminants into the Stormwater Conveyance System or Receiving Waters. Designated wash areas and/or wash racks are required where practicable.

C.3.1.15: Where practicable, wash areas shall drain or be plumbed to the sanitary sewer. Discharges are responsible for obtaining all necessary approvals from sewering agencies prior to connecting or discharging to the sewer. In addition, oil/water separators will be installed prior to release into sanitary sewers.

C.3.1.16: Infiltration of wash or rinse water to pervious surfaces is generally allowed. However, vehicle wash water or rinse water generated from cleaning engines, mechanical parts, or heavy equipment may not be infiltrated. A minimum of ten feet separation between the groundwater and the pervious surface is required.

C.3.1.17: Wash waters or rinse waters not discharged to sewer or infiltrated must be contained for treatment, re-use or proper disposal.

C.3.2 Retail and Wholesale Fueling

In addition to the applicable requirements of Section C.2, especially sections C.2.7.1, and the applicable requirements in C.3.1, the following conditions apply to the fueling of vehicles and equipment:

C.3.2.1: Where practicable, fueling areas shall be under permanent cover.

C.3.2.2: Where practicable, all storm drain inlets shall be connected to an oil/water separator and to the sanitary sewer.

C.3.2.3: Fueling and parking areas shall be periodically inspected, and significant accumulations of materials and substances (oil, fuel, grease, etc.) removed. All materials shall be properly disposed.

C.3.2.4: Only dry cleaning methods shall be used on fueling and parking areas unless adequate precautions have been taken to prevent the discharge of washwater to the Stormwater Conveyance System or Receiving Waters (e.g., the discharge is directed to the sanitary sewer, a sump, etc.).

C.3.2.5: Spill clean-up kits shall be maintained and kept readily accessible, and employees trained in their proper use. Absorbents and other materials used to clean spills shall be collected and properly disposed.

C.3.2.6: As necessary to prevent the entry of pollutants into the Stormwater Conveyance System or Receiving Waters, designated work areas shall utilize structural controls to (1) prevent the discharge of spills from the work area, (2) prevent run-on from contacting work surfaces and pollutants, and (3) prevent rainfall from contacting work surfaces and pollutants. Pursuant to Ordinance section 13.18.040(D), the City may order the use of structural controls.

C.4.3 Motor Vehicle and Other Vehicle Body Repair and Painting

In addition to the applicable requirements of Sections C.2 and C.3, the following conditions apply to vehicle body repair and painting:

C.4.3.1: Bodywork and painting must be conducted indoors or under cover whenever practicable. If this work cannot be conducted indoors or under cover, other precautions must be taken to prevent the discharge of contaminants into the Stormwater Conveyance System or Receiving Waters.

C.4.3.2: Painting work shall be conducted in approved, enclosed areas equipped with vacuum hoods and filters.

C.4.3.3: The recycling and re-use of solvents is encouraged.

C.4.3.4: Work areas shall be periodically cleaned using dry methods (sweeping, vacuuming, etc.). Wet methods shall only be used where adequate precautions have been taken to prevent the entry of wash water and other contaminants into the Stormwater Conveyance System or Receiving Waters.

C.4.3.5: Spill clean-up kits shall be maintained and kept readily accessible, and employees trained in their proper use.

C.4.3.6: As necessary to prevent the entry of pollutants into the Stormwater Conveyance System or Receiving Waters, designated work areas shall utilize structural controls to (1) prevent the discharge of spills from the work area, (2) prevent run-on from contacting work surfaces and pollutants, and (3) prevent rainfall from contacting work surfaces and pollutants. Pursuant to Ordinance section 13.18.040(D), the City may order the use of structural controls.

C.3.4 Painting and Coating

In addition to the applicable requirements of Sections C.2, the following conditions apply to painting and coating activities:

C.3.4.1: When not in use, paints, coatings, and solvents shall always be stored under cover and in a contained area.

C.3.4.2: Containers shall be kept in good condition, and shall be kept securely closed when not in use.

C.3.4.3: Where practicable, work areas shall be enclosed in a building, or with tarping or plastic sheeting to prevent drift.

C.3.4.4: Storm drain inlets located within or down gradient of areas where painting or coating are conducted shall be covered or otherwise protected to protect them from dust, chips, and rinsate during hours of operation.

C.3.4.5: Areas where painting and coating work is being actively conducted shall be cleaned daily using dry methods (e.g., sweeping, wiping, vacuuming, etc.). Wet methods (e.g., hosing, etc.) may only be used if adequate precautions have been taken to prevent the discharge of wash water to the Stormwater Conveyance System or Receiving Waters.

C.3.4.6: Drop cloths and drip pans shall be used in mixing areas.

C.3.4.7: Paints, coatings, thinners, and other materials shall not be disposed to the Stormwater Conveyance System or Receiving Waters. The Stormwater Conveyance System includes driveways, streets, and gutters.

C.3.4.8: Water-based paints may be disposed to the sanitary sewer. Dischargers are responsible for obtaining all necessary approvals from sewering agencies prior to discharging to the sewer.

C.3.4.9: Filtering, re-use, and recycling of thinners and other solvents is encouraged. All materials must be properly disposed.

C.3.4.10: Materials and equipment necessary for spill response shall be maintained and kept readily accessible, and all employees involved in painting or coating activities trained in their proper use.

C.3.4.11: Significant spills shall be reported promptly to the City's Stormwater Hotline or Engineering Department. Significant spills are those which discharge, or have the potential to discharge, contaminants directly or indirectly to the Stormwater Conveyance System or Receiving Waters. Spills of hazardous materials shall be reported to the City's Stormwater hotline or Engineering Department. Spills which have been completely contained and cleaned up on-site are not considered significant unless they pose a threat to human health or safety.

C.3.5 Eating and Drinking Establishments, Including Food Markets

In addition to the applicable requirements of Sections C.2, the following conditions apply to eating and drinking establishments, including food markets:

C.3.5.1: Dumpsters and grease bin areas shall be kept securely closed when not in use, and shall be inspected and cleaned regularly. Leaking dumpsters shall be repaired or replaced as soon as possible.

C.3.5.2: Parking areas and other outside surfaces shall be routinely cleaned using dry methods (e.g., sweeping, etc.) to prevent the accumulation of significant materials. Accumulated materials shall be properly disposed.

C.3.5.3: Parking areas and other surfaces shall not be cleaned using wet methods (e.g., hosing, steam-cleaning, pressure-washing, etc.) unless adequate precautions have been taken to prevent the entry of wash water and other contaminants into the Stormwater Conveyance System or Receiving Waters.

C.3.5.4: Outdoor grease interceptors shall be properly maintained, and routinely inspected to ensure their proper functioning. Any problems noted shall be corrected as soon as possible.

C.3.5.5: Equipment (mats, grease filters, etc.) shall not be washed in areas where wash water or rinse water will drain to the Stormwater Conveyance System or Receiving Waters. Dischargers are responsible for obtaining all necessary approvals from sewering agencies prior to discharging to the sewer.

C.3.5.6: As necessary to prevent the entry of pollutants into the Stormwater Conveyance System or Receiving Waters, designated work areas shall utilize structural controls to (1) prevent the discharge of spills from the work area, (2) prevent run-on from contacting work surfaces and pollutants, and (3) prevent rainfall from contacting work surfaces and pollutants. Pursuant to Ordinance section 13.18.040(D), the City may order the use of structural controls.

C.3.6 Botanical and Zoological Gardens and Exhibits

In addition to the applicable requirements of Sections C.2, the following conditions apply to botanical and zoological gardens and exhibits:

C.3.6.1: The requirements of section 4.1 above (Vehicle and Equipment Repair and Maintenance) apply to botanical and zoological gardens and exhibits.

C.3.6.2: The requirements of section 4.5 above (Eating and Drinking Establishments) apply to botanical and zoological gardens and exhibits.

C.3.6.3: The requirements of section 4.16 below (Pest Management) apply to botanical and zoological gardens and exhibits.

C.3.6.4: The requirements of section 4.17 below (Landscaping) apply to botanical and zoological gardens and exhibits.

C.3.6.5: As necessary to prevent the entry of pollutants into the Stormwater Conveyance System or Receiving Waters, designated work areas shall utilize structural controls to (1) prevent the discharge of spills from the work area, (2) prevent run-on from contacting work surfaces and pollutants, and (3) prevent rainfall from contacting work surfaces and pollutants. Pursuant to Ordinance section 13.18.040(D), the City may order the use of structural controls.

C.3.6.6: Animal wash racks may not discharge to the stormwater conveyance system or receiving waters.

C.3.7 Golf Courses, Parks, and Other Recreational Facilities

In addition to the applicable requirements of Sections C.2, the following conditions apply to golf courses, parks, and other recreational facilities:

C.3.7.1: The requirements of section 4.5 above (Eating and Drinking Establishments) apply to golf courses, parks, and other recreational facilities.

C.3.7.2: The requirements of section 4.16 below (Pest Management) apply to golf courses, parks, and other recreational facilities.

C.3.7.3: The requirements of section 4.17 below (Landscaping) apply to golf courses, parks, and other recreational facilities.

C.3.7.4: As necessary to prevent the entry of pollutants into the Stormwater Conveyance System or Receiving Waters, designated work areas shall utilize structural controls to (1) prevent the discharge of spills from the work area, (2) prevent run-on from contacting work surfaces and pollutants, and (3) prevent rainfall from contacting work surfaces and pollutants. Pursuant to Ordinance section 13.18.040(D), the City may order the use of structural controls.

C.3.8 Nurseries and Greenhouses

In addition to the applicable requirements of Sections C.2, the following conditions apply to nurseries and greenhouses:

C.3.8.1: Product containers shall be kept in good condition, shall be kept securely closed when not in use, and shall be stored in a manner that protects them from contact with stormwater.

C.3.8.2: Integrated Pest Management (IPM) practices and other non-chemical pest control methods (e.g., traps, sticky tape, hot-wire lamps, etc.) shall be considered where practicable.

C.3.8.3: Nozzles, emitters, and other application equipment shall be maintained in good working condition.

C.3.8.4: Pesticides, fertilizers, and other chemical products shall be used and disposed in accordance with applicable federal, state, and local laws and regulations.

C.3.8.5: Pesticides, fertilizers, and other chemical products shall be applied and disposed in accordance with label instructions and material safety data sheet(s).

> Do not over-apply fertilizers and pesticides. Prepare only the amount needed. Follow strictly the recommended usage instructions. Apply surface dressings in smaller applications, as opposed to one large application, to allow time for it to work in and to avoid excess materials being carried off-site by runoff.

C.3.8.6: Pesticides, fertilizers and other chemical products shall be stored in closed, labeled containers, under cover and off the ground.

C.3.8.7: Appropriate methods (e.g., timed application, combination slow-release and constant liquid fertilizer, etc.) shall be utilized to reduce excessive fertilization.

C.3.8.8: Where practicable, low volume watering methods (e.g., drip-, sub-, and pulse-irrigation, etc.) shall be used to minimize the potential for excess flows.

C.3.8.9: Where practicable, tail-water recovery systems or subsurface drains shall be used to recycle irrigation water.

C.3.8.10: Stockpiles shall be placed away from watercourses, bermed, and covered to prevent the release of materials to the Stormwater Conveyance System or Receiving Waters.

C.3.8.11: Areas where work is being actively conducted shall be routinely cleaned up using dry methods (e.g., sweeping, raking, etc.). Wet methods (e.g., hosing, etc.) may only be used if adequate precautions have been taken to prevent the discharge of wash water or other materials to the Stormwater Conveyance System or Receiving Waters.

C.3.8.12: Weather conditions and irrigation schedules shall be considered prior to the outdoor application of fertilizers and pesticides. Where practicable, these products shall not be applied outdoors prior to irrigation or rainfall. Their outdoor application during rainfall is prohibited.

C.3.8.13: As necessary to prevent the entry of pollutants into the Stormwater Conveyance System or Receiving Waters, designated work areas shall utilize structural controls to (1) prevent the discharge of spills from the work area, (2) prevent run-on from contacting work surfaces and pollutants, and (3) prevent rainfall from contacting work surfaces and pollutants. Pursuant to Ordinance section 13.18.040(D), the City may order the use of structural controls.

C.3.9 Parking Lots and Storage Facilities

In addition to the applicable requirements of Sections C.2, especially sections C.2.8.2, the following conditions apply to the parking lots and storage facilities:

C.3.9.1: Parking facilities shall not be cleaned using wet methods (e.g., hosing, steam-cleaning, pressure-washing, etc.) unless adequate precautions have been taken to prevent the entry of wash water and other contaminants into the Stormwater Conveyance System or Receiving Waters.

C.3.9.2: Parking areas shall be periodically cleaned using dry methods (e.g., sweeping, scraping, etc.) to prevent the accumulation of significant materials. Accumulated materials shall be properly disposed.

C.3.9.3: Signs shall be posted which prohibit littering and dumping.

C.3.9.4: Where practicable, trash containers shall be provided in convenient locations to discourage littering.

C.3.9.5: Vehicle maintenance and repair operations with the potential to release pollutants are prohibited at commercial parking lots and storage facilities.

C.3.9.6: Vehicles stored in parking areas for extended periods shall be periodically inspected, and leaks and spills cleaned as necessary.

C.3.9.7: Parking areas shall be periodically inspected, and significant accumulations of materials and substances (oil, fuel, grease, leaves, etc.) removed. All materials shall be properly disposed of.

C.3.9.8: Stormwater run-on should be prevented from contacting stored vehicles and equipment that may contaminate stormwater though the use of berms, dikes, or other diversion structures or through the use of measures to elevate vehicles and equipment from site surfaces.

C.3.10 Cement Mixing and Cutting

In addition to the applicable requirements of Sections C.2, the following conditions apply to cement mixing and cutting:

C.3.10.1: Loose aggregate, mortar, and dust shall be routinely cleaned up using dry methods (e.g., sweeping, vacuuming, etc.). Wet methods may be used if adequate precautions have been taken to prevent the entry of wash water and other contaminants into the Stormwater Conveyance System or Receiving Waters. All materials shall be re-used, recycled, or properly disposed.

C.3.10.2: Storage of cement shall be above ground and covered.

C.3.10.3: Gutters, alleys, streets, and sidewalks should be swept rather than hosed.

C.3.10.4: Slurries should be diverted to a collection area or sedimentation basin, and shoveled or vacuumed daily. Slurries may not be disposed to the Stormwater Conveyance System or Receiving Waters under any circumstances. The Stormwater Conveyance System includes driveways, streets, and gutters.

Portland concrete cement and asphalt concrete waste should not be allowed to enter storm drains or watercourses.

Portland concrete cement and asphalt concrete waste should be collected and properly disposed of outside the highway right of way, or placed in a temporary concrete washout facility.

A sign should be installed adjacent to each temporary concrete washout facility to inform concrete equipment operators to utilize the proper facilities.

Below grade concrete washout facilities are typical. Above grade facilities are used if excavation is not practical.

C.3.10.5: Rinsate must be confined to a designated area (e.g., to sanitary sewer with approval from the local sewer agency (Encina Wastewater Authority), a dead-end sump, process treatment system, or a designated drying area where water percolates/evaporates and solids are removed for disposal and collected). Rinsate and solids must be re-used, recycled, or properly disposed.

C.3.11 Mobile Carpet, Drape, and Furniture Cleaning

In addition to the applicable requirements of Sections C.2, the following conditions apply to mobile carpet, drape, and furniture cleaning:

C.3.11.1: Wastewater may not be disposed to the Stormwater Conveyance System or Receiving Waters under any circumstances. The Stormwater Conveyance System includes driveways, streets, and gutters.

C.3.11.2: Wastewater may not be infiltrated or disposed to the ground.

C.3.11.3: Wastewater must be disposed to the sanitary sewer with approval from the local sewer agency (Encina Wastewater Authority), at the job site, or to a holding tank. Wastewater contained in holding tanks must be disposed to the sanitary sewer at company headquarters or at an approved location. Dischargers are responsible for obtaining all necessary approvals from sewering agencies prior to discharging to the sewer.

C.3.11.4: Tanks, hoses, and fittings must be maintained in leak-proof condition.

C.3.12 Masonry

In addition to the applicable requirements of Sections C.2, the following conditions apply to masonry operations:

C.3.12.1: Storm drain inlets located within or down gradient of work areas shall be covered or otherwise protected to prevent the entry of wash water or other materials.

C.3.12.2: Work areas shall be routinely cleaned using dry methods (e.g., sweeping, etc.).

C.3.12.3: Work areas shall not be cleaned using wet methods (e.g., hosing, steam-cleaning, pressure-washing, etc.) unless adequate precautions have been taken to prevent the entry of wash water and other contaminants into the Stormwater Conveyance System or Receiving Waters.

C.3.12.4: Wash water shall be diverted from storm drains, and directed to sanitary sewer or landscaping, where approved.

C.3.12.5: Materials shall be covered (e.g., with a tarp) and stored above ground to prevent contact with stormwater.

C.3.12.6: Stockpiles of sand shall be kept out of drainage systems. Prior to the onset of predicted rain, stockpiles shall be covered and bermed to prevent contact with stormwater.

C.3.13 Pool and Fountain Cleaning

In addition to the applicable requirements of Sections C.2, the following conditions apply to pool and fountain cleaning:

C.3.13.1: Chemicals shall be stored in leak-proof containers and under cover.

C.3.13.2: Backwash wastewater may not be discharged to the Stormwater Conveyance System or Receiving Waters. Acceptable disposal options include the following: (1) discharge to sanitary sewer, (2) allowing infiltration to the soil, (3) discharging to a holding tank or settling pond.

C.3.13.3: Pool and fountain water must be dechlorinated to less than 1.0 ppm free chlorine prior to discharge. Discharge to the Stormwater Conveyance System is discouraged.

C.3.13.4: Pool water discharged after acid washing must be neutralized to a pH of 7.2-8.0. Discharge to the Stormwater Conveyance System is discouraged.

C.3.14 Portable Sanitary Services

In addition to the applicable requirements of Sections C.2 and C.3, the following conditions apply to portable sanitary toilet servicing:

C.3.14.1: Rinse water from the cleaning of closets may not be disposed to the Stormwater Conveyance System or Receiving Waters.

C.3.14.1: If rinse water cannot be properly disposed at a job site, it must be contained for proper disposal.

C.3.14.2: Paper trash shall be removed prior to cleaning closets.

C.3.14.3: Service facility wash areas must have perimeter control and properly slope to a grated floor drain.

C.3.14.4: Service facility wash areas shall be drained to the sanitary sewer or to a holding tank. Dischargers are responsible for obtaining all necessary approvals from sewering agencies prior to discharging to the sewer.

C.3.14.5: Service facility wash area surfaces shall be kept clean and maintained in good condition.

C.3.14.6: Materials and equipment necessary for spill response shall be maintained and kept readily accessible, and all employees conducting cleaning of closets trained in their proper use.

C.3.14.7: Hoses, couplings, tanks, etc., shall be maintained in good condition to prevent leaks or spills.

C.3.14.8: Where practicable, closets shall be located away from Stormwater Conveyances and Receiving Waters. They should also be located away from high vehicular traffic areas.

C.3.14.9: Closets shall be posted or otherwise labeled to encourage reporting of needed cleaning or repair.

C.3.15 Mobile Vehicle Washing

In addition to the applicable requirements of Section C.2, the following conditions apply to mobile vehicle washing:

C.3.15.1: Wash water and rinse water may not be disposed to the Stormwater Conveyance System or Receiving Waters under any circumstances. The Stormwater Conveyance System includes driveways, streets, and gutters.

C.3.15.2: Storm drain inlets located within or down gradient of wash areas shall be covered or otherwise protected to prevent the entry of wash water or rinse water.

C.3.15.3: Vehicles shall be washed over porous surfaces such as lawns and gravel areas where feasible.

C.3.15.4: Wash water and rinse water may be infiltrated or disposed to the ground (e.g., soaked into a lawn or landscaped area, etc.) if adequate precautions have been taken to prevent the entry of wash water and other contaminants into the Stormwater Conveyance System or Receiving Waters.

C.3.15.5: Wash water and rinse water that cannot be properly disposed at a job site shall be collected and contained for recycling, re-use, or proper disposal (e.g., sanitary sewer, etc.). Dischargers are responsible for obtaining all necessary approvals from sewering agencies prior to discharging to the sewer.

C.3.15.6: The use of hose off or single use engine degreasing chemicals is prohibited, unless captured and properly disposed.

C.3.15.7: Where practicable, the introduction of pollutants (soaps, degreasers, etc.) to wash water shall be reduced or eliminated.

C.3.15.8: Dry cleaning methods are encouraged.

C.3.16 Pest Control Services

In addition to the applicable requirements of Section C.2, the following conditions apply to pest control services:

C.3.16.1: Pest control businesses must be supervised by a currently certified Qualified Applicator Licensee.

C.3.16.2: Pesticides and other chemical products shall be applied and disposed in accordance with label instructions and material safety data sheet(s).

C.3.16.3: Pesticides and other chemical products shall be used and disposed in accordance with applicable federal, state, and local laws and regulations.

C.3.16.4: Pesticides and other chemical products shall be stored in closed, labeled containers, under cover and off the ground.

C.3.16.5: Weather conditions shall be considered prior to the outdoor application of pesticides and other chemical products. Where practicable, these products shall not be applied outdoors prior to a predicted rainfall. Their outdoor application during rainfall is prohibited.

C.3.16.6: Precautions shall be taken during the application of pesticides and other chemical products to prevent drift into non-target areas or onto non-target vegetation, insects, or animals.

C.3.16.7: Pesticide use shall be reduced to the MEP in areas where recurring applications of pesticides are needed.

C.3.17 Landscaping, Including Cemeteries

In addition to the applicable requirements of Sections C.2, especially sections C.2.8.3, the following conditions apply to landscaping activities:

C.4.17.1: Pesticides, fertilizers and other chemical products shall be used in accordance with applicable federal, state, and local laws and regulations.

C.4.17.2: The application of pesticides, fertilizers, and other chemical products prior to irrigation or rainfall is discouraged.

C.4.17.3: Pesticides, fertilizers and other chemical products shall be stored in closed, labeled containers, under cover and off the ground. Product containers shall be kept in good condition, shall be kept securely closed when not in use, and shall be stored in a manner that protects them from contact with stormwater.

C.4.17.5: Landscaping waste shall be properly disposed by composting on-site or at an approved composting location or permitted landfill.

C.4.17.5: Stockpiles shall be placed away from watercourses, bermed, and covered to prevent the release of materials to the Stormwater Conveyance System or Receiving Waters.

C.4.17.7: Exposed slopes shall be stabilized as soon as possible.

C.4.17.7: Where practicable, native vegetation shall be retained or planted to reduce water, fertilizer and pesticide needs.

C.4.17.8: Integrated Pest Management (IPM) practices and other non-chemical pest control methods (e.g., traps, sticky tape, hot-wire lamps, etc.) shall be considered where practicable.

C.4.17.9: Areas where work is being actively conducted shall be routinely cleaned up using dry methods (e.g., sweeping, raking, etc.). Wet methods (e.g., hosing, etc.) may only be used if adequate precautions have been taken to prevent the discharge of wash water or other materials to the Stormwater Conveyance System or Receiving Waters.

C.4.17.10: The use of blowers is permitted so long as materials are collected and properly disposed. Leaving blown materials in the Stormwater Conveyance System or Receiving Waters is a violation of Ordinance section 13.18.050. The Stormwater Conveyance System includes driveways, streets, and gutters.

C.4.17.11: Measures shall be taken to reduce or eliminate landscaping and irrigation runoff. Examples of practices include proper irrigation programming, programming shorter irrigation cycle times, and decreasing frequency after the application of fertilizers and pesticides.

C.4.17.12: Where practicable, fertilizers and pesticides shall not be applied prior to storm events. These products may not be applied during storm events.

C.3.18 Building Material Retailers and Storage

In addition to the applicable requirements of Sections C.2, the following conditions apply to building materials retailers and storage facilities:

C.3.18.1 Stormwater run-on should be prevented from contacting stored materials and equipment that may contaminate storm water though the use of berms, dikes, or other diversion structures or though the use of measures to elevate waste from site surfaces. Dispose of rainwater collected inside the berm as waste.

C.3.18.2: Materials must be stored off the ground. Where practicable, overhead coverage shall be provided for all outside materials or waste storage areas. If overhead coverage is not available, stored materials shall be covered with an impervious material (e.g., a tarp, etc.).

C.3.18.3: Stockpiles shall be placed away from watercourses, bermed, and covered to prevent the release of materials to the Stormwater Conveyance System or Receiving Waters.

C.3.19 Power Washing

In addition to the applicable requirements of Sections C.2, the following conditions apply to power washing activities:

C.3.19.1: Wash water and rinse water from power washing may not be disposed to the Stormwater Conveyance System or Receiving Waters. The Stormwater Conveyance Systems includes driveways, streets and gutters. Where washing could result in discharges to streets and gutters despite precautions to prevent such discharges, storm drain inlets located down gradient of washing activities shall be covered or otherwise protected to prevent the entry of wash water or rinse water.

C.3.19.2: Wash and rinse water that cannot be property disposed at the job site shall be collected and contained for recycling, reuse, or proper disposal.

C.3.19.3: To the maximum extent practicable, the introduction of pollutants (soaps, degreasers, etc.) to wash water shall be reduced or eliminated.

C.3.20 Animal Facilities

In addition to the applicable requirements of Sections C.2, the following conditions apply to animal facilities:

C.3.20.1: Animal wash racks at equestrian facilities may not discharge to the Stormwater Conveyance System or Receiving Waters.

C.3.20.2: Keep animals in controlled areas and implement measures in such areas to reduce runoff from such areas (e.g., provide vegetative cover, mulching, etc.).

C.3.20.3: Keep animals in covered area, if practicable.

C.3.20.4: Use dry cleaning methods to clean paved or other impervious surfaces where animals are stored/handled

C.3.20.5: Collect and dispose of pet waste to trash or sanitary sewer.

C.3.20.6: Properly dispose of uneaten food.

C.3.20.7: Post signs to remind facility patrons to keep pets on leash, and pick up and dispose of pet waste.

C.3.20.8: Do not allow animal waste to reach the Storm Water Conveyance System or Receiving Waters, which includes streets, gutters, and any natural creeks, channels, or other MS4 facilities.

PART C.4—BMP ALTERNATIVES

The particular BMPs and BMP options prescribed in this Section C can be replaced with alternative BMPs that are at least as effective in preventing or reducing the discharge of pollutants and in meeting the other requirements of the Ordinance. The cost of the BMP may be considered in making this determination, but alternative selections may not be made solely on the basis of economic feasibility.

PART C.5—REFERENCES

1. City of Vista Municipal Code, Chapter 13.18.
2. County of San Diego Stormwater Standards Manual Appendix A, Ordinance 9426.

SECTION D INDUSTRIAL ACTIVITIES AND FACILITIES

Section D Outline

PART D.1—GENERAL CONSIDERATIONS

D.1.1 Industrial Facilities Subject to this Section

This section establishes requirements for Regulated Industrial Facilities that are in addition to those already established for Regulated Commercial Facilities and Activities in Section C of this Manual. As a rule, Regulated Industrial Facilities are required to meet all standards which are applicable to Regulated Commercial Facilities and Activities. Section C-2 describes general standards Regulated Commercial Facilities and Activities and Section C-3 describes activity-specific BMP standards for Regulated Commercial Facilities. Regulated Industrial Facilities must also meet additional requirements that reflect the higher threat to water quality of industrial activities.

As defined in Ordinance section 13.18.100, Regulated Industrial Facility includes any facility meeting one or more of the following criteria:

- The facility is subject to the State General Industrial Stormwater Permit;
- The facility is primarily engaged in manufacturing, processing, storage or handling of raw materials, processed bulk materials, or refuse;
- The facility has a total outdoor uncovered area of more than two acres that is used for an Industrial Activity.

This term is inclusive of High Priority, Medium Priority, and Low Priority Industrial Facilities. Regulated Industrial Facilities which are also High Priority are specifically defined in Ordinance section 13.18.100(B). These are described further in Section D.3 of this Manual. Medium and Low Priority Industrial Facilities are defined in Ordinance sections 13.18.100(C) and 13.18.100(D), respectively. These are also described further in Section D.2 of this Manual.

D.1.2 Responsibilities of Dischargers

Dischargers are required generally to comply with two inter-related sets of directives; (1) compliance with applicable discharge prohibition requirements, and (2) implementation of BMPs to prevent non-stormwater discharges and to reduce contaminants in stormwater discharges. Regardless of their categorization, all Regulated Industrial Facilities are subject to the generally applicable BMP requirements of Ordinance section 13.18.070 and section B of this Standards Manual, as well as the discharge prohibitions of Ordinance sections 13.18.050 and 13.18.060. Failure to comply with applicable discharge prohibitions is generally considered evidence of an inadequate BMP program, although BMPs can also be determined to be inadequate prior to the occurrence of actual discharges.

The sole responsibility for selecting and implementing BMPs that are adequate to comply with the requirements of the Ordinance and this Manual lies with the facility owner or operator. The City recognizes that the proper selection of BMPs depends on numerous factors that are specific to individual industry types and facilities, and therefore does not advocate or require the use of particular practices. Rather, the remainder of this section establishes standards that the City has determined are necessary to prevent discharges of pollutants to its conveyance system and receiving waters. In some instances, a wide range of potential BMP options is available to meet particular standards. In all instances, the City has endeavored to allow the greatest flexibility in determining the best means of compliance. Ultimately, the suitability of BMPs will be determined by their success in preventing polluted discharges from leaving the facility or work site.

PART D.2—REQUIREMENTS APPLICABLE TO ALL REGULATED INDUSTRIAL FACILITIES

This section defines the compliance obligations incurred by Regulated Industrial Facilities Dischargers. Regulated Industrial Facilities include (1) High Priority Industrial Facilities, (2) Medium Priority Industrial Facilities, and (3) Low Priority Industrial Facilities. Low and Medium Priority Industrial Facilities are those which do not meet the criteria established for High Priority in Ordinance section 13.18.100(B). Otherwise, Low and Medium Priority Facilities are differentiated only by the number of persons employed at each; Medium Priority Facilities have 50 or more full-time employees, and Low Priority Facilities 49 or less.

In addition to the general requirements stated in section D.1.2 above, this section sets out basic standards that are generally applicable to Regulated Industrial Facilities. Additional, more prescriptive standards are provided for High Priority Industrial Facilities in Section D, Part Three below.

D.2.1 High Priority Status Assessment and Verification

D.2.1.1: Pursuant to Ordinance section 13.18.100(G), Medium Priority Industrial Facility Dischargers must prepare and retain on site, and make available for inspection, a written report verifying that they have assessed their status with respect to the criteria for classifying High Priority Industrial Facilities. This report must be completed and available for review within one year of Ordinance adoption.

Failure to complete this evaluation in the specified period is a violation of this Ordinance, and may result in a presumption by the City that a facility is High Priority. In such case, all requirements of High Priority Industrial Facilities shall apply unless the Discharger satisfies the City that they are not High Priority. Irrespective of a Discharger's self-assessment, the City may also assign a High Priority status to any Facility that it determines meets any of the criteria of Ordinance section 13.18.100(B).

D.2.1.2: Dischargers required by state law to obtain coverage under the State Industrial General Stormwater Permit shall obtain that coverage, and shall maintain on site and make available for inspection on request by the City the state-issued Waste Discharge Identification Number (WDID) for the facility, and a copy of the Notice of Intent (NOI) filed with the SWRCB pursuant to that permit.

D.2.1.3: Regulated Industrial Facilities employing less than 50 persons, if directed to do so by an Authorized Enforcement Official or Authorized Enforcement Staff, shall prepare and retain on site, and make available for inspection, a written report verifying that they have assessed their status with respect to the criteria for classifying High Priority Industrial Facilities. This report must be completed and available for review within 180 days of written request.

Regulated Industrial Facilities employing less than 50 persons are not categorically required to assess their status as potential High Priority Facilities. However, since many facilities with less than 50 employees are potentially High Priority, the City reserves the right to direct any Regulated Industrial Discharger to conduct this evaluation. The City may alternatively designate a facility as High Priority in the absence of a completed assessment if it determines that sufficient evidence exists to conclude that the facility meets any of the criteria set out in Ordinance section 13.18.100(B).

D.2.2 Annual Review of Facilities and Activities

D.2.2.1: Pursuant to Ordinance section 13.18.100(A), all Regulated Industrial Facilities Dischargers shall review their facilities, activities, operations, and procedures at least annually to detect illicit connections and illegal discharges.

D.2.2.2: Illicit connections must be eliminated (even if the connection was established pursuant to a valid permit and was legal at the time it was constructed), and illegal discharge practices eliminated.

D.2.2.3: Corrective training shall be provided as needed (and documented in training records) whenever an illegal disposal practice is discovered.

The purpose of this requirement is to actively engage Dischargers in the identification and elimination of connections and practices that might otherwise lead to discharge violations. This is especially important for Low and Medium Priority Industrial Facilities are not routinely inspected by City staff or which may be inspected less frequently.

D.2.3 Employee Training

D.2.3.1: Regulated Industrial Facilities Dischargers shall provide training at least annually to all employees with responsibility for actions required to implement the SWPPP. Training shall address notification requirements, inspections, record keeping, illicit connections and illegal discharge detection. Integration with other existing training programs is encouraged.

D.2.3.2: Documentation of training shall be maintained on-site at the location(s) where operations or activities are conducted, and shall be provided on request to City Authorized Enforcement Officials.

D.2.3.3: Training shall be adequate to ensure compliance with the standards established in this Ordinance. Continued or significant non-compliance by facility employees with any condition of this Ordinance may be deemed evidence of an inadequate employee training program.

D.2.4 Compliance with the Requirements of Regulated Commercial Facilities

D.2.4.1: Unless specifically exempted, either individually or categorically, Regulated Industrial Facilities Dischargers must meet the applicable minimum BMP requirements of Regulated Commercial Facilities. This requirement is applicable to any activities or operations conducted at a Regulated Industrial Facility which are subject to Group 1 and Group 2Standards described in Section C of this Manual. Group 2 Standards are applicable to Regulated Industrial Facilities even where the activities under consideration are not the primary focus of the regulated business.

D.2.5 Best Management Practice (BMP) Requirements

Best Management Practice (BMP) programs for Regulated Industrial Facilities must incorporate each of the following elements:

- Activity-specific BMPs,
- Pollution prevention practices,
- Non-structural BMPs, and
- Structural controls

D.2.5.1: Activity-Specific BMPs. Regulated Industrial Facilities shall incorporate into the SWPPP, if applicable, and install and maintain BMPs as specified in this Manual for any commercial activities conducted at the facility, and for areas at the facility where industrial activities are conducted. BMP requirements applicable to commercial activities are the Group 1 and Group 2Standards described in Section C of this Manual. Group 2 Standards are applicable to Regulated Industrial Facilities even where the activities under consideration are not the primary focus of the regulated business. The minimum industrial activities that must be considered are those defined in Ordinance section 13.18.100(E)(5).

Ordinance section 13.18.100(E)(5) defines, but does not limit, the types of industrial activities that must be considered as the following:

- Raw or processes materials bulk storage,
- Mixing, where there is a potential for release of a pollutant,
- Cutting, trimming or grinding in connection with a production process,
- Casting, forging or forming,
- Hazardous materials storage (including tanks),
- Construction, painting and coating,
- Pesticide or other chemical products formulation or packaging,
- Process water pre-treatment,
- Welding,
- Blasting,
- Chemical treatment, and
- Power washing.

The City has not established BMP requirements that are specific to these or other industrial activities. Dischargers are responsible to review their facilities and identify these or other industrial activities that are conducted. Based on this review, BMPs that are appropriate to these activities must be identified and implemented. Where possible, practices that are recognized as being effective and economically feasible for the particular industry should be utilized.

D.2.5.2: Pollution Prevention Practices. Pursuant to Ordinance section 13.18.100(E)(3), Regulated Industrial Facilities shall consider and, where determined to be appropriate by the facility, implement pollution prevention practices. At a minimum, the following types of pollution prevention measures must be considered:

- The use of smaller quantities of toxic materials or substitution of less toxic materials,
- Changes to production processes to reduce waste,
- Decreases in waste water flows,
- Recycling of wastes as part of the production process,
- Segregation of wastes, and
- Treatment of wastes on site to decrease volume and/or toxicity.

D.2.5.3: Non-structural BMPs. Pursuant to Ordinance section 13.18.100(E)(4), Regulated Industrial Facilities shall incorporate into their SWPPPs, if applicable, and install and maintain, the following non-structural BMPs in accordance with the specifications of this Manual:

- Best management practices for material handling and storage of significant materials,
- Best management practices for non-hazardous waste handling and recycling,
- Employee training programs,
- Good housekeeping practices,
- Preventive maintenance practices,
- Self inspection and quality assurance practices, and
- Spill responses planning.

D.2.5.4: Structural Controls. Pursuant to Ordinance section 13.18.100(E)(6), Regulated Industrial Facilities shall incorporate into their SWPPPs, if applicable, and install and maintain, one or more of the following structural BMPs where practicable, if the use of such BMPs would significantly reduce pollution in run-off from the facility:

- Overhead coverage of outdoor work areas or chemical storage,
- Retention ponds, basins, or surface impoundments that confine stormwater to the site,
- Berms and concrete swales or channels that divert run-on and runoff away from contact with pollutant sources,
- Secondary containment structures, and
- Treatment controls, e.g., infiltration devices and oil/water separators, to reduce pollutants in stormwater or authorized non-stormwater discharges.

As described in section 5.1 below, the City may waive requirements for some or all structural controls under specified conditions.

PART D.3—ADDITIONAL REQUIREMENTS APPLICABLE TO HIGH PRIORITY INDUSTRIAL FACILITIES

High Priority Industrial Facilities are those which are specifically designated in section 13.18.100(B) of this Ordinance. In addition to all obligations incurred by all regulated Industrial Facilities Dischargers, High Priority Industrial Facilities Dischargers must comply with the requirements discussed below.

D.3.1 Notice of Intent (NOI) / Waste Discharge Identification Number (WDID)

D.3.1.1: High Priority Industrial Facilities required to comply with the State Industrial General Stormwater Permit shall maintain onsite and make available for inspection upon request by the City the state-issued Waste Discharge Identification Number (WDID) for the facility, and a copy of the Notice of Intent (NOI) filed with the SWRCB pursuant to that permit.

D.3.2 Stormwater Pollution Prevention Plans (SWPPPs)

D.3.2.1: Pursuant to Ordinance section 13.18.100(E)(2), Dischargers required to prepare a Stormwater Pollution Prevention Plan (SWPPP) under the State General Industrial Stormwater Permit must prepare and submit that Plan within 90 days. The plan shall be deemed approved 90 days after submission unless the City requires more information or requires modification to the Plan within that time period. The Discharger must implement the Plan, and maintain it at the site readily available for review.

D.3.2.2: Pursuant to Ordinance section 13.18.100(E)(2), if a High Priority Industrial Facility is not required to prepare a state SWPPP, the facility shall prepare a SWPPP, submit that SWPPP for City approval or modification and approval, implement the SWPPP, and maintain it on site. Any Industrial SWPPP submitted to the City shall meet the requirements of the State General Industrial Stormwater Permit.

D.3.2.3: The development and implementation of Stormwater Pollution Prevention Plans (SWPPPs) is encouraged for all Regulated Industrial Facilities. Business operators are responsible for demonstrating compliance with all applicable provisions of the Ordinance and this Manual, regardless of whether or not a SWPPP is utilized.

D.3.3 Monitoring Requirements

D.3.4.1: Pursuant to Ordinance section 13.18.100(F), Dischargers owning or operating High Priority Industrial Facilities required to conduct monitoring under the State Industrial General Stormwater Permit shall make records of such monitoring available for inspection, and submit a copy of such records to the City if directed to do so by an Authorized Enforcement Official or Authorized Enforcement Staff. The City may direct that records be submitted in a specified electronic format.

D.3.4.2: Pursuant to Ordinance section 13.18.100(F), Dischargers owning or operating manned High Priority Industrial Facilities that are not required to conduct monitoring under the State Industrial General Stormwater Permit, and which would not qualify for an exemption from monitoring under the terms of that permit, must develop and implement a monitoring program that meets the criteria of Ordinance sections 13.18.100(F)(1) and (2).

D.3.4.3: Pursuant to Ordinance section 13.18.100(F), State exceptions from monitoring requirements are applicable to those of the City.

PART D.4—FACILITY INSPECTIONS

The City may conduct inspections of any or all Regulated Industrial Facilities, as defined in Ordinance section 13.18.030, to verify compliance with this Ordinance. High Priority Industrial Facilities will be inspected annually. Other Regulated Industrial Facilities will be inspected as needed.

All discharge prohibition and BMP requirements described herein are applicable regardless of whether any facility or activity is subject to City inspections or any other form of compliance verification.

PART D.5—ALTERNATIVES TO REQUIRED BMPs

D.5.1 Alternative BMPs

The particular BMPs and BMP options prescribed in this Section D can be replaced with alternative BMPs that are at least as effective in preventing or reducing the discharge of pollutants and in meeting the other requirements of the Ordinance. The cost of the BMP may be considered in making this determination, but alternative selections may not be made solely on the basis of economic feasibility.

D.5.2 Waiver of Structural BMP Requirements

The City may at its discretion waive the structural BMP requirements of Ordinance section 13.18.100(E)(6) for a facility or portion of a facility for which "no exposure" circumstances have been demonstrated. The City may accept No Exposure Certification under the State General Industrial Stormwater Permit as acceptable evidence of no exposure conditions, providing the conditions of that certification are maintained and documentation provided to the City as requested. For High Priority Industrial Facilities that are not subject to the State General Industrial Stormwater Permit, the City may accept No Exposure Certifications in the same form as under the State General Industrial Stormwater Permit as acceptable evidence of no exposure conditions, providing the conditions of that certification are maintained and documentation provided to the City as requested.

In any instance where structural BMP requirements are waived, the discharge prohibition requirements of section 13.18.050 and 13.18.060 the minimum BMP requirements of section 13.18.070, and all non-structural BMP requirements, including pollution prevention, will continue to apply. Inspection and monitoring requirements are also not affected.

PART D.6—REFERENCES

1. City of Vista Municipal Code, Chapter 13.18
2. County of San Diego Stormwater Standards Manual Appendix A, Ordinance 9426.

Section E: MUNICIPAL FIXED FACILITIES AND FIELD PROGRAMS

Section E Outline

Part 1. General Considerations

1.1 Municipal Fixed Facilities and Field Programs Subject to this Section
1.2 Applicable Regulations

Part 2 Standards Applicable to Municipal Fixed Facilities and Field Programs

2.1 Basic Minimum BMPs
2.2 Pollutant Generating Activities

SC-11 - Spill Prevention, Control and Cleanup
SC-20 - Vehicle and Equipment Fueling
SC-21 - Vehicle and Equipment Cleaning
SC-22 - Vehicle and Equipment Repair
SC-31- Outdoor Container Storage
SC-32 - Outdoor Equipment Maintenance
SC-33 - Outdoor Storage of Raw Materials
SC-34 - Waste Handling and Disposal
SC-41 - Building and Grounds Maintenance
SC-43 - Parking/Storage Area Maintenance
SC-60 - Housekeeping Practices
SC-61 - Safer Alternative Products
SC-70 - Road and Street Maintenance
SC-71 - Plaza and Sidewalk Cleaning
SC-72 - Fountains & Pools Maintenance
SC-73 - Landscape Maintenance
SC-74 - Drainage System Maintenance
SC-75 - Waste Handling and Disposal
SC-76 - Sewer Utility Maintenance

PART E.1 GENERAL CONSIDERATIONS

This section establishes the BMP requirements for the fixed facilities and field programs within the City of Vista.

E.1.1 Municipal Fixed Facilities and Field Programs Subject to this Section

This section addresses two types of municipal operations: fixed or stationary facilities; and field activities. A fixed facility is a specific building or physical location at which municipal operations occur. An example is a corporate yard. Conversely, field activities are actions or functions that staff or City contractors implement as a part of their work duties at various locations across the City. An example is street maintenance.

The City's Jurisdictional Urban Runoff Management Program (JURMP) identifies all of the applicable fixed facilities and activities that make up the City's Municipal Operations that may impact water quality. The City has identified the potential pollutants that may be generated at each of the facilities in the municipal inventory, as well as from field activities.

The current inventory of the City's fixed facilities and activities is found in Appendix B of the JURMP. The inventory also identifies high priority facilities and activities. These include the following based on Order R9-2007-0001:

- Roads, streets, highways and parking facilities
- Flood management projects and flood control devices
- Areas and activities tributary to a CWA 303(d) impaired water body, where an area or activity generates pollutants for which the water body is impaired.
- Corporate yards
- Household hazardous waste collection facilities
- Parks and recreation facilities
- Sanitary sewage collection systems
- Special event venues following special events (festivals, sporting events, etc.)
- Power washing

E.1.2 Applicable Regulations

Municipal dischargers are required generally to comply with two inter-related sets of directives: (1) compliance with applicable discharge prohibition requirements, and (2) implementation of BMPs to prevent non-stormwater discharges and to reduce contaminants in stormwater discharges. Regardless of their categorization, all municipal facilities and activities are subject to the generally applicable BMP requirements of Ordinance section 13.18.120 and section B of this Standards Manual, as well as the discharge prohibitions of Ordinance sections 13.18.050 and 13.18.060. Failure to comply with applicable discharge prohibitions is generally considered evidence of an inadequate BMP program, although BMPs can also be determined to be inadequate prior to the occurrence of actual discharges.

The remainder of this section establishes standards that the City has determined are necessary to prevent discharges of pollutants to its conveyance system and receiving waters. In some instances, a wide range of potential BMP options is available to meet particular standards. In all instances, the City has endeavored to allow the greatest flexibility in determining the best means of compliance. Ultimately, the suitability of BMPs will be determined by their success in preventing polluted discharges from leaving the municipal facility or activity.

PART E.2 STANDARDS APPLICABLE TO MUNICIPAL FIXED FACILITIES AND FIELD PROGRAMS

E.2.1 Basic Minimum BMPs

This part requires basic minimum BMPs that are applicable to all municipal fixed facilities and field programs. The following BMP requirements are described in this part, which are applicable to all municipal areas and activities:

- Employee Training
- Pollution Prevention
- Good Housekeeping
- Spill Response and Prevention

Employee Training

Municipal departments shall provide training at least annually to all employees with responsibility for actions that have a potential to cause stormwater pollution. Integration with other existing training programs is encouraged. Training shall address:

- General stormwater awareness;
- Applicable regulations;
- Discharge prohibitions;
- Importance of pollution prevention practices (good housekeeping, recycling, waste management, source control, etc.);
- Applicable best management practices (including those called out in the facility stormwater pollution prevention plan [SWPPP]), where applicable;
- Integrated pest management, self-inspections; and
- Record keeping.

Documentation of training shall be maintained on-site at the location(s) where operations or activities are conducted, and shall be provided on request to City Authorized Enforcement Officials or Authorized Enforcement Staff. If the operations are covered in a SWPPP, training records should be filed with the SWPPP.

Training will be adequate to ensure compliance with the standards established in this Manual and the City Municipal Code.

Pollution Prevention

The City will implement those urban runoff pollution prevention practices that are generally recognized for that facility's activity as being effective and economically advantageous.

Pollution prevention is defined as practices and processes that reduce or eliminate the generation of pollutants. Recycling, use of different types of products or chemicals, and altering operational procedures are all types of pollution prevention practices that can reduce the amounts of pollutants generated by a municipality. Under many circumstances, those pollution prevention practices that are commonly implemented can provide benefits to the municipality in addition to pollution prevention, such as cost savings or operational efficiency.

Good Housekeeping

Good housekeeping practices employ simple common sense in creating and maintaining a clean, orderly environment that reduces the risk of accidents and Urban Runoff contamination. Good housekeeping practices have been encompassed by the above listed requirements. Because of their importance these good housekeeping measures are further described below.

These following descriptions do not describe requirements of the City but are instead intended as additional guidance for the more effective implementation of the other BMPs to satisfy other requirements.

- **Routine Housekeeping Inspections.** Locations with higher risk of impacting storm water quality (e.g., storm water outfalls, loading and unloading areas, materials, products and wastes storage areas, equipment and vehicle maintenance and cleaning areas) should be inspected frequently, such as on a daily basis. Other areas of lower risk should be checked less frequently, such as weekly. Inspections should focus on leaks or conditions that could lead to discharges of pollutants to the Storm Water Conveyance or Receiving Waters.
- **Maintenance of Clean Ground Surfaces.** Sweeping of all paved areas exposed to precipitation or storm water should be conducted on a regular basis. Litter controls of all exposed surface should also be conducted on a regular basis. The frequency of sweeping and litter control should be monthly and daily, respectively, or shorter, if needed, based onsite conditions.
- **Waste Management.** Each facility should conduct regular pickup and disposal of garbage and waste materials/products to prevent overfill of waste storage containers, which would increase the risk of waste contacting storm water.
- **Equipment Inspection.** Each facility should conduct routine inspection of equipment to ensure proper functioning. Should problems be identified during inspection, proper and prompt maintenance or repair should be conducted.
- **Storage.** Raw materials, intermediate products, finished products, byproducts and waste products should be stored in covered areas or sealed containers unless the materials or products are not a threat to urban runoff quality. To prevent accidental spills, materials or products should be stored away from direct traffic routes. All containers should be stacked according to applicable federal, state, and city regulations as well as manufacturers' instructions to avoid damage from improper weight distribution. Pallets or similar devices should be used to prevent corrosion of the containers that can result when containers come in contact with moisture on the ground.
- **Limitations on Handling Sensitive Materials.** Each facility should limit the handling of oil, hazardous, and other sensitive materials to those personnel specially trained to handle these materials.
- **Employee Training.** All good housekeeping practices should be incorporated into a facility's employee-training program.

Spill Response and Prevention

Municipal staff will implement BMPs at all fixed facilities and field programs to prevent, control and cleanup spills. The following are general BMPs to be implemented:

- Refer to and implement the BMPs listed in the pollutant generating activity SC-11, Spill Prevention, Control and Cleanup below.

- Have spill cleanup materials readily available and in a known location.

- Clean up spills immediately and use dry methods if possible.

- Properly dispose of spill cleanup material.

E.2.2 Pollutant Generating Activities

The following BMPs are grouped by pollutant generating activities. These groupings are consistent with the identification of pollutant generating activities that are associated with the fixed facilities and field programs identified in the City's JURMP Municipal Inventory.

The pollutant generating activities and the associated BMPs are modified from the California Stormwater Quality Association (CASQA) BMP Handbook for Municipal Programs.

Municipal BMP Requirements for Pollutant Generating Activities

SC-11 - **Spill Prevention, Control and Cleanup**

Spill/Leak Prevention Measures

- If possible, move material handling indoors, under cover, or away from storm drains or sensitive water bodies.
- Properly label all containers so that the contents are easily identifiable.
- Berm storage areas or provide other containment so that if a spill or leak occurs, the material is contained.
- Cover outside storage areas either with a permanent structure or with a seasonal one such as a tarp so that rain can not come into contact with the materials.
- Check containers (and any containment sumps) often for leaks and spills. Replace containers that are leaking, corroded, or otherwise deteriorating with containers in good condition. Collect all spilled liquids and properly dispose of them.
- Store, contain and transfer liquid materials in such a manner that if the container is ruptured or the contents spilled, they will not discharge, flow or be washed into the storm drainage system, surface waters, or groundwater.
- Place drip pans or absorbent materials beneath all mounted taps and at all potential drip and spill locations during the filling and unloading of containers. Any collected liquids or soiled absorbent materials should be reused/recycled or properly disposed of.
- For field programs, only transport the minimum amount of material needed for the daily activities and transfer materials between containers at a municipal yard where leaks and spill are easier to control.
- If paved, sweep and clean storage areas monthly, do not use water to hose down the area unless all of the water will be collected and disposed of properly.
- If necessary, protect catch basins while conducting field activities so that if a spill occurs, the material will be contained.

Training

- Educate employees about spill prevention, spill response and cleanup on a routine basis.
- Well-trained employees can reduce human errors that lead to accidental releases or spills:
- The employees should have the tools and knowledge to immediately begin cleaning up a spill if one should occur.
- Training of staff from all municipal departments should focus on recognizing and reportingpotential or current spills/leaks and who they should contact.

Spill Response and Prevention

- Identify key spill response personnel and train employees on who they are.

- Store and maintain appropriate spill cleanup materials in a clearly marked location near storage areas; and train employees to ensure familiarity with the site's spill control plan and/or proper spill cleanup procedures.
- Locate spill cleanup materials, such as absorbents, where they will be readily accessible (e.g. near storage and maintenance areas, on field trucks).
- If a spill occurs, notify the key spill response personnel immediately. If the material is unknown or hazardous, contact the local fire department.
- If safe to do so, attempt to contain the material and block the nearby storm drains so that the area impacted is minimized. If the material is unknown or hazardous wait for properly trained personnel to contain the materials.
- Perform an assessment of the area where the spill occurred and the downstream area that it could impact. Relay this information to the key spill response and clean up personnel.

Spill Cleanup Procedures

- Small non-hazardous spills - Use a rag, damp cloth or absorbent materials for general clean up of liquids - Use brooms or shovels for the general clean up of dry materials - If water is used, it must be collected and properly disposed of. The wash water can not be allowed to enter the storm drain. - Dispose of any waste materials properly - Clean or dispose of any equipment used to clean up the spill properly
- Large non-hazardous spills - Use absorbent materials for general clean up of liquids - Use brooms, shovels or street sweepers for the general clean up of dry materials - If water is used, it must be collected and properly disposed of. The wash water can not be allowed to enter the storm drain. - Dispose of any waste materials properly - Clean or dispose of any equipment used to clean up the spill properly
- For hazardous or very large spills, a private cleanup company or Hazmat team may need to be contacted to assess the situation and conduct the cleanup and disposal of the materials.
- Chemical cleanups of material can be achieved with the use of absorbents, gels, and foams. Remove the adsorbent materials promptly and dispose of according to regulations.
- If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be sent to a certified laundry (rags) or disposed of as hazardous waste.
- Report any spills immediately to the identified key municipal spill response personnel.
- Report spills in accordance with applicable reporting laws. Spills that pose an immediate threat to human health or the environment must be reported immediately to the Office of Emergency Service (OES).
- Spills that pose an immediate threat to human health or the environment must also be reported within 24 hours to the Regional Water Quality Control Board.
- Federal regulations require that any oil spill into a water body or onto an adjoining shoreline be reported immediately to the National Response Center (NRC) at 800-424-8802 (24 hour).
- After the spill has been contained and cleaned up, a detailed report about the incident should be generated and kept on file.

SC-20 - Vehicle and Equipment Fueling

Pollution Prevention

- Educate employees about pollution prevention measures and goals
- Focus pollution prevention activities on containment of spills and leaks, most of which may occur during liquid transfers.

General

- "Spot clean" leaks and drips routinely. Leaks are not cleaned up until the absorbent is picked up and disposed of properly.
- Label drains within the facility boundary, by paint/stencil (or equivalent), to indicate whether they flow to an oil/water separator, directly to the sewer, or to a storm drain.
- Post signs to remind employees not to top off the fuel tank when filling .
- Report leaking vehicles to fleet maintenance.

Fuel Dispensing Areas

- Maintain clean fuel-dispensing areas using dry cleanup methods such as sweeping for removal of litter and debris, or use of rags and absorbents for leaks and spills.
- Cover storm drains in the vicinity during transfer.

SC-21 - Vehicle and Equipment Cleaning

General

- Use biodegradable, phosphate-free detergents for washing vehicles as appropriate.
- Mark the area clearly as a wash area.
- Post signs stating that only washing is allowed in a wash area and that discharges to the storm drain are prohibited.
- Provide a trash container in wash area.

Vehicle and Equipment Cleaning

- Consider washing vehicles and equipment inside the building if washing/cleaning must occur on-site. This will help to control the targeted constituents by directing them to the sanitary sewer.
- If washing must occur on-site and outdoor:
  - Use designated paved wash areas. Designated wash areas must be well marked with signs indicating where and how washing must be done. This area must be covered or bermed to collect the wash water or graded to direct the wash water to a treatment or disposal facility.
  - Oil changes and other engine maintenance cannot be conducted in the designated washing area. Perform these activities in a place designated for such activities.
- Use hoses with nozzles that automatically turn off when left unattended.

- Perform pressure cleaning and steam cleaning off-site to avoid generating runoff with high pollutant concentrations. If done on-site, all wash water must be contained and properly disposed to a treatment of disposal facility.

Disposal

- Consider filtering and recycling wash water.
- Discharge equipment wash water to the sanitary sewer, a holding tank, or a process treatment system, regardless of the washing method used.
- Discharge vehicle wash water to (1) the sanitary sewer, a holding tank, or process treatment system or (2) an enclosed recycling system.
- Discharge wash water to sanitary sewer only after contacting the local sewer authority to find out if pretreatment is required.

Training

- Train employees on proper cleaning and wash water disposal procedures and conduct "refresher" courses on a regular basis.
- Train staff on proper maintenance measures for the wash area.
- Train employees and contractors on proper spill containment and cleanup. The employee should have the tools and knowledge to immediately begin cleaning up a spill if one should occur.

SC-22 - Vehicle and Equipment Repair

General

- Move maintenance and repair activities indoors whenever feasible.
- Store idle equipment containing fluids under cover.
- Use a vehicle maintenance area designed to prevent stormwater pollution - minimize contact of stormwater with outside operations through berming and appropriate drainage routing.
- Avoid hosing down your work areas. If work areas are washed, collect and direct wash water to sanitary sewer.
- Paint signs on storm drain inlets to indicate that they are not to receive liquid or solid wastes.
- Post signs at sinks to remind employees not to pour hazardous wastes down drains.
- Clean yard storm drain inlets(s) regularly.
- Do not pour materials down drains or hose down work areas; use dry sweeping.
- If possible, cover the work area so as to limit exposure to the rain

Material and Waste Handling

- Store materials and wastes under cover whenever possible.

- Designate a special area to drain and replace motor oil, coolant, and other fluids. This area should not have any connections to the storm drain or the sanitary sewer and should allow for easy clean up of drips and spills.
- Drain all fluids from wrecked vehicles immediately. Ensure that the drain pan or drip pan is large enough to contain drained fluids (e.g. larger pans are needed to contain antifreeze, which may gush from some vehicles).
- Do not pour liquid waste to floor drains, sinks, outdoor storm drain inlets, or other storm drains or sewer connections.
- Do not dispose of used or leftover cleaning solutions, solvents, and automotive fluids and oil in the sanitary sewer.
- Dispose of all waste materials according to applicable laws and regulations.
- Collect leaking or dripping fluids in drip pans or containers. Fluids are easier to recycle if kept separate.
- Promptly transfer used fluids to the proper waste or recycling drums and store in an appropriately designed area that can contain spills. Don't leave drip pans or other open containers lying around.
- Do not dispose of oil filters in trash cans or dumpsters, which may leak oil and contaminate stormwater. Place the oil filter in a funnel over a waste oil recycling drum to drain excess oil before disposal and send used oil filters to a recycling facility.
- Store cracked and/or dead batteries in a non-leaking covered secondary container and dispose of properly at recycling or household hazardous waste facilities.

Maintenance and Repair Activities

- Provide a designated area for vehicle maintenance.
- Keep equipment clean, don't allow excessive build-up of oil and grease.
- If temporary work is being conducted outside: Use a tarp, ground cloth, or drip pans beneath the vehicle or equipment to capture all spills and drips, The collected drips and spills must be disposed, reused, or recycled properly.
- If possible, perform all vehicle fluid removal or changing inside or under cover to prevent the run-on of stormwater and the runoff of spills:
    - Keep a drip pan under the vehicle while you unclip hoses, unscrew filters, or remove other parts. Use a drip pan under any vehicle that might leak while you work on it to keep splatters or drips off the shop floor.
    - Promptly transfer used fluids to the proper waste or recycling drums. Don't leave drip pans or other open containers lying around.
    - Keep drip pans or containers under vehicles or equipment that might drip during Repairs.
- Do not change motor oil or perform equipment maintenance in non-appropriate areas.
- If equipment (e.g., radiators, axles) is to be stored outdoors, oil and other fluids should be drained first. This is also applicable to vehicles being stored and not used on a regular basis.

- Monitor parked vehicles closely for leaks and place pans under any leaks to collect the fluids for proper disposal or recycling.

Parts Cleaning

- Clean vehicle parts without using liquid cleaners wherever possible to reduce waste.
- Do all liquid cleaning at a centralized station so the solvents and residues stay in one area.
- Locate drip pans, drain boards, and drying racks to direct drips back into a solvent sink or fluid holding tank for reuse.

Inspection

- Regularly inspect vehicles and equipment for leaks, and repair immediately.
- Make sure incoming vehicles are checked for leaking oil and fluids. Apply controls accordingly.

Training

- Train employees and contractors in the proper handling and disposal of engine fluids and waste materials.
- Ensure that employees are familiar with the site's spill control plan and/or proper spill cleanup procedures (You can use reusable cloth rags to clean up small drips and spills instead of disposables; these can be washed by a permitted industrial laundry. Do not clean them at home or at a coin-operated laundry business). The employee should have the tools and knowledge to immediately begin cleaning up a spill if one should occur.

SC-31- Outdoor Container Storage

General

- Protect materials from rainfall, run-on, runoff, and wind dispersal:
  - Cover the storage area with a roof, if possible.
  - Minimize stormwater run-on by enclosing the area or building a berm around it.
  - Use a "doghouse" structure for storage of liquid containers.
  - Use covered dumpsters for waste product containers.
- Employ safeguards against accidental releases:
  - Provide overflow protection devices to warn operator or automatic shut down transfer pumps.
  - Provide protection guards (bollards) around tanks and piping to prevent vehicle or forklift damage, and
  - Provide clear tagging or labeling, and restricting access to valves to reduce human error.

Storage Areas

- Provide barriers such as posts or guard rails, where tanks are exposed, to prevent collision damage with vehicles.
- Provide secure storage to prevent vandalism.
- Place tight-fitting lids on all containers.

- Enclose or cover the containers where they are stored.
- Raise the containers off the ground by use of pallet or similar method, with provisions for spill control and secondary containment.
- Contain the material in such a manner that if the container leaks or spills, the contents will not discharge, flow, or be washed into the storm drainage system, surface waters or groundwater.
- Place drip pans or absorbent materials beneath all mounted container taps, and at all potential drip and spill locations during filling and unloading of containers. Drip pans must be cleaned periodically, and all collected liquids and soiled absorbent materials must be reused/recycled or properly disposed.
- Rainfall collected in secondary containment system must not contain pollutants for discharge to storm drain system.

Container Management

- Keep containers in good condition without corrosion or leaky seams.
- Place containers in a lean-to structure or otherwise covered to keep rainfall from reaching the drums.
- Replace containers if they are deteriorating to the point where leakage is occurring. Keep all containers undercover to prevent the entry of stormwater. Employees should be made aware of the importance of keeping the containers free from leaks.
- Keep waste container drums in an area such as a service bay. Drums stored outside must be stored in a lean-to type structure, shed or walk-in container.

Storage of Hazardous Materials

- Storage of reactive, ignitable, or flammable liquids must comply with the fire and hazardous waste codes.
- Place containers in a designated area that is paved, free of cracks and gaps, and impervious in order to contain leaks and spills. The area should also be covered.
- Surround stored hazardous materials and waste with a curb or dike to provide the volume to contain 10 percent of the volume of all of the containers or 110 percent of the volume of the largest container, whichever is greater. The area inside the curb should slope to a drain and a dead-end sump should be installed in the drain.

Inspection

- Provide regular inspections:
  - Inspect storage areas regularly for leaks or spills.
  - Conduct routine inspections and check for external corrosion of material containers.
  - Also check for structural failure, spills and overfills due to operator error, failure of piping system.
  - Check for leaks or spills during pumping of liquids or gases from truck or rail car to a storage facility or vice versa.
  - Visually inspect new tank or container installations for loose fittings, poor welding, and improper or poorly fitted gaskets.

- Inspect tank foundations, connections, coatings, and tank walls and piping system. Look for corrosion, leaks, cracks, scratches, and other physical damage that may weaken the tank or container system.
- Replace containers that are leaking, corroded, or otherwise deteriorating with ones in good condition. If the liquid chemicals are corrosive, containers made of compatible materials must be used instead of metal drums.
- Label new or secondary containers with the product name and hazards.

Training

- Train employees (e.g. fork lift operators) and contractors in proper spill containment and cleanup. The employee should have the tools and knowledge to immediately begin cleaning up a spill if one should occur.
- Train employees in proper storage measures.
- Use a training log or similar method to document training.

SC-32 - Outdoor Equipment Maintenance

General

- Cover the work area with a permanent roof.
- Dry clean the work area regularly.

Training

- Train employees to perform the activity during dry periods only and to use less or non-toxic materials.
- Train employee and contractors in proper techniques for spill containment and cleanup. The employee should have the tools and knowledge to immediately begin cleaning up a spill if one should occur.

SC-33 - Outdoor Storage of Raw Materials

General

- All outside storage areas should be covered with a roof, and bermed, or enclosed to prevent stormwater contact. At the very minimum, a temporary waterproof covering made of polyethylene, polypropylene or hypalon should be used over all materials stored outside that have the potential to contaminate stormwater.
- Cover and contain the stockpiles of raw materials to prevent stormwater from running into the covered piles. The covers must be in place at all times when work with the stockpiles is not occurring. (applicable to small stockpiles only).
- If the stockpiles are so large that they cannot feasibly be covered and contained, implement erosion control practices at the perimeter of your site and at any catch basins to prevent erosion of the stockpiled material off site.
- Keep liquids in a designated area on a paved impervious surface within a secondary containment.
- Keep outdoor storage containers in good condition.

- Keep storage areas clean and dry.
- Secure drums stored in an area where unauthorized persons may gain access to prevent accidental spillage, pilferage, or any unauthorized use.
- Cover wood products treated with chromated copper arsenate, ammonical copper zinc arsenate, creosote, or pentachlorophenol with tarps or store indoors.

Raw Material Containment

- Do not store chemicals, drums, or bagged materials directly on the ground. Place these items in secondary containers if applicable.
- Tanks should be bermed or surrounded by a secondary containment system.
- Release accumulated stormwater in petroleum storage areas prior to the next storm. At a minimum, water should pass through an oil/water separator and, if allowed, discharged to a sanitary sewer.

Inspection

- Conduct regular inspections of storage areas so that leaks and spills are detected as soon as possible.
- Conduct routine inspections and check for external corrosion of material containers. Also check for structural failure, spills and overfills due to operator error, failure of piping system.
- Check for leaks or spills during pumping of liquids or gases from truck to a storage facility or vice versa.
- Visually inspect new tank or container installations for loose fittings, poor welding, and improper or poorly fitted gaskets.
- Inspect tank foundations, connections, coatings, and tank walls and piping system. Look for corrosion, leaks, cracks, scratches, and other physical damage that may weaken the tank or container system.

Training

- Employees should be well trained in proper material storage.
- Train employees and contractors in proper techniques for spill containment and cleanup.

SC-34 - Waste Handling and Disposal

General

- Cover storage containers with leak proof lids or some other means. If waste is not in containers, cover all waste piles (plastic tarps are acceptable coverage) and prevent stormwater run-on and runoff with a berm. The waste containers or piles must be covered except when in use.
- Use drip pans or absorbent materials whenever grease containers are emptied by vacuum trucks or other means. Grease cannot be left on the ground. Collected grease must be properly disposed of as garbage.
- Check storage containers weekly for leaks and to ensure that lids are on tightly. Replace any that are leaking, corroded, or otherwise deteriorating.

- Sweep and clean the storage area regularly. If it is paved, do not hose down the area to a storm drain.
- Dispose of rinse and wash water from cleaning waste containers into a sanitary sewer if allowed by the local sewer authority. Do not discharge wash water to the street or storm drain.
- Transfer waste from damaged containers into safe containers.
- Take special care when loading or unloading wastes to minimize losses. Loading systems can be used to minimize spills and fugitive emission losses such as dust or mist. Vacuum transfer systems can minimize waste loss.

Controlling Litter

- Post “No Littering” signs and enforce anti-litter laws.
- Provide a sufficient number of litter receptacles for the facility.
- Clean out and cover litter receptacles frequently to prevent spillage.

Waste Collection

- Keep waste collection areas clean.
- Inspect solid waste containers for structural damage or leaks regularly. Repair or replace damaged containers as necessary.
- Secure solid waste containers; containers must be closed tightly when not in use.
- Place waste containers under cover if possible.
- Do not fill waste containers with washout water or any other liquid.
- Ensure that only appropriate solid wastes are added to the solid waste container.
- Certain wastes such as hazardous wastes, appliances, fluorescent lamps, pesticides, etc. may not be disposed of in solid waste containers (see chemical/ hazardous waste collection section below).
- Do not mix wastes; this can cause chemical reactions, make recycling impossible, and complicate disposal.

Good Housekeeping

- Use all of the product before disposing of the container.
- Keep the waste management area clean at all times by sweeping and cleaning up spills immediately.
- Use dry methods when possible (e.g. sweeping, use of absorbents) when cleaning around restaurant/food handling dumpster areas. If water must be used after sweeping/using absorbents, collect water and discharge through grease interceptor to the sewer.
- Stencil storm drains on the facility’s property with prohibitive message regarding waste disposal.

Chemical/Hazardous Wastes

- Select designated hazardous waste collection areas on-site.

- Store hazardous materials and wastes in covered containers protected from vandalism, and in compliance with fire and hazardous waste codes.
- Place hazardous waste containers in secondary containment.
- Make sure that hazardous waste is collected, removed, and disposed of only at authorized disposal areas.

Run-on/Runoff Prevention

- Prevent stormwater run-on from entering the waste management area by enclosing the area or building a berm around the area.
- Prevent the waste materials from directly contacting rain.
- Cover waste piles with temporary covering material such as reinforced tarpaulin, polyethylene, polyurethane, polypropylene or hypalon.
- Cover dumpsters to prevent rain from washing waste out of holes or cracks in the bottom of the dumpster.
- Move the activity indoor after ensuring all safety concerns such as fire hazard and ventilation are addressed.

Inspection

- Check waste management areas for leaking containers or spills.

Training

- Train staff on pollution prevention measures and proper disposal methods.
- Train employees and contractors on proper spill containment and cleanup. The employee should have the tools and knowledge to immediately begin cleaning up a spill if one should occur.
- Train employees and subcontractors in proper hazardous waste management.

SC-41 - Building and Grounds Maintenance

Pressure Washing of Buildings, Rooftops, and Other Large Objects

- In situations where washing must occur with or without soaps or detergents and the surrounding area is paved, pressure washers must use a waste water collection device that enables collection of wash water and associated solids. A sump pump, wet vacuum or similarly effective device must be used to collect the runoff and loose materials. The collected runoff and solids must be disposed of properly.
- If you are pressure washing and the surrounding area is a grass or landscaped area (with or without soap), runoff must be dispersed as sheet flow as much as possible, rather than as a concentrated stream. The wash runoff must remain on the grass and not drain to pavement. Ensure that this practice does not kill grass.

Landscaping Activities

- Do not apply any chemicals (insecticide, herbicide, or fertilizer) directly to surface waters, unless the application is approved and permitted by the state.

- Dispose of grass clippings, leaves, sticks, or other collected vegetation as garbage, or by composting. Do not dispose of collected vegetation into waterways or storm drainage systems.
- Use mulch or other erosion control measures on exposed soils.
- Check irrigation schedules so pesticides will not be washed away and to minimize non-stormwater discharge.

Building Repair, Remodeling, and Construction

- Do not dump any toxic substance or liquid waste on the pavement, the ground, or toward a storm drain.
- Use ground or drop cloths underneath outdoor painting, scraping, and sandblasting work, and properly dispose of collected material daily.
- Use a ground cloth or oversized tub for activities such as paint mixing and tool cleaning.
- Clean paint brushes and tools covered with water-based paints in sinks connected to sanitary sewers or in portable containers that can be dumped into a sanitary sewer drain. Brushes and tools covered with non-water-based paints, finishes, or other materials must be cleaned in a manner that enables collection of used solvents (e.g., paint thinner, turpentine, etc.) for recycling or proper disposal.

- Use a storm drain cover, filter fabric, or similarly effective runoff control mechanism if dust, grit, wash water, or other pollutants may escape the work area and enter a catch basin. The containment device(s) must be in place at the beginning of the work day, and accumulated dirty runoff and solids must be collected and disposed of before removing the containment device(s) at the end of the work day.
- If you need to de-water an excavation site, you may need to filter the water before discharging to a catch basin or off-site. In which case you should direct the water through hay bales and filter fabric or use other sediment filters or traps.
- Store toxic material under cover with secondary containment during precipitation events and when not in use. A cover would include tarps or other temporary cover material.

Mowing, Trimming, and Planting

- Dispose of leaves, sticks, or other collected vegetation as garbage, by composting or at a permitted landfill. Do not dispose of collected vegetation into waterways or storm drainage systems.
- Use mulch or other erosion control measures when soils are exposed.
- Place temporarily stockpiled material away from watercourses and drain inlets, and berm or cover stockpiles to prevent material releases to the storm drain system.
- Consider an alternative approach when bailing out muddy water; do not put it in the storm drain or pour over landscaped areas.
- Use hand or mechanical weeding where practical.

Fertilizer and Pesticide Management

- Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of fertilizers and pesticides and training of applicators and pest control advisors.

- Follow manufacturers' recommendations and label directions. Pesticides must never be applied if precipitation is occurring or predicted. Do not apply insecticides within 100 feet of surface waters such as lakes, ponds, wetlands, and streams.
- Do not use pesticides if rain is expected.
- Do not mix or prepare pesticides for application near storm drains.
- Use the minimum amount needed for the job.
- Calibrate fertilizer distributors to avoid excessive application.
- Employ techniques to minimize off-target application (e.g. spray drift) of pesticides, including consideration of alternative application techniques.
- Apply pesticides only when wind speeds are low.
- Work fertilizers into the soil rather than dumping or broadcasting them onto the surface.
- Irrigate slowly to prevent runoff and then only as much as is needed.
- Clean pavement and sidewalk if fertilizer is spilled on these surfaces before applying irrigation water.
- Dispose of empty pesticide containers according to the instructions on the container label.
- Use up the pesticides. Rinse containers, and use rinse water as product. Dispose of unused pesticide as hazardous waste.
- Implement storage requirements for pesticide products with guidance from the local fire department and County Agricultural Commissioner. Provide secondary containment for pesticides.

Inspection

- Inspect irrigation system periodically to ensure that the right amount of water is being applied and that excessive runoff is not occurring. Minimize excess watering, and repair leaks in the irrigation system as soon as they are observed.

Training

- Educate and train employees on use of pesticides and in pesticide application techniques to prevent pollution.
- Train employees and contractors in proper techniques for spill containment and cleanup.
- Be sure the frequency of training takes into account the complexity of the operations and the nature of the staff.

SC-43 - Parking/Storage Area Maintenance

General

- Keep the parking and storage areas clean and orderly. Remove debris in a timely fashion.
- Where possible, arrange rooftop drains to prevent drainage directly onto paved surfaces.

Controlling Litter

- Post "No Littering" signs and enforce anti-litter laws.

- Provide an adequate number of litter receptacles.
- Clean out and cover litter receptacles frequently to prevent spillage.
- Routinely sweep, shovel and dispose of litter in the trash.

Surface cleaning

- Use dry cleaning methods (e.g. sweeping or vacuuming) to prevent the discharge of pollutants into the stormwater conveyance system.
- Sweep all parking lots at least once before the onset of the wet season (consult JURMP for required sweeping schedules). Dispose of parking lot sweeping debris and dirt at an approved disposal facility.
- If pressure washing must occur, block the storm drains or contain runoff. Wash water must be collected and pumped to the sanitary sewer or discharged to a pervious surface.
- When cleaning heavy oily deposits:
  - Use absorbent materials on oily spots prior to sweeping or washing.
  - Dispose of used absorbents appropriately.

Surface Repair

- Pre-heat, transfer or load hot bituminous material away from storm drain inlets.
- Apply concrete, asphalt, and seal coat during dry weather to prevent contamination form contacting stormwater runoff.
- Use only as much water as necessary for dust control, to avoid runoff.
- Catch drips from paving equipment that is not in use with pans or absorbent material placed under the machines. Dispose of collected material and absorbents properly.

Inspection

- Have designated personnel conduct inspections of the parking facilities and stormwater conveyance systems associated with them on a regular basis (consult JURMP for required frequencies).
- Inspect cleaning equipment/sweepers for leaks on a regular basis.

Training

- Provide regular training to field employees and/or contractors regarding cleaning of paved areas and proper operation of equipment.
- Train employees and contractors in proper techniques for spill containment and cleanup.

SC-60 - Housekeeping Practices

General

- Keep work sites clean and orderly. Remove debris in a timely fashion. Sweep the area.
- Dispose of wash water, sweepings, and sediments, properly.
- Recycle or dispose of fluids properly.

- Establish a checklist of office, yard and plant areas to confirm cleanliness and adherence to proper storage and security. Specific employees should be assigned specific inspection responsibilities and given the authority to remedy any problems found.
- Post waste disposal charts in appropriate locations detailing for each waste its hazardous nature (poison, corrosive, flammable), prohibitions on its disposal (dumpster, drain, sewer) and the recommended disposal method (recycle, sewer, storage, landfill).
- Use and reward employee suggestions related to BMPs, hazards, pollution reduction, work place safety, cost reduction, alternative materials and procedures, recycling and disposal.
- Have, and review regularly, a contingency plan for spills, leaks, weather extremes etc. Make sure all employees know about it and what their role is so that it comes into force automatically.

Training

- Train all employees, management, office, yard, manufacturing, field and clerical in BMPs and pollution prevention and make them accountable.
- Train municipal employees who handle potentially harmful materials in good housekeeping practices.
- Train personnel who use pesticides in the proper use of the pesticides. The California Department of Pesticide Regulation licenses pesticide dealers, certifies pesticide applicators and conducts onsite inspections.
- Train employees and contractors in proper techniques for spill containment and cleanup. The employee should have the tools and knowledge to immediately begin cleaning up a spill if one should occur.

SC-61 - Safer Alternative Products

Training

- Train employees who handle potentially harmful materials in the use of safer alternatives.
- Purchasing departments should be encouraged to procure less hazardous materials and products that contain little or no harmful substances.

SC-70 - Road and Street Maintenance

Street Sweeping and Cleaning

- Provide minimum annual sweeping of all concrete curbed streets (consult JURMP for minimum sweeping frequencies for various roads).
- Avoid wet cleaning or flushing of street, and utilize dry methods where possible.
- Maintain cleaning equipment in good working condition and purchase replacement equipment as needed. Old sweepers should be replaced with new technologically advanced sweepers (preferably regenerative air sweepers) that maximize pollutant removal.
- Operate sweepers at manufacturer requested optimal speed levels to increase effectiveness.
- Regularly inspect vehicles and equipment for leaks, and repair immediately.

- Keep accurate logs of the number of curb-miles swept and the amount of waste collected.
- Dispose of street sweeping debris and dirt at an approved disposal facility.
- Do not store swept material along the side of the street or near a storm drain inlet.
- Keep debris storage to a minimum during the wet season or make sure debris piles are contained (e.g. by berming the area) or covered (e.g. with tarps or permanent covers).

Street Repair and Maintenance Pavement marking

- Schedule pavement marking activities for dry weather.
- Develop paint handling procedures for proper use, storage, and disposal of paints.
- Transfer and load paint and hot thermoplastic away from storm drain inlets.
- Provide drop cloths and drip pans in paint mixing areas.
- Properly maintain application equipment.
- Street sweep thermoplastic grindings. Yellow thermoplastic grindings may require special handling as they may contain lead.
- Paints containing lead or tributyltin are considered a hazardous waste and must be disposed of accordingly.
- Use water based paints whenever possible. If using water based paints, clean the application equipment in a sink that is connected to the sanitary sewer.
- Properly store leftover paints if they are to be kept for the next job, or dispose of properly.

Concrete installation and repair

- Schedule asphalt and concrete activities for dry weather when possible.
- Take measures to protect any nearby storm drain inlets and adjacent watercourses, prior to breaking up asphalt or concrete (e.g. place sand bags around inlets or work areas).
- Limit the amount of fresh concrete or cement mortar mixed; mix only what is needed for the job.
- Store concrete materials under cover and away from drainage areas. Secure bags of cement after they are open. Be sure to keep wind-blown cement powder away from streets, gutters, storm drains, rainfall, and runoff.
- Return leftover materials to the transit mixer. Dispose of small amounts of hardened excess concrete, grout, and mortar in the trash.
- Do not wash sweepings from exposed aggregate concrete into the street or storm drain. Collect and return sweepings to aggregate base stockpile, or dispose in the trash.
- When making saw cuts in pavement, use as little water as possible and perform during dry weather. Cover each storm drain inlet completely with filter fabric or plastic during the sawing operation and contain the slurry by placing straw bales, sandbags, or gravel dams around the inlets. After the liquid drains or evaporates, shovel or vacuum the slurry residue from the pavement or gutter and remove from site. Alternatively, a small onsite vacuum may be used to pick up the slurry as this will prohibit slurry from reaching storm drain inlets.
- Wash concrete trucks off site or in designated areas on site designed to preclude discharge of wash water to drainage system.

Patching, resurfacing, and surface sealing

- Schedule patching, resurfacing and surface sealing for dry weather.
- Stockpile materials away from streets, gutter areas, storm drain inlets or watercourses.
- During wet weather, cover stockpiles with plastic tarps or berm around them if necessary to prevent transport of materials in runoff.
- Pre-heat, transfer or load hot bituminous material away from drainage systems or watercourses.
- Where applicable, cover and seal nearby storm drain inlets (with waterproof material or mesh) and maintenance holes before applying seal coat, slurry seal, etc. Leave covers in place until job is complete and until all water from emulsified oil sealants has drained or evaporated. Clean any debris from covered maintenance holes and storm drain inlets when the job is complete.
- Prevent excess material from exposed aggregate concrete or similar treatments from entering streets or storm drain inlets. Designate an area for clean up and proper disposal of excess materials.
- Use only as much water as necessary for dust control, to avoid runoff.
- Sweep, never hose down streets to clean up tracked dirt. Use a street sweeper or vacuum truck. Do not dump vacuumed liquid in storm drains.
- Catch drips from paving equipment that is not in use with pans or absorbent material placed under the machines. Dispose of collected material and absorbents properly.

Equipment cleaning maintenance and storage

- Inspect equipment daily and repair any leaks. Place drip pans or absorbent materials under heavy equipment when not in use.
- Perform major equipment repairs at the corporation yard, when practical.
- If refueling or repairing vehicles and equipment must be done onsite, use a location away from storm drain inlets and watercourses.
- Clean equipment including sprayers, sprayer paint supply lines, patch and paving equipment, and mud jacking equipment at the end of each day.
- Clean in a sink or other area (e.g. vehicle wash area) that is connected to the sanitary sewer.

Paint and Paint Removal

- Transport paint and materials to and from job sites in containers with secure lids and tied down to the transport vehicle.
- Do not transfer or load paint near storm drain inlets or watercourses.
- Test and inspect spray equipment prior to starting to paint. Tighten all hoses and connections and do not overfill paint container.
- Plug nearby storm drain inlets prior to starting painting where there is significant risk of a spill reaching storm drains. Remove plugs when job is completed.
- If sand blasting is used to remove paint, cover nearby storm drain inlets prior to starting work.

- Perform work on a maintenance traveler or platform, or use suspended netting or tarps to capture paint, rust, paint removing agents, or other materials, to prevent discharge of materials to surface waters if the bridge crosses a watercourse. If sanding, use a sander with a vacuum filter bag.
- Capture all clean-up water, and dispose of properly.
- Recycle paint when possible (e.g. paint may be used for graffiti removal activities). Dispose of unused paint at an appropriate household hazardous waste facility.

Graffiti Removal

- Schedule graffiti removal activities for dry weather.
- Protect nearby storm drain inlets prior to removing graffiti from walls, signs, sidewalks, or other structures needing graffiti abatement. Clean up afterwards by sweeping or vacuuming thoroughly, and/or by using absorbent and properly disposing of the absorbent.
- When graffiti is removed by painting over, implement the procedures under Painting and Paint Removal above.
- Direct runoff from sand blasting and high pressure washing (with no cleaning agents) into a landscaped or dirt area. If such an area is not available, filter runoff through an appropriate filtering device (e.g. filter fabric) to keep sand, particles, and debris out of storm drains.
- If a graffiti abatement method generates wash water containing a cleaning compound (such as high pressure washing with a cleaning compound), plug nearby storm drains and vacuum/pump wash water to the sanitary sewer, or reclaim the water with appropriate equipment.
- Consider using a waterless and non-toxic chemical cleaning method for graffiti removal (e.g. gels or spray compounds).

Repair Work

- Prevent concrete, steel, wood, metal parts, tools, or other work materials from entering storm drains or watercourses.
- Thoroughly clean up the job site when the repair work is completed.
- When cleaning guardrails or fences follow the appropriate surface cleaning methods (depending on the type of surface) outlined in SC-71 Plaza & Sidewalk Cleaning.
- If painting is conducted, follow the painting and paint removal procedures above.
- If graffiti removal is conducted, follow the graffiti removal procedures above.
- If construction takes place, see the Construction section of City Standards Manual.
- Recycle materials whenever possible.

Unpaved Roads and Trails

- Stabilize exposed soil areas to prevent soil from eroding during rain events. This is particularly important on steep slopes.
- For roadside areas with exposed soils, the most cost-effective choice is to vegetate the area, preferably with a mulch or binder that will hold the soils in place while the vegetation is establishing. Native vegetation should be used if possible.

- If vegetation cannot be established immediately, apply temporary erosion control mats/blankets; or gravel as appropriate.
- If sediment is already eroded and mobilized in roadside areas, temporary controls should be installed. These may include: sediment control fences, fabric-covered triangular dikes, gravel-filled burlap bags, biobags, or hay bales staked in place.

Non-Stormwater Discharges

- Field crews should be aware of non-stormwater discharges as part of their ongoing street maintenance efforts.
- Identify location, time and estimated quantity of discharges.
- Notify appropriate personnel.

Training

- Train employees regarding proper street sweeping operation and street repair and maintenance.
- Instruct employees and subcontractors to ensure that measures to reduce the stormwater impacts of roadway/bridge maintenance are being followed.
- Require engineering staff and/or consulting A/E firms to address stormwater quality in new bridge designs or existing bridge retrofits.
- Use a training log or similar method to document training.
- Train employees on proper spill containment and clean up, and in identifying non-stormwater discharges.

SC-71 - Plaza and Sidewalk Cleaning

Surface Cleaning

- Regularly broom (dry) sweep sidewalk, plaza and parking lot areas to minimize cleaning with water.
- Dry cleanup first (sweep, collect, and dispose of debris and trash) when cleaning sidewalks or plazas, then wash with or without soap.
- Block the storm drain or contain runoff when cleaning with water. Discharge wash water to landscaping or collect water and pump to a tank or discharge to sanitary sewer if allowed.
- Block the storm drain or contain runoff when washing parking areas, driveways or drive-throughs.
- Use absorbents to pick up oil; then dry sweep. Clean with or without soap.
- Collect water and pump to a tank or discharge to sanitary sewer if allowed.

Graffiti Removal

- Avoid graffiti abatement activities during rain events.
- Direct runoff from sand blasting and high pressure washing (with no cleaning agents) into a dirt or landscaped area after treating with an appropriate filtering device.

- Plug nearby storm drain inlets and vacuum/pump wash water to the sanitary sewer if authorized to do so if a graffiti abatement method generates wash water containing a cleaning compound (such as high pressure washing with a cleaning compound). Ensure that a non-hazardous cleaning compound is used or dispose as hazardous waste, as appropriate.

Surface Removal and Repair

- Schedule surface removal activities for dry weather if possible.
- Avoid creating excess dust when breaking asphalt or concrete.
- Take measures to protect nearby storm drain inlets prior to breaking up asphalt or concrete (e.g. place hay bales or sand bags around inlets). Clean afterwards by sweeping up as much material as possible.
- Designate an area for clean up and proper disposal of excess materials.
- Remove and recycle as much of the broken pavement as possible to avoid contact with rainfall and stormwater runoff.
- When making saw cuts in pavement, use as little water as possible. Cover each storm drain inlet completely with filter fabric during the sawing operation and contain the slurry by placing straw bales, sandbags, or gravel dams around the inlets. After the liquid drains or evaporates, shovel or vacuum the slurry residue from the pavement or gutter and remove from site.
- Always dry sweep first to clean up tracked dirt. Use a street sweeper or vacuum truck. Do not dump vacuumed liquid in storm drains. Once dry sweeping is complete, the area may be hosed down if needed. Wash water should be directed to landscaping or collected and pumped to the sanitary sewer if allowed.

Concrete Installation and Repair

- Schedule asphalt and concrete activities for dry weather.
- Take measures to protect any nearby storm drain inlets and adjacent watercourses, prior to breaking up asphalt or concrete (e.g. place san bags around inlets or work areas).
- Limit the amount of fresh concrete or cement mortar mixed, mix only what is needed for the job.
- Store concrete materials under cover, away from drainage areas. Secure bags of cement after they are open. Be sure to keep wind-blown cement powder away from streets, gutters, storm drains, rainfall, and runoff.
- Return leftover materials to the transit mixer. Dispose of small amounts of hardened excess concrete, grout, and mortar in the trash.
- Do not wash sweepings from exposed aggregate concrete into the street or storm drain. Collect and return sweepings to aggregate base stockpile, or dispose in the trash.
- Protect applications of fresh concrete from rainfall and runoff until the material has dried.
- Do not allow excess concrete to be dumped onsite, except in designated areas.
- Wash concrete trucks off site or in designated areas on site designed to preclude discharge of wash water to drainage system.

Controlling Litter

- Post “No Littering” signs and enforce anti-litter laws.
- Provide litter receptacles in busy, high pedestrian traffic areas of the community, at recreational facilities, and at community events.
- Cover litter receptacles and clean out frequently to prevent leaking/spillage or overflow.
- Provide regular training to field employees and/or contractors regarding surface cleaning and proper operation of equipment.
- Train employee and contractors in proper techniques for spill containment and cleanup.
- Use a training log or similar method to document training.

SC-72 - Fountains & Pools Maintenance

Pools and Fountains

- Do not use copper-based algaecides. Control algae with chlorine or other alternatives, such as sodium bromide.
- Do not discharge water to a street or storm drain when draining pools or fountains; discharge to the sanitary sewer if permitted to do so. If water is dechlorinated with a neutralizing chemical or by allowing chlorine to dissipate for a few days (do not use the facility during this time), the water may be recycled/reused by draining it gradually onto a landscaped area. Water must be tested prior to discharge to ensure that chlorine is not present.
- Prevent backflow if draining a pool to the sanitary sewer by maintaining an “air gap” between the discharge line and the sewer line (do not seal the connection between the hose and sewer line). Be sure to call the local wastewater treatment plant for further guidance on flow rate restrictions, backflow prevention, and handling special cleaning waste (such as acid wash). Discharge flows should be kept to the low levels typically possible through a garden hose. Higher flow rates may be prohibited by local ordinance.
- Provide drip pans or buckets beneath drain pipe connections to catch leaks. This will be especially pertinent if pool or spa water that has not been dechlorinated is pumped through piping to a discharge location.
- Never clean a filter in the street or near a storm drain.
- Rinse cartridge filters onto a dirt area or to a device that allows collection and proper waste disposal.
- Backwash diatomaceous earth filters into dirt an area or device that allows collection and disposal. Dispose of spent diatomaceous earth in the garbage. Spent diatomaceous earth cannot be discharged to surface waters, storm drainage systems, septic systems, or on the ground.
- If there is not a suitable discharge area, filter backwash or rinsewater to the sanitary sewer if permitted to do so by the local sewering agency.

Lakes and Ponds

- Reduce fertilizer use in areas around the water body. High nitrogen fertilizers can produce excess growth requiring more frequent mowing or trimming, and may contribute to excessive algae growth.
- To control bacteria, discourage the public from feeding birds and fish (i.e. place signs that prohibit feeding of waterfowl).
- Control erosion by doing the following:
  - Maintain vegetative cover on banks to prevent soil erosion. Apply mulch or leave clippings to serve as additional cover for soil stabilization and to reduce the velocity of stormwater runoff.
  - Areas should be designed (sloped) to prevent runoff and erosion and to promote better irrigation practices.
  - Provide energy dissipaters (e.g. riprap) along banks to minimize potential for erosion.
  - Confine excavated materials to surfaces away from lakes. Material must be covered if rain is expected.
- Conduct inspections to detect illegal dumping of clippings/cuttings in or near a lake.
- Materials found should be picked up and properly disposed of.
- Avoid creating landscape wastes in and around lakes by either using bagging equipment or by manually picking up the material. Collect trash and debris from within water bodies where feasible.
- Provide and maintain trash receptacles near recreational water bodies to hold refuse generated by the public.
- Increase trash collection during peak visitation months (generally June, July and August).

Training

- Train maintenance personnel to test chlorine levels and to apply neutralizing chemicals if appropriate.
- Train personnel regarding proper maintenance of pools, ponds and lakes.

SC-73 - Landscape Maintenance

Mowing, Trimming, and Weeding

- Whenever possible use mechanical methods of vegetation removal (e.g mowing with tractortype or push mowers, hand cutting with gas or electric powered weed trimmers) rather than applying herbicides. Use hand weeding where practical.
- Avoid loosening the soil when conducting mechanical or manual weed control, this could lead to erosion. Use mulch or other erosion control measures when soils are exposed.
- Perform mowing at optimal times. Mowing should not be performed if significant rain events are predicted.
- Collect lawn and garden clippings, pruning waste, tree trimmings, and weeds. Chip if necessary, and compost or dispose of at an approved disposal facility.

- Place temporarily stockpiled material away from watercourses, and berm or cover stockpiles to prevent material releases to storm drains.

Planting

- Determine existing native vegetation features (location, species, size, function, importance) and consider the feasibility of protecting them. Consider elements such as their effect on drainage and erosion, hardiness, maintenance requirements, and possible conflicts between preserving vegetation and the resulting maintenance needs.
- Retain and/or plant selected native vegetation whose features are determined to be beneficial, where feasible. Native vegetation usually requires less maintenance (e.g., irrigation, fertilizer) than planting new vegetation.
- Consider using low water use groundcovers when planting or replanting.

Waste Management

- Compost leaves, sticks, or other collected vegetation or dispose of at a permitted landfill. Do not dispose of collected vegetation into waterways or storm drainage systems.
- Place temporarily stockpiled material away from watercourses and storm drain inlets, and berm or cover stockpiles to prevent material releases to the storm drain system.
- Reduce the use of high nitrogen fertilizers that produce excess growth requiring more frequent mowing or trimming.
- Avoid landscape wastes in and around storm drain inlets by either using bagging equipment or by manually picking up the material.

Irrigation

- Where practical, use automatic timers to minimize runoff.
- Use popup sprinkler heads in areas with a lot of activity or where there is a chance the pipes may be broken. Consider the use of mechanisms that reduce water flow to sprinkler heads if broken.
- Ensure that there is no runoff from the landscaped area(s), especially if re-claimed water is used for irrigation.
- If bailing of muddy water is required (e.g. when repairing a water line leak), do not put it in the storm drain; pour over landscaped areas.

- Irrigate slowly or pulse irrigate to prevent runoff and then only irrigate as much as is needed.
- Apply water at rates that do not exceed the infiltration rate of the soil.

Fertilizer and Pesticide Management

- Utilize a comprehensive management system that incorporates integrated pest management (IPM) techniques. There are many methods and types of IPM, including the following:
    - Mulching can be used to prevent weeds where turf is absent, fencing installed to keep rodents out, and netting used to keep birds and insects away from leaves and fruit.

- Visible insects can be removed by hand (with gloves or tweezers) and placed in soapy water or vegetable oil. Alternatively, insects can be sprayed off the plant with water or in some cases vacuumed off of larger plants.
- Store-bought traps, such as species-specific, pheromone-based traps or colored stickycards, can be used.
- Slugs can be trapped in small cups filled with beer that are set in the ground so the slugs can get in easily.
- In cases where microscopic parasites, such as bacteria and fungi, are causing damage to plants, the affected plant material can be removed and disposed of (pruning equipment should be disinfected with bleach to prevent spreading the disease organism).
- Small mammals and birds can be excluded using fences, netting, or tree trunk guards.
- Beneficial organisms, such as bats, birds, green lacewings, ladybugs, praying mantis, ground beetles, parasitic nematodes, trichogramma wasps, seed head weevils, and spiders that prey on detrimental pest species can be promoted.

- Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of fertilizers and pesticides and training of applicators and pest control advisors.
- Use pesticides only if there is an actual pest problem (not on a regular preventative schedule).
- Do not use pesticides if rain is expected. Apply pesticides only when wind speeds are low (less than 5 mph).
- Do not mix or prepare pesticides for application near storm drains.
- Prepare the minimum amount of pesticide needed for the job and use the lowest rate that will effectively control the pest.
- Employ techniques to minimize off-target application (e.g. spray drift) of pesticides, including consideration of alternative application techniques.
- Fertilizers should be worked into the soil rather than dumped or broadcast onto the surface.
- Calibrate fertilizer and pesticide application equipment to avoid excessive application.
- Periodically test soils for determining proper fertilizer use.
- Sweep pavement and sidewalk if fertilizer is spilled on these surfaces before applying irrigation water.
- Purchase only the amount of pesticide that you can reasonably use in a given time period (month or year depending on the product).
- Triple rinse containers, and use rinse water as product. Dispose of unused pesticide as hazardous waste.
- Dispose of empty pesticide containers according to the instructions on the container label.

Inspection

- Inspect irrigation system periodically to ensure that the right amount of water is being applied and that excessive runoff is not occurring. Minimize excess watering, and repair leaks in the irrigation system as soon as they are observed.

- Inspect pesticide/fertilizer equipment and transportation vehicles daily.

Training

- Educate and train employees on use of pesticides and in pesticide application techniques to prevent pollution. Pesticide application must be under the supervision of a California qualified pesticide applicator.
- Train/encourage municipal maintenance crews to use IPM techniques for managing public green areas.
- Employees who are not authorized and trained to apply pesticides should be periodically (at least annually) informed that they cannot use over-the-counter pesticides in or around the workplace.
- Use a training log or similar method to document training.

SC-74 - Drainage System Maintenance

See City JURMP for more information about the drainage system (MS4) maintenance program.

Catch Basins/Inlet Structures

- Conduct inspections at least annually.
- Keep accurate logs of the number of catch basins cleaned.
- Record the amount of waste collected.
- Store wastes collected from cleaning activities.
- Dewater the wastes with outflow into the sanitary sewer if permitted. Water should be treated with an appropriate filtering device prior to discharge to the sanitary sewer. If discharge to the sanitary sewer is not allowed, water should be pumped or vacuumed to a holding area and properly disposed of. Do not dewater near a storm drain or stream.

Illicit Connections and Discharges

- During routine maintenance of conveyance system and drainage structures field staff should look for evidence of illegal discharges or illicit connections:
  - Is there evidence of spills such as paints, discoloring, etc.
  - Are there any odors associated with the drainage system
  - Record locations of apparent illegal discharges/illicit connections and report it to the Engineering Department.
  - Track flows back to potential dischargers and conduct aboveground inspections. This can be done through visual inspection of up gradient manholes or alternate techniques including zinc chloride smoke testing, fluorometric dye testing, physical inspection testing, or television camera inspection.
  - Once the origin of flow is established, require illicit discharger to eliminate the discharge (contact Engineering Department).
- Stencil storm drains, where applicable, to prevent illegal disposal of pollutants. Storm drain inlets should have messages such as “Dump No Waste Drains to Stream” stenciled next to them to warn against unintentional dumping of pollutants into the storm drainage system.

Illegal Dumping

- Regularly inspect and clean up hot spots and other storm drainage areas where illegal dumping and disposal occurs.
- Post “No Dumping” signs in problem areas with a phone number for reporting dumping and disposal. Consider posting signs that indicate fines and penalties for illegal dumping.

Training

- Train crews in proper maintenance activities, including record keeping and disposal.
- Only properly trained individuals are allowed to handle hazardous materials/wastes.
- Train municipal employees from all departments (especially public works, parks and recreation, and code enforcement) to recognize and report illegal dumping.
- Train municipal employees and educate businesses, contractors, and the general public in proper and consistent methods for disposal.
- Train municipal staff regarding non-stormwater discharges (See SC-10 Non-Stormwater Discharges).

SC-75 - Waste Handling and Disposal

Solid Waste Collection

- Implement procedures, where applicable, to collect, transport, and dispose of solid waste at appropriate disposal facilities in accordance with applicable federal, state, and local laws and regulations.
- Include properly designed trash storage areas. If feasible provide cover over trash storage areas.
- Regularly inspect solid waste containers for structural damage. Repair or replace damaged containers as necessary.
- Secure solid waste containers; containers must be closed tightly when not in use.
- Do not fill waste containers with washout water or any other liquid.
- Ensure that only appropriate solid wastes are added to the solid waste container. Certain wastes such as hazardous wastes, appliances, fluorescent lamps, pesticides, etc. may not be disposed of in solid waste containers (see chemical/ hazardous waste collection section below).
- Do not mix wastes; this can cause chemical reactions, make recycling impossible, and complicate disposal.

Waste Reduction and Recycling

- Recycle wastes whenever possible. Many types of waste can be recycled, recycling options for each waste type are limited. All gasoline, antifreeze, waste oil, and lead-acid batteries can be recycled. Latex and oil-based paint can be reused, as well as recycled. Materials that cannot be reused or recycled should either be incinerated or disposed of at a properly permitted landfill.
- Recycling is always preferable to disposal of unwanted materials.

- Recycling bins for glass, metal, newspaper, plastic bottles and other recyclable household solid wastes should be provided at public facilities and/or for residential curbside collection.

Controlling Litter

- Post “No Littering” signs and enforce anti-litter laws.
- Provide litter receptacles in busy, high pedestrian traffic areas of the community, at recreational facilities, and at community events.
- Clean out and cover litter receptacles frequently to prevent spillage.

Illegal Dumping

- Post “No Dumping” signs with a phone number for reporting dumping and disposal. Signs should also indicate fines and penalties for illegal dumping.

SC-76 - Sewer Utility Maintenance

Line Maintenance and Cleaning

- Clean sewer lines on a regular basis to remove grease, grit, and other debris that may lead to sewer backups.
- Establish routine maintenance program. Cleaning should be conducted at an established minimum frequency and more frequently for problem areas such as downstream from restaurants.
- Cleaning activities may require removal of tree roots and other identified obstructions.
- Prioritize repairs based on the nature and severity of the problem. Immediate clearing of blockage or repair is required where an overflow is currently occurring or for urgent problems that may cause an imminent overflow (e.g. pump station failures, sewer line ruptures, sewer line blockages). These repairs may be temporary until scheduled or capital improvements can be completed.
- Review previous sewer maintenance records to help identify “hot spots” or areas with frequent maintenance problems and locations of potential system failure.

Spills and Overflows

- Implement the City Sanitary Sewer Overflow Response Plan.
- Identify and track sanitary sewer discharges. Identify dry weather infiltration and inflow first.
- Locate wet weather overflows and leaking sanitary sewers using conventional source identification techniques such as monitoring and field screening.

Septic Systems

- Recommend that the system be inspected annually and pumped-out regularly. Contact the County Health Department for any problems or overflows generated from septic systems.

SECTION F: LAND DISTURBANCE ACTIVITIES

Section F Outline

PART F.1—INTRODUCTION

F.1.1 Affected Projects and Applicable Requirements

Section F of this Manual sets out construction-phase requirements and provides guidelines for stormwater management for land disturbance activities. Such activities require a City permit, but some do not.

Parts F.1, F.2 and F.3 of this Section apply to projects that require or seek a discretionary City permit. Part F.4 applies to projects that are entitled to receive and that seek a ministerial City permit. Subsection F.4.7 applies to land disturbance activities associated with projects that do not require any City permit. All land disturbance activities are also subject to the applicable requirements of the Ordinance, including but not limited to sections 13.18.070 and 13.18.140, whether or not a City permit is required or obtained.

Many projects that are subject to this Section will also be subject to the requirements for project design and post-construction stormwater management set out below in Section G. In addition to applicable City requirements, projects that disturb one acre or more of land (and projects that are part of a larger common plan of development that will disturb one acre or more) may have responsibilities directly to the State Regional Water Quality Control Board. See subsection F.2.2 below.

F.1.2 Control to the Maximum Extent Practicable

All Dischargers engaged in land disturbance activities must install, implement and maintain BMPs to prevent or reduce discharges in stormwater from land disturbance activities to the maximum extent practicable.

PART F.2—GENERAL INSTRUCTIONS

F.2.1 City Requirements and Performance Standards

F.2.1.1. Land disturbance activities that require a discretionary City permit are subject to the applicable requirements in the Ordinance and this manual, and to any additional requirements imposed in City permits or Orders. Those additional requirements may implement the Ordinance or other City ordinances, or may be imposed to reduce or mitigate the environmental impacts of the permitted activity.

F.2.1.2. City permits for sites subject to a State General Construction Stormwater Permit shall include a condition requiring compliance with that permit.

F.2.1.3. Land disturbance activities that require a discretionary City permit must install maintain and repair the minimum BMPs specified in Part F.3 below, unless permit conditions specify that the discharger may instead rely on specific alternative BMPs proposed by the discharger and approved by the City. Any such alternative BMP must be at least as effective as the BMP the alternative replaces.

F.2.1.4. City permits or orders approving or requiring the use of alternative BMPs may take into account any guidance issued pursuant to section 13.18.040 of the Ordinance, in the manner authorized by that section.

F.2.1.5. Dischargers shall identify and implement BMPs to address all potential non-stormwater discharges from the permitted activity.

F.2.1.6. Land disturbance activities that require a discretionary City permit must install maintain and repair any additional BMPs required to prevent construction pollutants from contacting stormwater to the maximum extent practicable, and to prevent to the maximum extent practicable all products of erosion from moving off site into receiving waters.

F.2.1.7. BMPs must be installed in accordance with industry recommended standards (Caltrans or California Stormwater BMP handbooks, etc.).

F.2.1.8. Stormwater discharges from the site may not contain sediments in amounts in excess of the sediments that would have been discharged from the site in an undisturbed condition. Monitoring of turbidity and suspended solids at similar undisturbed sites under similar storm conditions may be used to establish baselines for applying this standard.

F.2.1.9. Permit applications shall include details and drawings of the BMPs proposed to be implemented, and any other stormwater-related forms designated by the issuing Department. See, e.g., the sample “Stormwater Management Permit Certification” form.

F.2.1.10. At the time a permit application is submitted, the applicant shall certify that the BMPs proposed to support the permit application will be installed, monitored, maintained or revised as appropriate to ensure continued effectiveness.

F.2.2 Additional Responsibilities

Owners of property where soil-disturbing activities occur may have other responsibilities to the State Water Resources Control Board in addition to those identified in this Ordinance. Some examples of these include:

- Submittal of a Notice Of Intent (NOI) to the State, preparation of a Stormwater Pollution Prevention Plan (SWPPP), continuous updating of the SWPPP to keep it functional and

current, and preparation of an annual compliance certification on sites where the disturbed area exceeds 1 acre.

- Responsibility for pre-storm, post-storm, and storm event BMP inspections by qualified person(s) to ensure full compliance with the state permit and implementation of all elements of the SWPPP.
- Sampling and analysis program (under specific conditions) for sedimentation, siltation, turbidity, or pollutants not visually detectable, which could cause or contribute to an exceedance of water quality objectives in the receiving water.
- Additional record keeping, pollutant identification, reporting, and maintenance/repair responsibilities.

PART F.3—STANDARDS APPLICABLE TO DISCRETIONARY PERMIT ACTIVITIES

Many City soil disturbance permits and approvals (including "major" and "minor" grading permits) are discretionary and allow for site-specific design features to accomplish pollution protection. For these types of permits, this manual establishes performance standards and provides a menu of available options to allow the project designers to incorporate the BMP features that are most practical and effective for their site.

The BMP descriptions also include notations and references to the CASQA and Caltrans nomenclature – these references are typically called out in parentheses.

The application for any of the following discretionary permits or approvals shall be accompanied by plans demonstrating how pollution protection requirements will be met. The permit or approval shall not be approved unless the decision maker determines that the application complies with the requirements of applicable ordinances and this manual:

a) Commercial Site Development Plan
b) Condominium Housing Permit
c) Environmental Review
d) Grading Inspection
e) Grading Plan (including Modification or Renewal)
f) Improvement Plan Check(including Modification)
g) Improvement Inspection
h) Industrial Site Development Plan
i) Minor Use Permit (including Modification, Minor Deviation, or Extension)
j) Multi-Family Site Development Plan
k) Plot Plan
l) Residential Site Development Plan (including Amendment)
m) Special Use Permit
n) Specific Plan
o) Temporary Use Permit
p) Tentative Subdivision Map
q) Tentative Parcel Map

F.3.1 Erosion Control

The Property Owner must implement the following minimum Physical Stabilization BMPs or Vegetation Stabilization BMPs, or both, to prevent erosion from exposed slopes. All slopes and disturbed flat areas must be stabilized and protected, including areas disturbed by clearing operations. The City will not accept: tracking, mulch, wood chips, hydroseeding without watering, as a means to protect exposed slopes from erosion, but such measures may be used to protect disturbed soil areas that are flat and level (less than 5% slope).

F.3.1.1: Physical Stabilization through use of geotextiles, mats, fiber rolls (SS-7 or ESC20), Bonded Fiber Matrix or Stabilized Fiber Matrix, or other material approved by the City for stabilizing slopes, or Vegetation Stabilization using hydroseed (SS-4 or ESC10) or acceptable landscaping may be used only May 1 to August 15. Vegetation proposed to stabilize slopes must be installed by August 15, watered, and established prior to October 1. The property owner shall show on the plan a contingency physical BMP to be installed by October 1 if hydroseed establishment does not occur by that date. If landscaping is proposed, erosion control measures must also be used while landscaping is being established. Established vegetation shall have a subsurface mat of intertwined mature roots with a uniform vegetative coverage of 70 percent of the natural vegetative coverage or more on all disturbed areas.

F.3.1.2: All manufactured slopes and cleared slopes of 3:1 (horizontal to vertical) and steeper are to be protected with a BMP approved by the City, as described in subsection F.3.1.1 above.

During the rainy season cleared slopes flatter than 3 to 1 must still be protected from erosion using either an approved BMP or by using hydromulch with a Guar, straw mulch, Gypsum or similar binder. Flat areas of less than 5% (like building pads, parking areas, leach fields) shall have 100% protection using geotextiles, mats (SS-7 or ESC20), or other material approved by the City for stabilizing slopes, or using tracking and soil stabilizers/binders (SS-5), temporary seeding (SS-4), mulch/wood chips (SS-3, SS-6, SS-8), or jute matting (SS-7). The City may reduce this requirement for flat areas and the below requirement, provided full sediment control is provided through constructed and maintained desiltation basins (SC-2) at all project discharge points. Stabilized Fiber Matrix may be used on slopes that are not steeper than 2 to 1 (horizontal to vertical). During the non-rainy season flat areas of less than 5% may be protected by rolled plastic as part of a weather-triggered action plan until the structure's roof has been completed.

F.3.1.3: Areas of graded pads that must remain unobstructed to allow ongoing construction may be protected by rolled plastic as part of a weather-triggered action plan until the structure's roof has been completed. The remainder of the pad area must continue to be protected using erosion control measures identified above or use of a desilting basin.

F.3.1.4: Unpaved roads and traveled ways within contractor's onsite yards are exempt from the 100% protection requirement but shall be protected with gravel bag chevrons or an alternative equally effective BMP.

F.3.2 Sediment Control

F.3.2.1: Dischargers must provide protection of the grading site perimeter, all environmentally sensitive areas and all watercourses and at all operational internal inlets to the storm drain system at all times; through the use of filtration devices, silt fencing (SC-1), straw, coconut fiber or wood fiber-rolls, gravel bag barriers (SC-8 or ESC52), and gravel inlet filters; and capture of sediment and dust through the use of storm-drain inlet protection (SC-10 or ESC54) and construction road stabilization (TC-2 or ESC23).

F.3.3 Offsite Sediment Control

F.3.3.1: Dischargers must eliminate off-site sediment tracking through use of stabilized construction entrances/exits (TC-1 or ESC24) and sweeping (SC-7).

F.3.4 Velocity Reduction

F.3.4.1: Dischargers must provide velocity reduction for all runoff leaving the site, and onsite runoff that could cause erosion, through appropriate outlet protection (SS-10 or ESC40). Velocity reduction BMPs shall be designed and constructed for the precipitation intensity from the 10-year, 6-hour rain event. Runoff shall be calculated using Q=C x I x A where Q is the discharge rate measured in cubic feet per second; C is the runoff coefficient; I is the precipitation intensity for the 10-year, 6-hour rain event; and A is the area draining into the sediment basin in acres.

F.3.5 Materials Management

F.3.5.1: Waste handling and materials storage areas shall be designated and waste-handling methods identified. Methods for handling; Solid waste (WM-5 or CA20), Sanitary waste (WM-9 or CA24), Concrete waste (WM-8 or CA23), Hazardous waste (WM-6 or CA21) shall be shown. Material storage methods proposed (WM-1 or CA10), including storage of emergency BMP materials, shall be implemented.

F.3.6 Structural BMP Sizing

If a project chooses to rely on desiltation basins for treatment purposes, the following shall apply:

F.3.6.1: At a minimum all desiltation basins shall be designed by a registered civil engineer and be sized to either:

- Have at least a capacity equivalent to 3,600 cubic feet of storage per acre drained,
  or
- Be designed using the standard equation: As=1.2Q/Vs. As is the minimum surface area for trapping soil particles of a certain size; Vs is the settling velocity of the design particle size chosen; Q=C x I x A where Q is the discharge rate measured in cubic feet per second; C is the runoff coefficient; I is the precipitation intensity for the 10-year, 6-hour rain event and A is the area draining into the sediment basin in acres. The design particle size shall be the smallest soil grain size determined by wet sieve analysis, or the fine silt sized (0.01mm) particle, and the Vs used shall be 100 percent of the calculated settling velocity.

An Authorized Enforcement Official may provide additional guidance for desiltation basins, including standardized design and inspection details for minor projects by preparing, circulating for public comment, and publishing a guidance document.

F.3.6.2: The length of any basin, as measured from inlet to outlet, shall be more than twice the width whenever practical; the depth must not be less than three feet nor greater than five feet for safety reasons and maximum efficiency. The basin(s) shall be located on the site where it can be maintained on a year-round basis, and have a means for dewatering by no later than 5 calendar days following a storm event. Basins should be fenced if safety (worker or public) is a concern, and shall be maintained at least once before the start of the rainy season (October 1st) and as needed to retain a minimum of two feet of capacity at all times.

F.3.7 Plan Notes

F.3.7.1: Discretionary grading plans shall contain advisory notes concerning erosion and sediment protection to the satisfaction of the City Engineering Department issuing the permit. The notes shall be shown on erosion control plans or the erosion control portion of grading plans, and the Plans shall include details and drawings of the erosion control methods.

F.3.8 Additional Controls

For project sites that are tributary to 303(d) water body segments that are impaired for sediment, the following BMPs must be implemented at all times:

- Maintain vegetative cover as much as possible by developing the project in a phased approach to reduce the amount of exposed soil at any one time.
- Limit the areas of active construction to five acres at any one time.
- Provide 100 percent soil cover for all areas of inactive construction throughout the entire time of construction, on a year-round basis.
- Provide appropriate perimeter control at all appropriate locations along the site perimeter and at all inlets to the storm drain system at all times during the rainy season.
- Provide vegetated buffer strips between the active construction area and any water bodies.
- Provide stabilized construction entrances and limit all vehicle and foot traffic to those entrances

F.3.9 Advanced Treatment

Advanced Treatment is defined in Order R9-2007-0001 as the use “of mechanical or chemical means to flocculate and remove suspended sediment from runoff from construction sites prior to discharge.”

If a project meets all of the following criteria, advanced treatment will be required:

1. All or part of the site is within 200 feet of waters named on the CWA Section 303(d) list of Water Quality Limited Segments as impaired for sedimentation and/or turbidity;
2. The disturbance area is greater than five acres, including all phases of the development;
3. The disturbed slopes are steeper than 4:1 with at least 10 feet of relief, and drain toward a Section 303(d) listed receiving water for sedimentation or turbidity;
4. The site contains a predominance of soils with USDA-NRCS Erosion factors k_f greater than or equal to 0.4.

Advanced treatment may be required on sites that do not meet all four of the criteria for exceptional threat to water quality listed above at the discretion of the City Engineer based on a record on non-compliance.

Treatment effluent water quality shall meet or exceed the water quality objectives for sediment, turbidity, pH, and toxicity as listed in the Water Quality Control Plan for the San Diego Basin (9) for inland surface waters and lagoons and estuaries for the appropriate hydrologic unit.

Prior to obtaining a grading permit, the applicant shall submit, to the satisfaction of the City Engineer, the following:

1. An operations and maintenance schedule for all advanced treatment methods.
2. A monitoring plan for all required BMPs and water quality for all proposed work deemed necessary to achieve project water quality goals.
3. A written training plan for certification and documentation of necessary training and refreshers of staff.

The discharger shall either deploy Advanced Treatment Methods or comply with source control procedures described below.

- Maintain vegetative cover as much as possible by developing the project in a phased approach to reduce the amount of exposed soil at any one time.
- Limit the areas of active construction to five acres at any one time.
- Provide 100 percent soil cover for all areas of inactive construction throughout the entire time of construction, on a year-round basis.
- Provide appropriate perimeter control at all appropriate locations along the site perimeter and at all inlets to the storm drain system at all times during the rainy season.
- Provide vegetated buffer strips between the active construction area and any water bodies.
- Provide stabilized construction entrances and limit all vehicle and foot traffic to those entrances.

PART F.4—STANDARDS APPLICABLE TO MINISTERIAL PERMIT ACTIVITIES AND TO GRADING THAT DOES NOT REQUIRE A PERMIT

Land development and redevelopment projects that do not require a permit or that can be issued ministerial permits, and which satisfy the requirements of this Part F.4, are not subject to the requirements in Parts F.1 through F.3 of this Manual.

Ministerial projects must meet the other applicable requirements in the Ordinance including the design requirements set out in Part G.9 of this Manual

The application for any of the following ministerial permits or approvals shall be accompanied by plans demonstrating how the specifically applicable requirements, if any, set out below will be met, and the permit or approval shall not be approved unless the decision maker determines that the application complies with those requirements.

a) Building Permit
b) Encroachment Permit
c) Hazardous Materials Storage Permit
d) Right-of-Way Permit
e) Underground /Above Ground Storage Tank Permit

Applications for any of the above ministerial permits shall include such stormwater- related forms as the issuing Authorized Enforcement Official shall designate, in addition to the details and drawings required as part of the permit application process. See Attachment F-1.

F.4.1 Building Permit – Residential New Construction, Additions, and Accessory Structures

To receive a permit as of right (a ministerial permit) a residential new construction, addition or accessory structure project requiring a building permit must meet the requirements set out in this subsection. The application and plans for the permit must include details showing how these requirements will be met. If the project cannot meet these requirements, the project proponent may choose to treat their project as a discretionary project using the performance criteria/BMP Menu method through the voluntary use of a Site Plan, however this alternative may require additional CEQA review.

F.4.1.1: Dischargers must select and implement at least one BMP in each of the following areas, from the associated BMPs shown on Table 1 (Attachment F-1 to this Part): graded slope erosion control, flat area erosion control, runoff velocity control; sediment control; and offsite tracking of sediment. For example, for sediment control from disturbed areas, silt fence, straw waddles or wattles, gravel bags berms, storm drain inlet protection, or a desilting basin may be selected. The selected BMPs must be deployed to protect all areas that have been disturbed incidental to construction, including parking and material delivery areas and trash and material stockpiling areas.

F.4.1.2: Areas for material storage shall be either under roof or be able to be covered with plastic or tarp prior to a rain event. In either case, sediment control silt fencing or straw waddles shall be placed around the full perimeter of the storage area.

F.4.1.3: All containers shall be elevated to protect against contact with stormwater runoff.

F.4.1.4: Project schedules shall be provided showing quantity and dates for delivery so as to minimize waste and long-term storage on site.

F.4.1.5: A designated disposal area for construction wastes or stockpiles must be present on site. Wastes and stockpiles must either be containerized or completely surrounded by silt fence, straw wattles or gravel bags and able to be covered with plastic or tarp prior to a rain event,

F.4.1.6: The applicant shall provide information concerning the cleanup responsibilities for the site and the frequency that cleanup will occur. The frequency shall be not less than weekly and immediately before any predicted rain event.

F.4.1.7: Areas where vehicle traffic is planned shall be restricted to existing vehicle use areas on the site, or shall be treated as "new construction" and be covered with gravel to protect against off-site tracking of sediment and mud.

F.4.1.8: The applicant shall designate one individual who will serve as the stormwater protection contact for the permit, along with their address, phone number, cellular phone number and fax number.

F.4.1.9: At the time a permit application is submitted the applicant shall provide written acknowledgement from the owner that any and all stormwater protection measures previously installed on the site shall be protected and maintained during the construction.

F4.1.10: Any minor slopes created incidental to construction and not subject to a major or minor grading permit shall be protected by covering with plastic or tarp prior to a rain event, and shall have vegetative cover reestablished within 180 days of completion of the slope and prior to final building approval.

F.4.2 Building Permit – Residential Multi-Family Construction

To receive a permit as of right (a ministerial permit) a residential multi-family construction project requiring a building permit must meet the requirements set out in this subsection. The application and plans for the permit must include details showing how these requirements will be met. If the project cannot meet these requirements, the project proponent may choose to treat their project as a discretionary project using the performance criteria/BMP Menu method through the voluntary use of a Site Plan, however this alternative may require additional CEQA review.

F.4.2.1: All of the above Residential Building permit conditions (4.1.1 through 4.1.10) must be met.

4.2.2: Any area planned for use as a de-silting basin shall be completely fenced to prevent unauthorized entry.

F.4.3 Building Permit – Commercial or Industrial New Construction or Addition

To receive a permit as of right (a ministerial permit) a commercial or industrial new construction or addition project requiring a building permit must meet the requirements set out in this subsection. The application and plans for the permit must include details showing how these requirements will be met. If the project cannot meet these requirements, the project proponent may choose to treat their project as a discretionary project using the performance criteria/BMP Menu method through the voluntary use of a Site Plan, however this alternative may require additional CEQA review.

F.4.3.1: All of the above Residential Building permit conditions (F.4.1.1 through F.4.1.10) must be met.

F.4.3.2: Any area planned for use as a de-silting basin shall be completely fenced to prevent unauthorized entry.

F.4.3.3: Designation of one individual who will serve as the stormwater protection contact for the permit, along with their address, phone number, cellular phone number and fax number; along with the name, phone, and address of any site manager.

F.4.4 Encroachment and Right-of-way Permits

To receive a permit as of right (a ministerial permit) a right of way or encroachment project requiring a building permit must meet the requirements set out in this subsection. If a project cannot meet these requirements, the project proponent may choose to treat their project as a discretionary project using the performance criteria/BMP Menu method through the voluntary use of a Site Plan, however this alternative may require additional CEQA review.

F.4.4.1: Silt fence, straw waddles, or gravel bags berms shall be used to protect areas that have been disturbed incidental to construction. These areas shall include parking and material delivery areas, and material stockpiling areas, and have provisions for dealing with unexpected areas of soil disturbance.

F.4.4.2: Areas for material storage shall be either under roof or be able to be covered with plastic or tarp prior to a rain event.

F.4.4.3: All containers shall be elevated to protect against contact with stormwater runoff.

F.4.4.4: Project schedules shall be provided showing quantity and dates for delivery so as to minimize waste and long-term storage on site.

F.4.4.5: A designated disposal area for construction wastes or stockpiles, that is either containerized or completely surrounded by silt fence, straw wattles or gravel bags and able to be covered with plastic or tarp prior to a rain event,

F.4.4.6: Information concerning the cleanup responsibilities for the site and the frequency that cleanup will occur. The frequency shall be not less than weekly and immediately before any predicted rain event.

F.4.4.7: Areas where vehicle traffic is planned shall be restricted to existing vehicle use areas on the site, or be covered with gravel to protect against off-site tracking of sediment and mud.

F.4.4.8: Designation of one individual who will serve as the stormwater protection contact for the permit, along with their address, phone number, cellular phone number and fax number; along with the name, phone, and address of any construction site manager (if different person).

F.4.4.9: Current drainage flows shall be shown on a site plan and shall not be negatively impacted by any permitted activities.

F4.4.10: Any minor slopes created incidental to construction and not covered by a major or minor grading permit shall be protected by covering with plastic or tarp prior to a rain event, and shall have vegetative cover reestablished within 180 days and prior to final building approval.

F.4.5 Hazardous Materials Storage Permit [Reserved]

F.4.6 Underground and Above Ground Storage Tank Permit

To receive a permit as of right (a ministerial permit) an underground storage tank permit project (i.e., any project that requires a permit(s) for the installation, removal, repair or modification of an underground storage tank system containing hazardous materials or wastes) must meet the requirements set out in this subsection. If a project cannot meet these requirements, the project proponent may choose to treat their project as a discretionary project using the performance criteria/BMP Menu method through the voluntary use of a Site Plan, however this alternative may require additional CEQA review.

F.4.6.1: Adequate perimeter protection BMPs must be installed and maintained. The perimeter of the cleared/graded area must be protected to prevent the discharge of stormwater pollutants. At least one of the following BMPs must be installed: Silt Fence; Straw Wattles; and/or Gravel Bags.

F.4.6.2: Adequate BMPs to control off site sediment tracking must be installed and maintained. These BMPs include stabilized construction entrances/exits and construction road stabilization

F.4.6.3: Areas for material storage shall be either under roof or be able to be covered with plastic or tarp prior to a rain event.

F.4.6.4: All containers containing material or waste shall be elevated to protect against contact with stormwater runoff.

F.4.6.5: Waste materials must be properly managed to prevent discharge into stormwater. Each of the following BMPs shall be implemented and maintained if the waste is present on site: Concrete Waste Management; Solid Waste Management; Sanitary Waste Management; Hazardous Waste Management.

F.4.6.6: All contaminated or potentially contaminated soil must be managed to prevent it from being discharged into a Stormwater Conveyance System or Receiving Water. All contaminated soil must be placed on an impervious surface, bermed and completely covered with plastic sheeting.

F.4.6.7: All storm drain inlets on site must be either sealed with an impervious material during construction activities or protected using inlet protection BMPs.

F.4.6.8: Any minor slopes created incidental to construction and not covered by a major or minor grading permit shall be protected by covering with plastic or tarp prior to a rain event, and shall have vegetative cover reestablished within 180 days and prior to final building approval.

F.4.7 Permit-Exempt Grading

F.4.7.1. Dischargers conducting grading activities that do not require a City permit or other approval (and which are not part of larger project that requires such approval) must select and implement at least one BMP in each of the following areas, from the associated BMPs shown on Table 1 (Attachment F-1 to this Part): graded slope erosion control, flat area erosion control, runoff velocity control; sediment control; and offsite tracking of sediment.

PART F.5—REFERENCES

1. City of Vista Municipal Code, Chapter 13.18.
2. County of San Diego Stormwater Standards Manual Appendix A, Ordinance 9426.
3. Caltrans Storm Water Quality Handbooks - Project Planning and Design Guide- Construction Site Best Management Practices (BMPs) Manual, available on the Caltrans web site.

Details for Temporary Soil Stabilization BMPs

- SS-1 Scheduling, SS-2 Preservation of Existing Vegetation, SS-3 Hydraulic Mulch, SS-4 Hydroseeding, SS-5 Soil Binders, SS-6 Straw Mulch, SS-7 Geotextiles, Plastic Covers & Erosion Control Blankets/Mats, SS-8 Wood Mulching
- SS-9 Earth Dikes/Drainage Swales & Lined Ditches, SS-10 Outlet Protection/Velocity Dissipation Devices, SS-11 Slope Drains,

Details for Temporary Sediment Control BMPs

- SC-1 Silt Fence, SC-2 Desilting Basin, SC-3 Sediment Trap, SC-4 Check Dam, SC-5 Fiber Rolls, SC-6 Gravel Bag Berm, SC-7 Street Sweeping and Vacuuming, SC-8 Sandbag Barrier, SC-9 Straw Bale Barrier, SC-10 Storm Drain Inlet Protection

Details for Wind Erosion Control BMPs

- WE-1 Wind Erosion Control

Details for Tracking Control BMPs

- TC-1 Stabilized Construction Entrance/Exit, TC-2 Stabilized Construction Roadway, TC-3 Entrance/Outlet Tire Wash

Details for Non-Stormwater Management BMPs

- NS-1 Water Conservation Practices, NS-2 Dewatering Operations, NS-3 Paving and Grinding Operations, NS-4 Temporary Stream Crossing, NS-5 Clear Water Diversion, NS-6 Illicit Connection/Illegal Discharge Detection and Reporting, NS-7 Potable Water/Irrigation, NS-8 Vehicle and Equipment Cleaning, NS-9 Vehicle and Equipment Fueling, NS-10 Vehicle and Equipment Maintenance

Details for Waste Management and Materials Pollution Control BMPs

- WM-1 Material Delivery and Storage, WM-2 Material Use, WM-3 Stockpile Management, WM-4 Spill Prevention and Control, WM-5 Solid Waste Management, WM-6 Hazardous Waste Management, WM-7 Contaminated Soil Management, WM-8 Concrete Waste Management, WM-9 Sanitary/Septic Waste Management, WM-10 Liquid Waste Management

4. City Excavation and Grading Ordinance - Sections 17.56 of City Municipal Code, are available through the City's website.

5. Stormwater Permit # CAS000002 and State Water Resources Control Board Order 99-08

6. Caltrans Storm Water Quality Handbook (BMP) dated April, 1997, available on the Caltrans web site.

CITY OF VISTA
STORMWATER MANAGEMENT PERMIT INSTRUCTIONS

To accompany all grading and/or building permit application(s).

In order to comply with the federal Clean Water Act, the state Water Code and City Ordinances, the City of Vista requires that property owners and/or contractors complete a Stormwater Management Permit prior to issuance of any grading and/or building permit(s). The purpose of a Stormwater Management Permit is to document Best Management Practices (BMPs) that will be implemented to prevent pollutants (including sediment) from entering stormwater conveyances and receiving waters. The Stormwater Management Permit becomes a part of the grading and/or building permit(s) and is subject to enforcement by City of Vista Inspectors and others. Stormwater Management Permits include the elements described in the following sections:

SECTION 1: REQUIRED INFORMATION – This section is used to provide the City with the basic information necessary to evaluate and prioritize project activities. Each of the items in this section must be completed, except projects with less than 1 acre of disturbed area are not required to have a Waste Discharge Identification Number (WDID). Grading projects with a disturbed area of greater than 1 acre must also meet additional requirements from the State Water Resources Control Board (SWRCB). Those additional requirements include filing a Notice of Intent (NOI) and preparation of a Stormwater Pollution Prevention Plan (SWPPP). Please note that watercourses and waterbodies include ephemeral drainages (i.e. those that are dry during part of the year).

SECTION 2: BEST MANAGEMENT PRACTICES – Best Management Practices (BMPs) must be selected and implemented to prevent erosion and construction-related materials, sediment, wastes and spills from entering stormwater conveyance system and receiving waters.

NOTE: It is the responsibility of the property owner and/or the contractor to determine the types of BMPs that will be used, as well as the levels of application necessary to comply with the City of Vista's Stormwater and Grading Ordinances. Failure to prevent soil erosion and discharges of sediment and other pollutants from construction sites is subject to enforcement by the City, RWQCB or others. At a minimum, the City requires that the BMPs designated as required in Table 1 (attached) be installed and maintained for all construction projects, as applicable. Additional BMPs listed in Table 1 may also be required in correlation to a project's scope, potential for discharges and proximity to a watercourse or other receiving waters. The property owner and/or contractor must complete Table 2 (attached) indicating which BMPs will be used.

SECTION 3: CERTIFICATION – The property owner and/or contractor must sign this section certifying that they understand the City of Vista's minimum requirements for stormwater management of construction activities and will implement, monitor and maintain the selected BMPs to ensure their effectiveness.

BMP manuals can be found at the City of Vista's permit counter. These manuals include all of the referenced BMPs listed in Table 1 from the *Caltrans Storm Water Quality Handbooks* and the *California Stormwater BMP Handbooks.* The entire manuals may also be ordered directly from the following sources:

Caltrans Manuals
Caltrans Publications unit
(916) 445-3520
(916) 324-8997 fax

California Stormwater BMP Handbook
Municipal, Development/Redevelopment, Construction
& Industrial/Commercial
(510) 444-6771

Revised March 2003

CITY OF VISTA
STORMWATER MANAGEMENT PERMIT

This form must be submitted with all grading and/or building permit application(s).

SECTION 1. REQUIRED INFORMATION

Grading and/or Building Permit Application Number:	Project Name:	
Name of Project Contact Person:		Project Address or Location:
Title:	Phone #:	
Grading Start Date:	Grading Finish Date:	
Project Start Date:	Project Finish Date:	**APN NO.**

Estimated amount of disturbed acreage:_____ (If equal to or greater than 1 acre, you must also provide a WDID number from the SWRCB)
WDID _____

Are there any watercourses or waterbodies within 50 feet of the limits of soil disturbance? ❑ YES ❑ NO
Does the project site have or propose slopes higher than 25 feet or steeper than 1:1? ❑ YES ❑ NO
Does the soil type have high erosion potential (fine grain soil like sand, silt, fine disintegrated granite)? ❑ YES ❑ NO

SECTION 2 BEST MANAGEMENT PRACTICES

The goal of stormwater management planning is to reduce pollution to the maximum extent practicable by implementing Best Management Practices (BMPs). There are five categories of BMPs: **1)** Erosion control practices, and; **2)** Velocity reduction, and; **3)** Sediment control practices, and; **4)** Offsite sediment tracking control, and; **5)** General site and materials management. BMPs from each of the five categories must be used together as a **system** in order to prevent erosion, sediment, waste, spills, and residues from leaving the site. When properly implemented, monitored and maintained, BMPs will function to prevent pollutants (including sediment) from leaving the site. It is the responsibility of the property owner and the contractor to determine the types of BMPs that will be used, as well as the levels of application necessary to comply with the City of Vista's Stormwater and Grading Ordinances.

Best Management Practice Table

Table 1 (attached) must be used to select those BMPs that will be used to prevent stormwater pollution. At a minimum, the City requires that the BMPs designated as required in Table 1 be installed on all construction projects. However, some BMPs may not be applicable to every project. For example, if storm drain inlets are not present, then Storm Drain Inlet Protection (BMP SC10) would not be applicable. Table 2 (attached) must be completed by the project proponent to indicate which BMPs will be used.

Grading and/or Building Plan(s) Best Management Practice Checklist

The following applicable information shall be shown on the grading, building and/or erosion control plans:

- ❑ Project boundaries
- ❑ Footprint of any existing structures and facilities.
- ❑ Footprint of all structures and facilities to be constructed.
- ❑ Limits of grading.
- ❑ Site entrances and exits.
- ❑ Areas of soil disturbance, cut and/or fill.
- ❑ Vegetative areas to remain undisturbed.
- ❑ Designated materials storage areas.
- ❑ Existing and proposed grades of the site, along with any intermediate grades that will significantly affect site drainage patterns.
- ❑ Location(s) where runoff from the site may enter storm drain(s), channel(s), and/or receiving waters.

Please note that each of the items identified by a check (✓) in Table 1 must be included on the plans, and labeled with the designation found in the tables (for example, SS-7).

SECTION 3. CERTIFICATION

The following certification must be signed before a Grading and/or Building Permit(s) will be issued.

I have read and understand that the City of Vista has adopted minimum requirements for stormwater management of construction activities. I certify that the BMPs I have selected from Table 1 and documented in Table 2 will be implemented to effectively minimize the potentially negative impacts of this project's construction activities on stormwater quality. I further agree to install monitor, maintain or revise the selected BMPs to ensure their effectiveness.

I also understand that non-compliance with the City of Vista's Stormwater and Grading Ordinances may result in enforcement by the City, including fines, citation, stop-work orders, cease and desist orders or other actions.

Property Owner /Contractor_____ ***Date _____***

Table 1.0 Minimum Construction Best Management Practices (BMPs)

Storm Water Best Management Practices (BMP)		BMP Identification Number		Category of Activity																																	
				Daily Work	Site Preparation and Earthmoving			Construction or Relocation of Below Ground Structures and/or Utilities						Construction of Above Ground Structures				Roadways, Walkways and Parking Lots			Earthwork			Waterways					Planting and Landscaping				
SELECTION GUIDE	✓indicates mandatory BMP	CALTRANS Stormwater Quality Handbooks	California Stormwater BMP Handbook (Construction)	Daily Activities	Cleaning and Grubbing	Demolition of Pavement &Structures	Constructing Access Roads	Foundations	Saw Cutting	Trenching	Conduits (Open Cuts)	Drilling	Tunnels	Wood Frame	Structural Steel	MaSonry and Concrete	Roofing and Coating	Concrete	Asphalt	Base and Subgrade	Grading	Stockpiling	Material Mining (Sand & Aggregate)	Channel Improvement	Water and Sediment Impoundment	Over Crossing	Under Crossing	Waterfront Construction	Irrigation Facilities	Seeding and Sodding	Mulching	Planting	Habitat Restoration
GENERAL SITE MANAGEMENT																																					
Employee & Subcontractor Training			CA40	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Materials Management (select all applicable to site activities)	✓																																				
Material Delivery / Storage		WM-1	CA10					x			x		x	x	x	x	x	x	x	x				x		x	x	x		x	x	x	x	x	x	x	x
Material Use		WM-2	CA11					x			x		x	x	x	x	x	x	x	x				x		x	x	x		x	x	x	x	x	x	x	x
Spill Prevention and Control		WM-4	CA12	x												x	x		x																			
Waste Management	✓																																				
Solid Waste Mgmt	✓	WM-5	CA20	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Sanitary / Septic Waste Mgmt	✓	WM-9	CA24	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Concrete Waste Mgmt	✓	WM-8	CA23					x	x	x			x			x		x						x	x	x	x		x							
Hazardous Waste Mgmt	✓	WM-6	CA21													x	x	x	x																		
Contaminated Soil Mgmt	✓	WM-7	CA22		x	x	x	x		x	x	x	x											x	x	x	x	x									
OFFSITE SEDIMENT TRACKING CONTROL (must select 1 or more)	✓																																				
Entrance/Exit Inspection, Cleaning				x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Stabilized Construction Entrance/Exit	✓	TC-1	ESC24	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Construction Road Stabilization		TC-2	ESC23	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Entrance/Exit Tire Wash		TC-3		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Vehicle & Equipment Management																																					
Vehicle & Equipment Cleaning		NS-8	CA30	x	x	x	x	x	x	x	x	x	x					x	x	x	x	x	x	x				x									
Vehicle & Equipment Fueling		NS-9	CA31	x	x	x	x	x	x	x	x	x	x					x	x	x	x	x	x	x				x									
Vehicle & Equipment Maintenance		NS-10	CA32	x	x	x	x	x	x	x	x	x	x					x	x	x	x	x	x	x				x									
Construction Practices (select all applicable to site activities)	✓																																				
Water Conservation		NS-1		x	x	x	x	x	x	x	x	x	x					x		x	x		x						x	x	x	x	x				
Structure Construction & Painting		WM-6	CA03					x					x	x	x	x	x									x	x	x									
Paving Operations		NS-3	CA02															x	x	x				x		x	x										
Dewatering Operations		NS-2	CA01					x		x	x	x	x											x	x	x	x	x									
VELOCITY REDUCTION (select all applicable to site)	✓																																				
Outlet Protection		SS-10	ESC40		x	x	x		x	x											x	x	x	x	x		x	x								
Check Dams		SC-4	ESC41		x	x	x		x	x											x	x	x	x	x			x								
Flared Culvert End Sections		SS-10			x	x	x		x	x											x	x	x	x	x			x								
Slope Roughering & Terracing		NA	ESC42		x	x	x		x	x											x	x	x	x	x			x								

EROSION CONTROL																																
Site Planning Considerations	✓																															
Scheduling	✓	SS-1	ESC01	x	x	x	x		x	x	x	x	x			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Preservation of Exist Vegetation	✓	SS-2	ESC02		x	x	x			x	x	x						x	x	x	x	x	x	x	x	x	x	x	x			
Vegetation Stabilization (must select 1 or more)	✓																															
Temp Seeding and Planting	✓	SS-4	ESC10		x		x													x	x	x	x	x	x	x	x					
Temp Mulching	✓	SS3,6,8	ESC11		x		x													x	x	x	x	x	x	x	x					
Hydroseeding	✓	SS-4			x		x													x	x	x	x	x	x	x	x					
Vegetation Buffer Strips	✓	NA			x		x													x	x	x	x	x	x	x	x					
Physical Stabilization (must select 1 or more)	✓																															
Dust Control	✓		ESC21		x	x	x	x	x	x	x	x						x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Geotextiles, Mats, and Fiber Rolls	✓	SS-7	ESC20		x		x													x	x	x	x	x	x	x	x					
Bonded Fiber Matrix	✓	SS-5			x		x													x	x	x	x	x	x	x	x					
Soil Stabilizers	✓	SS-5			x		x													x	x	x	x	x	x	x	x					
Temp Stream Crossing	✓	NS-4	ESC22		x	x	x	x		x	x	x	x	x	x					x	x	x	x	x	x	x	x		x	x	x	x	x
Diversion of Runoff																																
Earth Dikes		SS-9	ESC30		x	x	x		x	x	x										x	x	x	x	x		x	x		x	x	
Ditches and Berms		SS-9			x	x	x		x	x	x										x	x	x	x	x		x	x				
Temp Drains and Swales		SS-9	ESC31		x	x	x			x	x										x	x	x	x	x		x	x				
Slope Drains		SS-11	ESC32		x	x	x		x	x											x	x	x	x	x		x	x				
SEDIMENT CONTROL (must select 1 or more)	✓																															
Silt Fence	✓	SC-1	ESC50		x	x	x	x			x	x									x	x	x	x	x		x	x				
Straw Bale Barrier	✓	SC-9	ESC51		x	x	x	x			x	x									x	x	x	x	x		x	x				
Sand Bag/Gravel Bag Barrier	✓	SC-6, SC	ESC52		x	x	x	x		x	x	x									x	x	x	x	x		x	x				
Brush or Rock Filter	✓	NA	ESC53		x	x	x	x			x	x									x	x	x	x	x		x	x				
Storm Drain Inlet Protection	✓	SC-10	ESC54		x	x	x	x		x	x	x									x	x	x	x	x		x	x				
Straw Wattles	✓	SC-5			x	x	x	x			x	x									x	x	x	x	x		x	x				
Sediment Trap	✓	SC-3	ESC55		x	x	x	x		x	x	x									x	x	x	x	x		x	x				
Sediment Basin (sized for 10-yr storm)	✓	SC-2	ESC56		x	x	x	x			x	x									x	x	x	x	x		x	x				

Table 2.0 Selected Construction Best Management Practices (BMPs)

Storm Water Best Management Practices (BMP)		BMP Identification Number		BMP Selected			Implementation Date	Maintence Schedule	Other Notes
				✓	Shown on plans?	If not shown on plans, why?			
	✓indicates mandatory BMP	CALTRANS Stormwater Quality Handbooks	California Stormwater BMP Handbook (Construction)						
GENERAL SITE MANAGEMENT									
Employee & Subcontractor Training			CA40						
Materials Management (select all applicable to site activities)	✓								
Material Delivery / Storage		WM-1	CA10						
Material Use		WM-2	CA11						
Spill Prevention and Control		WM-4	CA12						
Waste Management	✓								
Solid Waste Mgmt	✓	WM-5	CA20						
Sanitary / Septic Waste Mgmt	✓	WM-9	CA24						
Concrete Waste Mgmt	✓	WM-8	CA23						
Hazardous Waste Mgmt	✓	WM-6	CA21						
Contaminated Soil Mgmt	✓	WM-7	CA22						
OFFSITE SEDIMENT TRACKING CONTROL (must select 1 or more)	✓								
Entrance/Exit Inspection, Cleaning									
Stabilized Construction Entrance/Exit	✓	TC-1	ESC24						
Construction Road Stabilization		TC-2	ESC23						
Entrance/Exit Tire Wash		TC-3							
Vehicle & Equipment Management									
Vehicle & Equipment Cleaning		NS-8	CA30						
Vehicle & Equipment Fueling		NS-9	CA31						
Vehicle & Equipment Maintenance		NS-10	CA32						
Construction Practices (select all applicable to site activities)	✓								
Water Conservation		NS-1							
Structure Construction & Painting		WM-6	CA03						
Paving Operations		NS-3	CA02						
Dewatering Operations		NS-2	CA01						
VELOCITY REDUCTION (select all applicable to site)	✓								
Outlet Protection		SS-10	ESC40						
Check Dams		SC-4	ESC41						
Flared Culvert End Sections		SS-10							
Slope Roughering & Terracing		NA	ESC42						
EROSION CONTROL									
Site Planning Considerations	✓								
Scheduling	✓	SS-1	ESC01						
Preservation of Exist Vegetation	✓	SS-2	ESC02						

EROSION CONTROL (continued)									
Vegetation Stabilization (must select 1 or more)	✓								
Temp Seeding and Planting	✓	SS-4	ESC10						
Temp Mulching	✓	SS3,6,8	ESC11						
Hydroseeding	✓	SS-4							
Vegetation Buffer Strips	✓	NA							
Physical Stabilization (must select 1 or more)	✓								
Dust Control	✓		ESC21						
Geotextiles, Mats, and Fiber Rolls	✓	SS-7	ESC20						
Bonded Fiber Matrix	✓	SS-5							
Soil Stabilizers	✓	SS-5							
Temp Stream Crossing	✓	NS-4	ESC22						
Diversion of Runoff									
Earth Dikes		SS-9	ESC30						
Ditches and Berms		SS-9							
Temp Drains and Swales		SS-9	ESC31						
Slope Drains		SS-11	ESC32						
SEDIMENT CONTROL (must select 1 or more)	✓								
Silt Fence	✓	SC-1	ESC50						
Straw Bale Barrier	✓	SC-9	ESC51						
Sand Bag/Gravel Bag Barrier	✓	SC-6, SC-8	ESC52						
Brush or Rock Filter	✓	NA	ESC53						
Storm Drain Inlet Protection	✓	SC-10	ESC54						
Straw Wattles	✓	SC-5							
Sediment Trap	✓	SC-3	ESC55						
Sediment Basin (sized for 10-yr storm)	✓	SC-2	ESC56						

SECTION G: STANDARD URBAN STORM WATER MITIGATION PLAN

Section G Outline

1.0 INTRODUCTION

1.1 Storm Water Standards Manual (Section G) Organization

This manual provides information to project applicants on compliance with the permanent storm water quality requirements for development projects in the City of Vista. This manual guides the project applicant through the selection, design, and incorporation of storm water BMPs into the project's design plan.

Section 1, "Introduction," describes storm water pollution background information and legal or regulatory requirements associated with storm water pollution control.

Section 2, "Project Review & Permitting Process," outlines the project plan review and approval process for discretionary actions for development projects. Applicants should use Section 2 as the roadmap to navigate through this manual and ensure storm water requirements are incorporated into their projects. The following sections provide technical information necessary to incorporate the storm water requirements in the review process outlined in Section 2.

Section 3, "Permanent Storm Water BMP Selection Procedure," lists the permanent storm water BMP requirements, which are organized in a progression intended to dovetail with a typical project planning and design process and maximize storm water protection while minimizing project costs.

Section 4, "Implementation & Maintenance of Requirements," describes how implementation and maintenance of permanent BMPs must be assured prior to discretionary approval. This section provides a process and requirements for executing a maintenance agreement with the City.

The Appendices to the Storm Water Standards Manual (Section G) contain information either necessary or designed to provide guidance in completing the storm water requirements in this manual.

1.2 Background

Urban runoff discharged from municipal storm water conveyance systems has been identified by local, regional, and national research programs as one of the principal causes of water quality problems in most urban areas. The City of Vista's storm water conveyance system, which collects runoff from our streets, rooftops, driveways, parking lots, and other impervious areas, flows directly to our beaches and bays without receiving treatment (our storm water conveyance system is separate from our sanitary sewer system). Urban runoff potentially contains a host of pollutants like trash and debris, bacteria and viruses, oil and grease, sediments, nutrients, metals, and toxic chemicals. These contaminants can adversely affect receiving and coastal waters, associated wildlife, and public health. Urban runoff pollution is not only a problem during rainy seasons, but also year-round due to many types of urban water use that discharge runoff (dry weather flow) to the storm water conveyance system.

Land development and construction activities significantly alter drainage patterns and contribute pollutants to urban runoff primarily through erosion and removal or change of existing natural vegetation during construction, and the creation of new impervious surfaces, such as parking lots, which often permanently contribute pollutants throughout the "use" of the project site. When homes, work places, recreational areas, roads, parking lots, and structures are built, new impervious areas are built- creating the potential for an impact to water quality. The natural landscape's ability to infiltrate and cleanse storm water and urban runoff is "capped" by the impervious surfaces. As impervious surfaces increase, water that normally would have percolated into the soil now flows over the land surface directly to downstream wetlands, creeks, and eventually the Pacific Ocean. Accordingly, increases in impervious cover can increase the frequency and intensity of storm water flows. Second, new impervious surfaces often become a source of pollutants associated with development, such as automotive fluids, cleaning solvents, toxic or hazardous chemicals, detergents, sediment, metals, pesticides, oil and grease, and food wastes. These pollutants, which are often temporarily captured on impervious surfaces, are transported to the

storm water conveyance system by storm water and urban runoff. The pollutants flow untreated through the storm water conveyance system and ultimately into our creeks, rivers, beaches, and bays. With the growing concerns of urban runoff and storm water pollution, local, state, and federal agencies devised regulations requiring development planning and construction controls to treat storm water-related pollution from new development projects before it reaches any receiving waters.

Order R9-2007-0001 was issued on January 24, 2007 to the City of Vista, the County of San Diego, the Port of San Diego, and 17 other cities in the region by the San Diego Regional Water Quality Control Board (Regional Board), which requires the implementation of storm water regulations addressing storm water pollution issues in development planning and construction associated with private and public development projects. Specifically, development projects are required to include storm water best management practices (BMPs) both during construction, and in the projects permanent design, to reduce pollutants discharged from the project site, to the maximum extent practicable.

The primary objectives of the Storm Water Standards Manual (Section G) 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) throughout the use of a developed site. To address pollutants that may be generated from new development once the site is in use, the Municipal Permit further requires that the City implement a series of permanent BMPs described in a document called the Model Standard Urban Storm Water Mitigation Plan, or SUSMP (pronounced “sue-sump”), which was approved by the Regional Board on June 12, 2002.

The City’s Storm Water Standards Manual (Section G) provides information on how to comply with all of the City’s permanent storm water BMP requirements, including the Model SUSMP, for development projects in the City of Vista.

1.3 Legal Framework

The requirement to implement storm water BMP requirements for development projects is based on Section 402 (p) of the Clean Water Act. The Federal Clean Water Act amendments of 1987 established a framework for regulating storm water discharges from municipal, industrial, and construction activities under the NPDES program. Under the Federal Clean Water Act, municipalities throughout the nation are issued a Municipal NPDES Permit. The primary goal of the Municipal Permit is to stop polluted discharges from entering the storm water conveyance system and local receiving and coastal waters.

In California, the State Water Resources Control Board (SWRCB), through the nine Regional Boards, administers the NPDES storm water municipal permitting program. Based on the San Diego Municipal Permit issued by the San Diego Regional Board, the City is required to develop and implement permanent storm water BMPs addressing pollution from new development projects.

2.0 PROJECT REVIEW & PERMITTING PROCESS

The City of Vista's Storm Water Management and Discharge Control Ordinance (Vista Municipal Code Chapter 13.18), requires that all new development and redevelopment activities comply with the storm water pollution prevention requirements. These storm water pollution prevention requirements, which are described in detail in Section 3, "Permanent Storm Water Best Management Practices Selection Procedure," are site specific and vary based on the project's potential impact on receiving water quality.

The steps below describe the elements of the plan review and permitting processes for storm water best management practice (BMP) requirements. The flow chart in Figure 1, "Review Process for Discretionary Actions" demonstrates how storm water requirements are incorporated into projects requiring subdivision approvals, development permits or other discretionary actions.

For projects that do not require discretionary action, City staff will require that SUSMP requirements are incorporated into the project design and shown on the plans prior to issuance of any ministerial permit.

The process for issuance of ministerial projects includes (1) receipt of an application, (2) determination of application completeness, (3) staff review of application, including appropriate storm water requirements and (4) issuance of a ministerial permit. The applicants are required to complete a "Standard Urban Storm Water Mitigation Plan Checklist" (Appendix A) as a part of their project submittal to determine the level of storm water requirements, including SUSMP requirements that will be a part of the project design and shown on the plans.

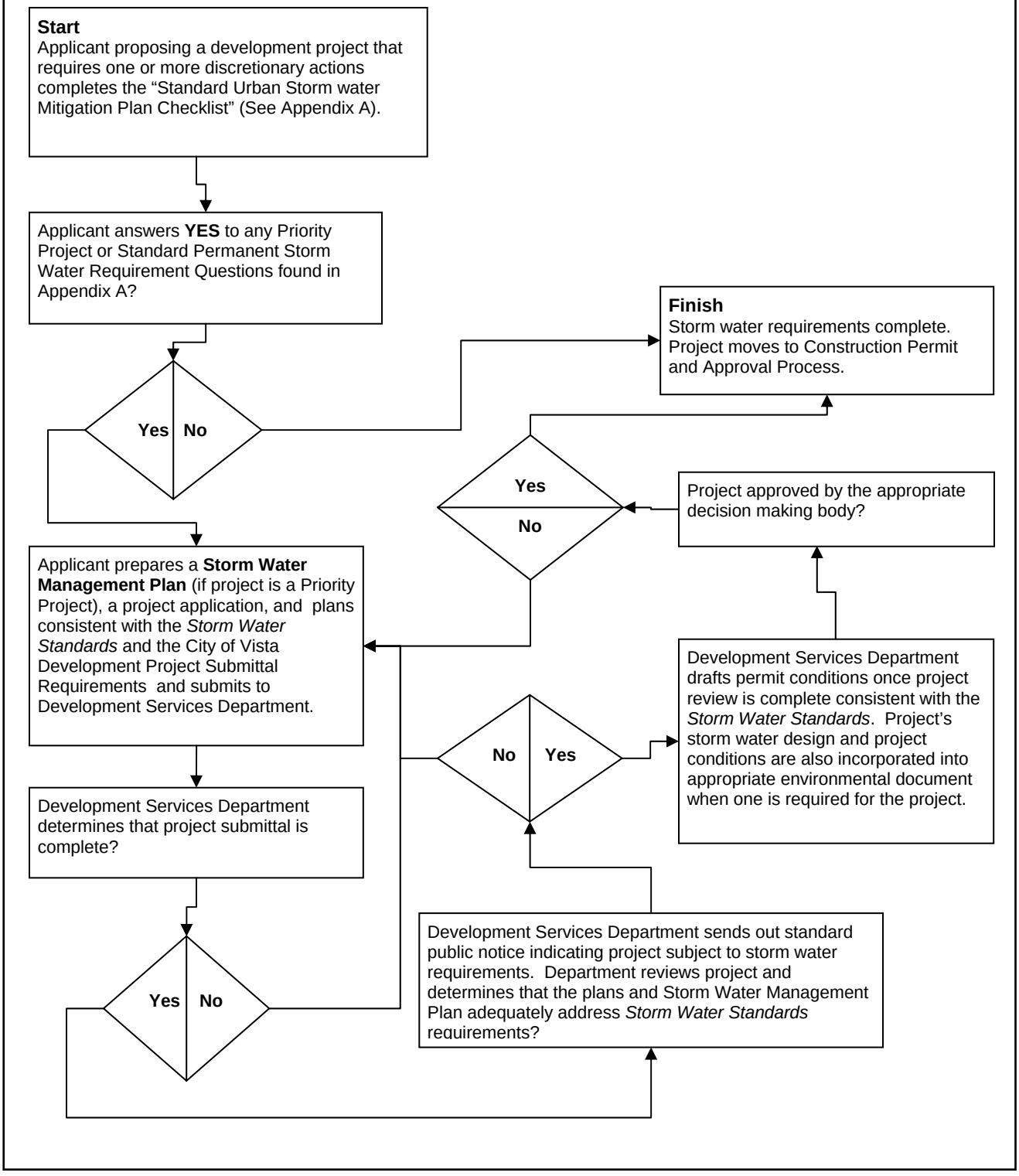
2.1 Step 1: Determine Applicable Permanent Storm Water BMP Requirements

Prior to submittal, applicants must complete the "Standard Urban Storm Water Mitigation Plan Checklist" in Appendix A. This checklist must be completed, signed by the responsible party for the project, and submitted with your permit application. The checklist will determine if the project requires Standard BMPs or Priority BMPs as described below. The project application must include all required components of a Storm Water Management Plan (SWMP) prior to deeming the application package complete.

Note: The checklist form referenced above must be completed for all permit applications, even if previous approvals exist. Projects requesting additional construction permits or discretionary approvals, even though previous permits and/or approvals have been obtained, will be required to comply with the storm water requirements in this document

Figure 1. Review Process for Discretionary Actions

The following figure provides an overview of the project review process for projects that require a discretionary action by the City of Vista. Discretionary actions include land use plan amendments, rezonings, subdivisions, planned development permits, conditional use permits, site development permits, variances, neighborhood development permits, and neighborhood use permits.



2.1.1 Permanent Storm Water BMP Requirements

2.1.1.1 Standard Requirements.

Projects subject to only the standard permanent storm water requirements must incorporate the LID site design and source control requirements identified in Sections 3.2.1 and 3.2.2, into the project (see Table 1). Refer to Step 2: "Prepare & Submit Appropriate Plans," for guidance in the BMP design process.

2.1.1.2 Priority Project Requirements.

All new development and significant redevelopment projects that fall into one of the following "priority project" categories are subject to these SUSMP requirements, subject to the lawful prior approval provisions of the Municipal Permit. In the instance where a project feature, such as a parking lot, falls into a priority project category, the entire project footprint is subject to these SUSMP requirements. These categories are:

- Residential development of 10 units or more
- Commercial development greater than 1 acre
- Heavy industry development greater than 1 acre
- Automotive repair shops
- Restaurants
- Hillside development greater than 5,000 square feet
- Projects located within or directly adjacent to or directly discharging to receiving waters within Environmentally Sensitive Areas that create 2,500 square feet or more of impervious surface or increase the area of imperviousness to 10% or more of its naturally occurring condition
- Projects greater than 2,500 square feet of impervious surface that discharge to receiving waters within or adjacent to Environmentally Sensitive Areas
- Parking Lots 5,000 square feet or more impervious surface or with > 15 parking spaces and potentially exposed to urban runoff
- Streets, roads, highways, and freeways which would create a new paved surface that is 5,000 square feet or greater of impervious surface
- Retail gasoline outlets 5,000 square feet or more or with a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.

Limited Exclusion: Trenching and resurfacing work associated with utility projects are not considered priority projects; resurfacing and reconfiguring surface parking lots and existing roadways; new sidewalk construction, pedestrian ramps, or bikelane on existing roads; and routine replacement of damaged pavement, such as pothole repair. Parking lots, buildings and other structures associated with utility projects are subject to SUSMP requirements if one or more of the criteria for the above categories are met.

Projects subject to priority project permanent storm water requirements must incorporate all applicable requirements in Section III.2, "Establish Permanent Storm Water Best Management Practices," (requirements BMP-1 through BMP-36) into the project design. This includes the LID site design and source control BMPs, BMPs applicable to individual priority project categories, and treatment control BMP requirements. If a priority project meets more than one priority project category definition, as shown in Table 1, the project is subject to all BMPs applicable to individual priority project categories that apply. For example, if a project is proposing to build 50 attached residential units and a 6,000 square foot restaurant with a 70-space surface parking lot, the project would be subject to the individual priority project category BMP requirements for "Attached Residential Development," "Restaurants," and "Parking Lots," as shown in Table 1, below. Refer to Step 2: "Prepare & Submit Appropriate Plans," for guidance in the permanent BMP design process.

Table 1. Standard Development Project & Priority Project Storm Water BMP Requirements Matrix.

	Site Design BMPs[1]	Source Control BMPs[2]	BMPs Applicable to Individual Priority Project Categories[3]										Treatment Control BMPs[4]
			a. Private Roads	b. Residential Driveways & Guest Parking	c. Dock Areas	d. Maintenance Bays	e. Vehicle Wash Areas	f. Equipment Wash Areas	g. Outdoor Processing Areas	h. Surface Parking Areas	i. Fueling Areas	j. Hillside Landscaping	
Standard Projects	R	R	R	R	R	R	R	R	R	R	R	R	O
Priority Projects:													
Detached Residential Development	R	R	R	R								R	S
Attached Residential Development	R	R	R										S
Commercial Development greater than 100,000 ft^2	R	R			R	R	R		R				S
Heavy industry /industrial	R	R	R		R	R		R	R	R			S
Automotive Repair Shop	R	R			R	R	R	R			R		S
Restaurants	R	R			R			R					S
Steep Hillside Development greater than 5,000 ft^2	R	R	R									R	S
Parking Lots	R	R								R[5]			S
Retail Gasoline Outlets	R	R				R	R	R		R	R		S
Streets, Highways & Freeways	R	R											S

R = Required; select one or more applicable and appropriate BMPs from the applicable steps in Section III.2.A-D, or equivalent as identified in Appendix B.

O = Optional/ or may be required by City staff. As appropriate, applicants are encouraged to incorporate treatment control BMPs and BMPs applicable to individual priority project categories into the project design. City staff may require one or more of these BMPs, where appropriate.

S = Select one or more applicable and appropriate treatment control BMPs from Appendix B.

(1) Refer to Section 3.2.1

(2) Refer to Section 3.2.2.

(3) Priority project categories must apply specific storm water BMP requirements, where applicable. Priority projects are subject to the requirements of all priority project categories that apply.

(4) Refer to Section 3.2.4

(5) Applies if the paved area totals >5,000 square feet or with >15 parking spaces and is potentially exposed to urban runoff.

2.2 Step 2 – Prepare & Submit Appropriate Plans

After determining the general categories of storm water requirements that apply to the project in Step 1 (e.g., priority project permanent BMPs and/or standard permanent BMPs), refer to the instructions in this step (see below) to determine what analysis and/or specific BMP requirements in Section 3.0 of the Storm Water Standards Manual (Section G) must be provided and/or incorporated into the project.

NOTE: Projects are only required to provide applicable BMPs. For example, an attached residential development project subject to the priority project requirements would not have to meet the "private road" requirements in this manual if no private roads were proposed. In addition, the City Engineer may approve proposed alternatives to any of the BMP requirements in this manual if they are determined to be applicable and equally effective. In all cases, priority projects shall meet the numeric sizing treatment standards in Table 3.

2.2.1 Permanent Storm Water BMPs

2.2.1.1 Standard Requirements

Projects subject to only standard permanent BMP requirements need only to complete the "Identify Pollutants from the Project Area" procedure (Section 3.1.1), and then incorporate the requirements in Section 3.2.1, "LID Site Design BMPs" and Section 3.2.2, "Source Control BMPs". Applicants must incorporate all necessary permanent BMPs into the project plans prior to submittal, regardless of project type. Analysis of the project's anticipated pollutants of concern must also be included with the project submittal.

2.2.1.2 Priority Project Requirements

Projects subject to the priority project permanent BMP requirements must complete all of the analyses required in Section 3.1, "Identify Pollutants and Conditions of Concern," and incorporate all of the applicable BMP requirements in Section 3.2, "Establish Storm Water BMP Requirements". Applicants must incorporate all necessary permanent BMPs into the project plans prior to submittal, regardless of project type. In addition, projects subject to priority project requirements must prepare and submit a ***Storm Water Management Plan*** in accordance with required sections as listed in Appendix C. Analysis of the project's anticipated pollutants of concern, anticipated pollutants of concern in downstream receiving waters, and conditions of concern, must also be included in the Storm Water Management Plan as part of the project submittal.

After preparing plans and supporting documents according to the requirements in this manual, submit plans to the City for review (See Step 3).

2.3 Step 3 – Determine Adequacy of Proposed Plans

Under the authority of the City Engineer, Land Development staff will review submitted plans for compliance with the applicable storm water requirements contained in this manual. The City Engineer may approve proposed alternatives to the BMP requirements in this manual if they are determined to be applicable and equally effective. Additional analysis or information may be required to enable staff to determine the adequacy of proposed BMPs, and will be requested through a project issues report following the conclusion of a staff review cycle. After all storm water requirements have been approved by the City Engineer, proceed to Step 4 to assure implementation and maintenance of the approved BMPs through permit conditions, plan notes, and maintenance agreements.

2.4 Step 4 -- Assure Implementation & Maintenance of Requirements

Applicants must provide assurances that permanent storm water BMPs will be constructed and permanently maintained throughout the use of a developed site. The summary below describes how permanent BMP requirements must be assured during both discretionary approval processes. After the City Engineer has approved all permanent BMPs, refer to Section 4, "Implementation & Maintenance Requirements" to determine how permanent BMP implementation and maintenance will be assured.

For any discretionary action, permanent storm water requirements shall be incorporated into the project design and be shown on the plans. In addition, the project will be conditioned to execute a maintenance agreement for ongoing permanent BMP maintenance, satisfactory to the City Engineer, prior to the

issuance of any construction permits. This requirement shall be noted on the plans for the discretionary action.

3.0 PERMANENT BEST MANAGEMENT PRACTICES SELECTION PROCEDURE

The following process should be followed to determine the permanent BMPs for the applicant's project.

3.1 IDENTIFY POLLUTANTS & CONDITIONS OF CONCERN

3.1.1Identify Pollutants from the Project Area
Using Table 2, below, identify the project's anticipated pollutants. Pollutants associated with any hazardous material sites that have been remediated or are not threatened by the proposed project are not considered a pollutant of concern. Projects meeting the definition of more than one project category shall identify all general pollutant categories that apply. Descriptions of the general pollutant categories listed in Table 2 are listed in Appendix F under the definition of "pollutants of concern."

Table 2. Anticipated and Potential Pollutants Generated by Land Use Type.

	General Pollutant Categories								
Project Categories	Sediments	Nutrients	Heavy Metals	Organic Compounds	Trash & Debris	Oxygen Demanding Substances	Oil & Grease	Bacteria & Viruses	Pesticides
Detached Residential Development	X	X			X	X	X	X	X
Attached Residential Development	X	X			X	P(1)	P(2)	P(1)	X
Commercial Development >100,000 ft^2	P(1)	P(1)		P(2)	X	P(5)	X	P(3)	P(5)
Heavy industry /industrial	X		X	X	X	X	X		
Automotive Repair Shops			X	X(4)(5)	X		X		
Restaurants					X	X	X	X	
Steep Hillside Development >5,000 ft^2	X	X			X	X	X		X
Parking Lots	P(1)	P(1)	X		X	P(1)	X		P(1)
Retail Gasoline Outlets			X	X	X	X	X		
Streets, Highways & Freeways	X	P(1)	X	X(4)	X	P(5)	X		

X = anticipated
P = potential
(1) A potential pollutant if landscaping exists on-site.
(2) A potential pollutant if the project includes uncovered parking areas.
(3) A potential pollutant if land use involves food or animal waste products.
(4) Including petroleum hydrocarbons.
(5) Including solvents.

3.1.2Identify Pollutants of Concern in Receiving Waters

For priority projects, the following analysis shall be conducted and reported in the project's Storm Water Management Plan:

1. For each of the proposed project discharge points, identify the receiving water(s), including hydrologic unit basin number(s), as identified in the most recent version of the *Water Quality Control Plan for the San Diego Basin*[1], prepared by the San Diego Regional Water Quality Control Board.
2. Identify any receiving waters, into which the developed area would discharge to, listed on the most recent list of Clean Water Act Section 303(d) impaired water bodies[2]. List any and all pollutants for

1. Go to: http://www.swrcb.ca.gov/~rwqcb9/programs/basinplan.html
2. Under Section 303(d) of the 1972 Clean Water Act, states, territories and authorized tribes are required to develop a list of water quality limited segments. These waters on the list do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution

which the receiving waters are impaired.

3. Compare the list of pollutants for which the receiving waters are impaired with the pollutants anticipated to be generated by the project (as discussed in Section 3.1.1). Any pollutants identified in the process described in Section 3.1.1 which are also causing impairment of receiving waters shall be considered pollutants of concern.

3.1.3Identify Conditions of Concern

For priority projects, the following analysis shall be conducted and reported in the project's Storm Water Management Plan:

1. Evaluate the project's conditions of concern in a drainage study report prepared by a registered civil engineer in the State of California, with experience in fluvial geomorphology and water resources management. The report shall consider the project area's location (from the larger watershed perspective), topography, soil and vegetation conditions, percent impervious area, natural and infrastructure drainage features, wet season groundwater depth, and any other relevant hydrologic and environmental factors to be protected specific to the project area's watershed.
2. As part of the drainage study, a qualified, licensed professional shall provide a report on proposed infiltration techniques (trenches, basins, dry wells, permeable pavements with underground reservoir for infiltration) regarding any potential adverse geotechnical concerns. Geotechnical conditions such as: slope stability, expansive soils, compressible soils, seepage, groundwater depth, and loss of foundation or pavement subgrade strength should be addressed, and mitigation measures provided.
3. As part of the drainage study, the civil engineer shall conduct a field reconnaissance to observe and report on downstream conditions, including undercutting erosion, slope stability, vegetative stress (due to flooding, erosion, water quality degradation, or loss of water supplies) and the area's susceptibility to erosion or habitat alteration as a result of an altered flow regime.
4. The Drainage study shall compute rainfall runoff characteristics from the project area including at a minimum, peak runoff, time of concentration, and detention volume (if appropriate). These characteristics shall be developed for the two-year and 10-year frequency, six-hour or 24-hour, type B storm for the Vista area in San Diego County (as described in the San Diego County Hydrology Manual, September 2002). The 6-hour Type B storm yields larger peak discharges for certain smaller drainage areas (usually less than 10 square miles, depending upon area, time to peak, CN, frequency, etc.). The 24-hour Type B storm yields larger peak discharges for larger drainage areas (usually greater than 10 square miles, depending upon area, time to peak, CN, frequency, etc.). The largest peak flow should be included in the report. The report shall also report the project's conditions of concern based on the hydrologic and downstream conditions discussed above. Where downstream conditions of concern have been identified, the drainage study shall establish that pre-project hydrologic conditions that minimize impacts on those downstream conditions of concern would be either improved or maintained by the proposed project, satisfactory to the City Engineer, by incorporating the permanent BMP requirements identified in Section 3.2, below.

For Priority Development Projects that disturb 50 acres or more:

1. Priority Development Projects' post-project runoff flow rates and durations shall not exceed pre-project runoff flow rates and durations (Interim Hydromodification Criteria), where the increased discharge flow rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses, attributable to changes in flow rates and durations.

2. Priority Development Projects disturbing 50 acres or more shall implement hydrologic controls to manage post-project runoff flow rates and durations as required by the Interim Hydromodification Criteria.

3.2 ESTABLISH PERMANENT STORM WATER BEST MANAGEMENT PRACTICES

After identifying the project's pollutants of concern, and conditions of concern (for priority projects), in Section 3.1, projects subject to standard or priority project requirements shall implement all applicable LID

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control technology. Go to: http://www.swrcb.ca.gov/tmdl/303d_lists.html. San Diego is in Region 9 (a link is provided).

site design, and source control BMPs listed below. Projects subject to priority project requirements must also implement the BMPs applicable to individual priority project categories and structural treatment control BMPs. Applicants may employ alternative comparable and equally effective LID site design and source control BMPs (including requirements applicable to individual priority project categories), satisfactory to the City Engineer.

Projects are encouraged to address these objectives through the creation of a hydrologically functional project design that attempts to mimic the natural hydrologic regime. Mimicking a site's natural hydrologic regime can be pursued by:

- Reducing imperviousness (such as, new surface parking lots), conserving natural resources and areas, maintaining and using natural drainage courses in the storm water conveyance system, and minimizing clearing and grading.
- Providing runoff storage measures dispersed throughout a site's landscape with the use of bioretention facilities and detention, retention, and infiltration practices.
- Implementing on-lot hydrologically functional landscape design and management practices.

These design principles offer an innovative approach to urban storm water management, one that does not rely on the conventional end-of-pipe or in-the-pipe structural methods but instead strategically integrates storm water controls throughout the urban landscape. Useful resources for applying these principles, referenced in the appendix, include *Start at the Source* (1999), and *Low-Impact Development Design Strategies* (1999) (see Appendix D). Effective source controls offer another strategy to reduce a project's need for treatment. Applicants are encouraged to design projects so that runoff is treated by LID site design BMPs, such as rooftop runoff treated in landscaping, so that it may be applied towards the numeric sizing treatment standards, satisfactory to the City Engineer. Therefore, projects shall incorporate, where applicable, storm water BMPs into the project design, in the following progression:

- LID Site Design BMPs
- Source Control BMPs
- BMPs for Individual Priority Project Categories (these are LID site design and source control BMPs)
- Treatment Control BMPs

The series of best management practices listed in Section 3.2 have been organized sequentially to allow the applicant and design professional to incorporate the LID site design, source control BMPs, and where necessary, requirements applicable to individual priority project categories and treatment control BMPs in this progression.

3.2.1 LID Site Design BMPs

Projects shall be designed so as to minimize directly connected impervious surfaces and to promote infiltration using LID techniques. Projects shall, to the maximum extent practicable, minimize the introduction of pollutants and conditions of concern that may result in significant impacts, generated from site runoff to the storm water conveyance system. Projects shall also control post-development peak storm water runoff discharge rates and velocities to maintain or reduce pre-development downstream erosion and to protect stream habitat. Projects can address these objectives through the creation of a hydrologically functional project design that attempts to mimic the natural hydrologic regime. The following are LID Site Design BMPs to be implemented in order to achieve the requirements.

<u>Maintain Pre-Development Rainfall Runoff Characteristics</u>

Control post-development peak storm water runoff discharge rates and velocities to maintain or reduce pre-development downstream erosion by applying the following concepts:

BMP-1 Minimize and disconnect impervious surfaces. (1) Increase building density (number of stories above or below ground); (2) construct walkways, trails, patios, overflow parking lots and alleys and other low-traffic areas with permeable surfaces, such as pervious concrete, porous asphalt, unit pavers, and granular materials; (3) construct streets, sidewalks and parking lot aisles to the minimum widths necessary, provided that public safety and a walkable environment for pedestrians are not compromised; and (4) minimize the use of impervious surfaces, such as decorative concrete, in the landscape design.

BMP-2 Conserve natural areas, soils and vegetation and provide buffer zones between natural water bodies and the project footprint. (1) Concentrate or cluster development on the least environmentally sensitive portions of a site while leaving the remaining land in a natural, undisturbed condition; (2) Use natural drainage systems to the maximum extent practicable (natural drainages and vegetated swales are preferred over using lined channels or underground storm drains, and; (3) minimize soil compaction.

BMP-3 Minimize Directly Connected Impervious Areas. (1) Where landscaping is proposed, drain rooftops into adjacent landscaping prior to discharging to the storm water conveyance system; and (2) where landscaping is proposed, drain impervious parking lots, sidewalks, walkways, trails, and patios into adjacent landscaping.

BMP-4 Maximize canopy interception and water conservation. (1) Preserve existing native trees and shrubs; and (2) plant additional native or drought tolerant trees and large shrubs in place of non-drought tolerant exotics.

Protect Slopes and Channels

BMP-5 Convey runoff safely from the tops of slopes.

BMP-6 Vegetate slopes with native or drought tolerant vegetation.

BMP-7 Stabilize permanent channel crossings.

BMP-8 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. Energy dissipaters shall be installed in such a way as to minimize impacts to receiving waters.

BMP-9 Minimize disturbances to natural drainages

1.1.1 Source Control BMPs

Design Outdoor Material Storage Areas to Reduce Pollution Introduction

BMP-10 Hazardous materials with the potential to contaminate urban runoff shall be: (1) placed in an enclosure such as, but not limited to, a cabinet, shed, or similar structure that prevents contact with rain, runoff or spillage to the storm water conveyance system; and (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, and have a roof or awning to minimize direct precipitation within the secondary containment area.

Design Trash Storage Areas to Reduce Pollution Introduction

BMP-11 Trash storage areas shall be: (1) paved with an impervious surface, designed not to allow run-on from adjoining areas, and screened or walled to prevent off-site transport of trash; and, (2) contain attached lids on all trash containers that exclude rain; or (3) contain a roof or awning to minimize direct precipitation.

Employ Integrated Pest Management Principles

Integrated pest management (IPM) is an ecosystem-based pollution prevention strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant plant varieties. Pesticides are used only after monitoring indicates they are needed according to established guidelines. Pest control materials are selected and applied in a manner that minimizes risks to human health, beneficial and non-target organisms, and the environment. More information may be obtained at the UC Davis website (http://www.ipm.ucdavis.edu/WATER/U/index.html).

BMP-12 Eliminate and/or reduce the need for pesticide use in the project design by: (1) Plant pest-resistant or well-adapted plant varieties such as native plants; and (2) Discourage pests by modifying the site and landscaping design. Pollution prevention is the primary “first line of defense” because pollutants that are never used do not have to be controlled or treated (methods which are inherently less efficient).

BMP-13 Distribute IPM educational materials to future site residents/tenants. Minimally, educational materials must address the following topics: (1) Keeping pests out of buildings and landscaping using barriers, screens, and caulking; (2) Physical pest elimination techniques, such as, weeding, squashing, trapping, washing, or pruning out pests; (3) Relying on natural enemies to

eat pests; (4) Proper use of pesticides as a last line of defense. More information may be obtained at the UC Davis website (http://www.ipm.ucdavis.edu/WATER/U/index.html).

Use Efficient Irrigation Systems & Landscape Design

In compliance with the Water Conservation in Landscaping Act, the following methods to reduce excessive irrigation runoff shall be implemented:

BMP-14 Employ rain shutoff devices to prevent irrigation during and after precipitation.

BMP-15 Design irrigation systems to each landscape area's specific water requirements.

BMP-16 Use flow reducers or shutoff valves triggered by a pressure drop to control water loss in the event of broken sprinkler heads or lines.

Provide Storm Water conveyance System Stenciling and Signage

BMP-17 Provide concrete stamping, or equivalent, of all storm water conveyance system inlets and catch basins within the project area with prohibitive language (e.g., "No Dumping – I Live in <<name receiving water>>"), satisfactory to the City Engineer. Stamping may also be required in Spanish.

BMP-18 Post signs and prohibitive language and/or graphical icons, which prohibit illegal dumping at public access points along channels and creeks within the project area, trailheads, parks and building entrances.

3.2.2 BMPs Applicable to Individual Priority Project Categories

Where identified in Table 1, the following requirements shall be incorporated into applicable priority projects. Projects shall adhere to each of the individual priority project category requirements that apply to the project (e.g., a restaurant with more than 15 parking spaces would be required to incorporate the requirements for 'c. Dock Areas', 'f. Equipment Wash Areas', and 'h. Surface Parking Areas' into the project design).

Private Roads

BMP-19 The design of private roadway drainage shall use at least one of the following (for further guidance, see Start at the Source [1999]): (1) rural swale system- street sheet flows to vegetated swale or gravel shoulder, curbs at street corners, culverts under driveways and street crossings; (2) urban curb/swale system- street slopes to curb, periodic swale inlets drain to vegetated swale/biofilter; or (3) dual drainage system- first flush captured in street catch basins and discharged to adjacent vegetated swale or gravel shoulder.

Residential Driveways & Guest Parking

BMP-20 Driveways shall have one of the following: (1) shared access; (2) flared entrance (single lane at street); (3) wheelstrips (paving only under tires); (4) porous paving; or (5) designed to drain into landscaping prior to discharging to the storm water conveyance system.

BMP-21 Uncovered temporary or guest parking on private residential lots shall be: (1) paved with a permeable surface; or (2) designed to drain into landscaping prior to discharging to the storm water conveyance system.

Dock Areas

BMP-22 Loading/unloading dock areas shall include the following: (1) cover loading dock areas, or design drainage to preclude urban run-on and runoff; and (2) An acceptable method of containment and pollutant removal, such as a shut-off valve and containment area. Direct connections to storm drains from depressed loading docks (truck wells) are prohibited.

Maintenance Bays

BMP-23 Maintenance bays shall include at least one of the following: (1) repair/ maintenance bays shall be indoors; or, (2) designed to preclude urban run-on and runoff.

BMP-24 Maintenance bays shall include 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 water conveyance system is prohibited.

Vehicle & Equipment Wash Areas

BMP-25 Areas for washing/steam cleaning of vehicles and areas for outdoor equipment/accessory washing and steam cleaning shall be: (1) self-contained to preclude run-on and run-off, covered with a roof or overhang, and equipped with a clarifier or other pretreatment facility; and (2) properly connected to a sanitary sewer.

Outdoor Processing Areas

BMP-26 Outdoor processing areas shall: (1) cover or enclose areas that would be the most significant source of pollutants; or, (2) slope the area toward a dead-end sump; or, (3) discharge to the sanitary sewer system.

BMP-27 Grade or berm processing area to prevent run-on from surrounding areas.

BMP-28 Installation of storm drains in areas of equipment repair is prohibited.

Surface Parking Areas

BMP-29 Where landscaping is proposed in surface parking areas (both covered and uncovered), incorporate landscape areas into the drainage design.

BMP-30 Overflow parking (parking in excess of the project's minimum parking requirements) should be constructed with permeable paving.

Non-Retail Fueling Areas

Non-Retail fueling areas shall be designed with the following:

BMP-31 Fuel dispensing area that is: (1) paved with Portland cement concrete or equivalent smooth impervious surface (asphalt concrete is prohibited); (2) designed to 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; (3) sloped to prevent ponding; (4) separated from the rest of the site by a grade break that prevents run-on of urban runoff; and (5) designed to drain to the project's treatment control BMP(s) prior to discharging to the storm water conveyance system.

BMP-32 Overhanging roof structure or canopy that is: (1) equal to or greater than the area within the fuel dispensing area's grade break; and (2) designed not to drain onto or across the fuel dispensing area.

Steep Hillside Landscaping

BMP-33 Steep hillside areas disturbed by project development shall be landscaped with deep-rooted, drought tolerant plant species selected for erosion control, in accordance with the Landscape Technical Manual.

3.2.3 Treatment Control BMPs

Where identified in Table 1, and after LID site design and source control BMPs have been incorporated into the project, applicants of priority projects shall design a single or combination of treatment control BMPs designed to infiltrate, filter, and/or treat runoff from the project footprint to one of the “Numeric Sizing Treatment Standards” listed in Table 3, below. Applicants must use the Structural Treatment BMP Selection Procedure outlined in Section 3.2.4.1, below to select appropriate treatment control BMPs. Applicants are encouraged to design projects so that runoff is treated by LID site design BMPs, such as rooftop runoff treated in landscaping, so that it may be applied towards the numeric sizing treatment standards, satisfactory to the City Engineer. Treatment efficiencies can also be realized by locating treatment controls strategically within a drainage basin without being limited by the project boundary.

In all instances, structural treatment BMP(s) may be located on- or off-site, used singly or in combination, or shared by multiple new developments, pursuant to the following criteria:

1. All structural treatment control BMPs shall infiltrate, filter, and/or treat the required runoff volume or flow prior to discharging to any receiving water body supporting beneficial uses;
2. Post-construction structural treatment control BMPs for a single priority project shall collectively be designed to comply with the numeric sizing treatment standards;
3. Shared BMPs shall be operational prior to the use of any dependent development or phase of

development. The shared BMPs shall only be required to treat the dependent developments or phases of development that are in use;

4. Interim storm water BMPs that provide equivalent or greater treatment than is required may be implemented by a dependent development until each shared BMP is operational. If interim BMPs are selected, the BMPs shall remain in use until permanent BMPs are operational.

Alternatively, a project proponent may elect to implement a combination of LID BMPs that either disperse and infiltrate, or direct to bioretention facilities, the flows from all impervious areas on-site. These BMPs are presumed to provide maximum extent practicable treatment for all pollutants of concern; therefore no further documentation of the treatment BMP selection process is required.

Treatment control BMPs with a high or medium pollutant removal efficiency for the project's most significant pollutant of concern shall be selected. Treatment control BMPs with a low removal efficiency ranking shall only be approved by the Copermittee when a feasibility analysis has been conducted which exhibits that implementation of treatment control BMPs with a high or medium removal efficiency ranking are infeasible.
Treatment control BMPs shall not be constructed within a receiving water.

Table 3. Numeric Sizing Treatment Standards.

Volume

1. Volume-based BMPs shall be designed to mitigate (infiltrate, filter, or treat) either:
   - i. The volume of runoff produced from a 85th percentile storm event, as determined from isopluvial maps contained in the County of San Diego Hydrology Manual (0.6 inch approximate average for the San Diego County area) [Note: Applicants may calculate the 85th percentile storm event using local rain data, when available. See the County of San Diego's isopluvial map at http://www.sdcounty.ca.gov/dpw/engineer/flood.htm]; or
   - ii. The volume of runoff produced by the 85th percentile storm event, determined as the maximized capture urban runoff 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, page 175 Equation 5.2; (1998*); or
   - iii. The volume of annual runoff based on unit basin storage volume, to achieve 90 percent or more volume treatment by the method recommended in the latest edition of the *California Stormwater Best Management Practices Handbook,* or
   - iv. The volume of runoff, as determined from the local historical rainfall record, that achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85th percentile 24-hour runoff event.

OR

Flow

2. Flow-based BMPs shall be designed to mitigate (infiltrate, filter, or treat) either:

3.0 The maximum flow rate of runoff produced from a rainfall intensity of 0.2 inch of rainfall per hour for each hour of a storm event; or

4.0 The maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity, as determined from the local historical rainfall record, multiplied by a factor of two; or

5.0 The maximum flow rate of runoff, as determined from the local historical rainfall record, that achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85th percentile hourly rainfall intensity multiplied by a factor of two.

3.2.3.1 Structural Treatment BMP Selection Procedure

Priority projects shall select a single or combination of treatment BMPs from the categories in Table 4 that maximize pollutant removal for the particular pollutant(s) of concern.

1. Determine if the project would discharge to a Clean Water Act Section 303(d) impaired receiving water. If any receiving waters for the project are impaired, note pollutant(s) receiving water(s) is/are listed for.

2. If the project is anticipated to generate a pollutant (per Table 2) that the receiving water is listed for, select one or more BMPs from Table 4 that maximize the pollutant removal for that pollutant. Any pollutants the project is expected to generate that are also causing a Clean Water Act section 303(d) impairment of the downstream receiving waters of the project shall be given top priority in selecting treatment BMPs
3. If none of the project's receiving waters are listed as impaired, select one or more BMPs from Table 4 that maximize the removal of the pollutants the project is anticipated to generate.

Alternative storm water BMPs not identified in Table 4 may be approved at the discretion of the City Engineer, provided the alternative BMP is as effective in removal of pollutants of concern as other feasible BMPs listed in Table 4.

Table 4. Structural Treatment Control BMP Selection Matrix

Pollutants of Concern	Bioretention Facilities (LID)	Settling Basins (Dry Ponds)	Wet Ponds and Wetlands	Infiltration Facilities or Practices (LID)	Media Filters	High-rate biofilters	High-rate media filters	Trash Racks & Hydro -dynamic Devices
Coarse Sediment and Trash	High	High	High	High	High	High	High	High
Pollutants that tend to associate with fine particles during treatment	High	High	High	High	High	Medium	Medium	Low
Pollutants that tend to be dissolved following treatment	Medium	Low	Medium	High	Low	Low	Low	Low

3.2.3.2 Notes on Treatment Control BMP Categories

All rankings are relative. Ranking of all facilities assumes proper sizing, design, and periodic maintenance. Following are general descriptions of each category.

- **Bioretention Facilities** (infiltration planters, flow-through planters, bioretention areas, and bioretention swales). Facilities are designed to capture runoff and infiltrate slowly through soil media which also supports vegetation. Bioretention facilities, except for flow-through planters, effectively promote infiltration into native soils. In clay soils, facilities may capture excess treated runoff in an underdrain piped to the municipal storm drain system. Typical criteria: an infiltration surface area at least 4% of tributary impervious area, 6-inch average depth of top reservoir, 18-inch soil layer, 12-inch to 18-inch gravel subsurface storage layer.
- **Settling Basins and Wetlands** (extended detention basins, "wet" basins, decorative or recreational lakes or water features also used for stormwater treatment, constructed wetlands). Facilities are designed to capture a minimum water quality volume of 80% of total runoff and detain for a minimum of 48 hours. Some wetland designs have proven effective in removing nutrients, but performance varies.
- **Infiltration Facilities or Practices** (infiltration basins, infiltration trenches, dry wells, dispersal of runoff to landscape, pervious pavements). These facilities and landscape designs capture, retain, and infiltrate a minimum of 80% of runoff into the ground. Infiltration facilities are generally only feasible in permeable (Hydrologic Soil Group A or B) soils. Volume and area of infiltration facilities depends on soil permeability and safety factor used. Typical criteria: Infiltration facilities should have pretreatment to remove silt to prolong life of the facility. A 10-foot vertical separation from average seasonal groundwater depth is required. Dispersal to landscape may be accomplished in any soil type and generally requires a maximum 2:1 ratio impervious:pervious and concave topography to ensure the first 1 inch of rainfall is retained.
- **Media Filters** (sand filters). Filters designed to treat runoff produced by a rainfall of 0.2 inches per hour (or 2×85^{th} percentile hourly rainfall intensity) by slow infiltration through sand or other

media. Typical criteria: Surface loading rate not to exceed 5 inches/hour. Entire surface of the sand must be accessible for maintenance.

- **High Rate Biofilters** (tree wells, typically proprietary). Biofilters with specially designed media to rapidly filter runoff while removing some pollutants. Filterra® (proprietary version) recommends surface loading rates of up to 100 inches/hour.
- **High-rate Media Filters** (typically proprietary). Vaults with replaceable cartridge filters filled with inorganic media.
- **Drainage Inserts** have low effectiveness in removing pollutants that tend to associate with fine particles and have medium effectiveness in removing coarse sediment and trash. They are sometimes used to augment more effective treatment facilities and are sometimes used alone when more effective facilities have been deemed infeasible.

3.2.3.3 Notes on Pollutants of Concern:
In Table 3, Pollutants of Concern are grouped as gross pollutants, pollutants that tend to associate with fine particles, and pollutants that remain dissolved.

Pollutant	**Coarse Sediment and Trash**	**Pollutants that tend to associate with fine particles during treatment**	**Pollutants that tend to be dissolved following treatment**
Sediment	X	X	
Nutrients		X	X
Heavy Metals		X	
Organic Compounds		X	
Trash & Debris	X		
Oxygen Demanding		X	
Bacteria		X	
Oil & Grease		X	
Pesticides		X	

3.2.3.4 Restrictions on the Use of Infiltration Treatment BMPs
Treatment control BMPs that are designed to primarily function as infiltration devices shall meet the following conditions (these conditions do not apply to treatment BMPs which allow incidental infiltration and are not designed to primarily function as infiltration devices, such as grassy swales, detention basins, vegetated buffer strips, constructed wetlands, etc.): (1) urban runoff from commercial developments shall undergo pretreatment to remove both physical and chemical contaminants, such as sedimentation or filtration, prior to infiltration; (2) all dry weather flows shall be diverted from infiltration devices except for those non-storm water discharges authorized pursuant to 40 CFR 122.26(d)(2)(iv)(B)(1): diverted stream flows, rising ground waters, uncontaminated ground water infiltration [as defined at 40 CFR 35.2005(20)] to storm water conveyance systems, uncontaminated pumped ground water, foundation drains, springs, water from crawl space pumps, footing drains, air conditioning condensation, flow from riparian habitats and wetlands, water line flushing, landscape irrigation, discharges from potable water sources other than water main breaks, irrigation water, individual residential car washing, and dechlorinated swimming pool discharges; (3) pollution prevention and source control BMPs shall be implemented at a level appropriate to protect groundwater quality at sites where infiltration structural treatment BMPs are to be used; (4) the vertical distance from the base of any infiltration structural treatment BMP to the seasonal high groundwater mark shall be at least 10 feet. Where groundwater does not support beneficial uses, this vertical distance criterion may be reduced, provided groundwater quality is maintained; (5) the soil through which infiltration is to occur shall have physical and chemical characteristics that are adequate for proper infiltration durations and treatment of urban runoff for the protection of groundwater beneficial uses[3]; (6) the horizontal distance between the base of any infiltration structural BMP and any water

[3] Soils at infiltration sites must have the following properties: Organic Content (OC) > 5%, pH between 6-8, Cation exchange capacity (CEC) > 5 meq/100g soil, in drill-hole conductivity valve of 0.5 in/hr or greater.

supply wells shall be 100 feet or as determined appropriate by the City Engineer.

Notification to neighboring jurisdictions may be required where staff determines the infiltration BMP(s) may impact the groundwater in a neighboring jurisdiction.

3.2.3.5 Structural Treatment Limited Exclusions

Proposed restaurants, where the land area for development or redevelopment is less than 5,000 square feet, are excluded from the numerical sizing criteria requirements listed in Table 3.

Where significant redevelopment results in an increase of less than 50 percent of the impervious surfaces of a previously existing development, and the existing development was not subject to priority project requirements, the numeric sizing criteria apply only to the addition, and not to the entire development.

4.0 IMPLEMENTAITON AND MAINTENANCE REQUIREMENTS

After all project BMPs have been approved by the City Engineer, applicants must ensure implementation and maintenance of the BMPs according to the processes outlined in the applicable sections for projects requesting discretionary actions and/or construction permits. In addition, any project that will require a "General NPDES Permit for Storm Water Discharges Associated with Industrial Activities," shall include the following note on the plans and condition in the permit/approval:

"Industrial NPDES Permit Requirement
The Permittee or designee shall provide evidence of coverage under the General Industrial National Pollutant Discharge Elimination System Permit, in the form of a Notice of Intent (NOI) filed with the State Water Resources Control Board, prior to the issuance of any construction permits."

4.1 Discretionary Actions

Projects that include permanent BMPs shall be conditioned to require the applicant or designee to execute a maintenance agreement for ongoing permanent BMP maintenance in accordance with the program outlined in the "Permanent Storm Water BMP Maintenance Agreement Requirements" below, satisfactory to the City Engineer, prior to the issuance of any construction permits. This requirement shall be noted on the plans for the discretionary action. The permanent BMPs shall be graphically shown on the plans, where possible, and made a condition of the project's permit/approval.

4.2 Requirements of Plan

The City has adopted an approach for ensuring verification that all permanent post construction BMPs are constructed per the requirements of the approved plans. To ensure that all permanent post construction BMPs for a particular project are installed/constructed at the conclusion of the project, the City requires developer preparation of a single plan BMP sheet as part of the plan submittals.

The single plan BMP sheet will include a site plan of the project calling out the location of each required LID site design, source control and treatment control BMP. In addition, the plan will contain a matrix listing of the required BMPs cross referenced with a list of the specific construction drawing sheet where the specified BMP construction is detailed. A copy of the single plan BMP sheet will be attached to each construction drawing set (building, mass grading, finished grading, improvements, and grading) highlighting the BMPs.

At a minimum, the plan sheet will have the following information included:

1) Entire property on one map
2) Drainage areas/direction of flows
3) Private storm drain systems
4) Nearby waterbodies
5) Location of storm drain conveyance systems
6) Location of proposed stormwater controls and BMPs, including detention basins
7) Locations of impervious and pervious areas (hatched)
8) Location where materials would be exposed to stormwater (hatched)
9) Areas of potential erosion (hatched)
10) All site design and source control BMPs shown, detailed and/or listed in the General Notes on BMP Plan Sheet
11) All treatment control BMPs shown, detailed and called out on the plan sheet
12) Delineated areas draining to each treatment control BMP
13) Call out the 85th percentile discharge rates that are tributary to each entry point of the treatment control BMPs
14) Call out the pollutant types that are expected at each treatment control BMP
15) Signature Block for City Engineer
16) Inspection Signature Blocks for Building, Landscape and Engineering Inspectors

4.3 Permanent BMP Maintenance Agreement Requirements

Applicants shall propose a maintenance agreement assuring all permanent BMPs will be maintained throughout the "use" of a project site, satisfactory to the City Engineer (see Appendix E for a list of potential mechanisms). For projects with discretionary actions, the project's permit shall be conditioned to require the applicant or designee to execute a maintenance agreement for ongoing permanent BMP maintenance, satisfactory to the City Engineer, prior to the issuance of any construction permits. This requirement shall be noted on the plans for the discretionary action. City-approved method of permanent BMP maintenance shall be incorporated into, and shall be consistent with permits issued by resource agencies, before decision-maker approval of discretionary actions. In all instances, the applicant shall provide proof of execution of a City-approved method of permanent BMP maintenance repair and replacement before the issuance of construction approvals.

The maintenance agreement shall include the following:

1. *Operation & Maintenance (O&M) Plan*: The applicant shall include an Operation & Maintenance (O&M) plan, prepared satisfactory to the City, with the approved maintenance agreement, which describes the designated responsible party to manage the storm water BMP(s), employee's training program and duties, operating schedule, maintenance frequency, routine service schedule, specific maintenance activities (including maintenance of storm water conveyance system stamps), copies of resource agency permits, and any other necessary activities. At a minimum, maintenance agreements shall require the applicant to provide inspection and servicing of all permanent treatment BMPs on an annual basis. The project proponent or City-approved maintenance entity shall complete and maintain O&M forms to document all maintenance requirements. Parties responsible for the O&M plan shall retain records for at least 5 years. These documents shall be made available to the City for inspection upon request at any time.
2. *Access Easement/Agreement:* The applicant shall execute an access easement to the official maintenance entity that shall be binding on the land throughout the life of the project, until such time that the permanent treatment BMP requiring access is no longer required to be in use, satisfactory to the City. This access easement may be necessary in the event that the property owner does not adequately maintain the permanent stormwater BMP and the City maintains the BMP.

APPENDIX A – SUSMP Checklist

STANDARD URBAN STORM WATER MITIGATION PLANS (SUSMP) Checklist for New Development and Significant Redevelopment

INSTRUCTIONS:

1.

2. To address pollutants that may be generated from new development, the City requires that new development and significant redevelopment priority projects incorporate Permanent Storm Water Best Management Practices (BMPs) into the project design, which are described in the City's Standard Urban Storm Water Mitigation Plan (SUSMP). This checklist should be used to categorize new development and significant redevelopment projects as priority or non-priority, to determine if a project is subject to SUSMP requirements.

3.

*4. Is your project a **significant redevelopment**?*

5.

6. Definition:

*7. **Significant redevelopment** is defined as the creation or addition of at least 5,000 square feet of impervious surface on an already developed site.*

8.

*9. **Significant redevelopment** includes, but is not limited to: the expansion of a building footprint; addition to or replacement of a structure; structural development including an increase in gross floor area and/or exterior construction remodeling; replacement of an impervious surface that is not part of a routine maintenance activity; and land disturbing activities related with structural or impervious surfaces. Replacement of impervious surfaces includes any activity that is not part of a routine maintenance activity where impervious material(s) are removed, exposing underlying soil during construction.*

10.

Note: If the Significant Redevelopment results in an increase of less than fifty percent of the impervious surfaces of a previously existing development, and the existing development was not subject to SUSMP requirements, the numeric sizing criteria discussed in Section F.1.b. (2)(c) applies only to the addition, and not to the entire development.

11.

*12. If your project **IS** considered significant redevelopment, then please skip Section 1 and proceed with Section 2.*

13.

*14. If your project **IS NOT** considered significant redevelopment, then please proceed to Section 1.*

15.

For office staff use only

CASE #: _____

SECTION 1

NEW DEVELOPMENT

PRIORITY PROJECT TYPE **Is your project a:**	**YES**	**NO**
1. *Home subdivision of 100 units or more.* Includes SFD, MFD, Condominium and Apartments		
2. *Residential development of 10 units or more.* Includes SFD, MFD, Condominium and Apartments		
3. *Commercial and industrial development greater than 100,000 square feet including parking areas.* Any development on private land that is not for heavy industrial or residential uses. Example: Hospitals, Hotels, Recreational Facilities, Shopping Malls, etc.		
4. *Heavy Industrial / Industry greater than 1 acre* (NEED SIC CODES FOR PERMIT BUSINESS TYPES) SIC codes 5013, 5014, 5541, 7532-7534, and 7536-7539		
5. *Automotive repair shop*. SIC codes 5013, 5014, 5541, 7532-7534, and 7536-7539		
6. *A New Restaurant where the land area of development is 5,000 square feet or more including parking areas*. SIC code 5812		
7. *Hillside development* (1) greater than 5,000 square feet of impervious surface area and (2) development will grade on any natural slope that is 25% or greater		
8. *Environmentally Sensitive Area (ESA)*. Impervious surface of 2,500 square feet or more located within, "directly adjacent"[2] to (within 200 feet), or "discharging directly to"[3] receiving water within the ESA[1]		
9. *Parking lot*. Area of 5,000 square feet or more, or with 15 or more parking spaces, and potentially exposed to urban runoff		
10. *Retail Gasoline Outlets – serving more than 100 vehicles per day* Serving more than 100 vehicles per day and greater than 5,000 square feet		
11. *Streets, roads, highways, and freeways*. Project would create a new paved surface that is 5,000 square feet or greater.		

1 Environmentally Sensitive Areas include but are not limited to all Clean Water Act Section 303(d) impaired water bodies; areas designated as Areas of Special Biological Significance by the State Water Resources Control Board (Water Quality Control Plan for the San Diego Basin (1994) and amendments); water bodies designated with the RARE beneficial use by the State Water Resources Control Board (Water Quality Control Plan for the San Diego Basin (1994) and amendments); areas designated as preserves or their equivalent under the Multi Species Conservation Program within the Cities and Count of San Diego; and any other equivalent environmentally sensitive areas which have been identified by the Copermittees.

2 "Directly adjacent" means situated within 200 feet of the environmentally sensitive area.

3 "Discharging directly to" means outflow from a drainage conveyance system that is composed entirely of flows from the subject development or redevelopment site, and not commingled with flow from adjacent lands.

If you answered **YES** to **ANY** of the questions above you are a **PRIORITY** project and **PRIORITY** project requirements **DO** apply. The Storm Water Management Plan must be submitted at time of application.

If you answered **NO** to **ALL** of the questions above, then you are a **NON-PRIORITY** project and **STANDARD** requirements apply.

SECTION 2

SIGNIFICANT REDEVELOPMENT: **YES** **NO**

1. Is the project an addition to an existing priority project type? (Priority projects are defined in Section 1)

If you answered **YES**, please proceed to question 2.

If you answered **NO**, then you **ARE NOT** a significant redevelopment and you **ARE NOT** subject to **PRIORITY** project requirements, only **STANDARD** requirements. Please check the not significant redevelopment box below.

2. Is the project one of the following:

   a. Trenching and resurfacing associated with utility work?

   b. Resurfacing and reconfiguring surface parking lots?

   c. New sidewalk construction, pedestrian ramps, or bike land on public and/or private existing roads?

   d. Replacement of damaged pavement?

If you answered **NO** to **ALL** of the questions, then proceed to Question 3.

If you answered **YES** to **ONE OR MORE** of the questions then you **ARE NOT** a significant redevelopment and you **ARE NOT** subject to **PRIORITY** project requirements, only **STANDARD** requirements. Please check the not significant box below.

3. Will the development create or add at least 5,000 square feet of impervious surfaces on an existing development?

If you answered **YES**, you **ARE** a significant redevelopment, and you **ARE** subject to **PRIORITY** project requirements. Please check the significant redevelopment box below.

If you answered **NO**, you **ARE NOT** a significant redevelopment, and you **ARE NOT** subject to **PRIORITY** project requirements, only **STANDARD** requirements. Please check the not significant redevelopment box below.

☐ SIGNIFICANT REDEVELOPMENT AND PRIORITY REQUIREMENTS APPLY. **A STORM WATER MANAGEMENT PLAN MUST BE SUBMITTED AT TIME OF APPLICATION.**

☐ NOT SIGNIFICANT REDEVELOPMENT AND PRIORITY REQUIREMENTS DO NOT APPLY, ONLY STANDARD REQUIREMENTS APPLY

APPENDIX B

EXAMPLE PERMANENT STORM WATER BEST MANAGEMENT PRACTICES

The following are a list of BMPs may be used to minimize the introduction of pollutants of concern that may result in significant impacts to receiving waters. Other BMPs approved by the Development Services Department as being equal or more effective in pollutant reduction than comparable BMPs identified below are acceptable. All BMPs must comply with local zoning and building codes and other applicable regulations.

LID Site Design BMPs

1. Minimizing Impervious Areas.
2. Reduce sidewalk widths.
3. Incorporate landscaped buffer areas between sidewalks and streets.
4. Design residential streets for the minimum required pavement widths.
5. Minimize the number of residential street cul-de-sacs and incorporate landscaped areas within cul-de-sac centers with curb-cuts to reduce their impervious cover.
6. Use open space development that incorporates smaller lot sizes.
7. Increase building density while decreasing the building footprint.
8. Reduce overall lot imperviousness by promoting alternative driveway surfaces and shared driveways that connect two or more homes together.
9. Reduce 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.
10. Increase Rainfall Infiltration.
11. Use permeable materials for private sidewalks, driveways, parking lots, and interior roadway surfaces (examples: hybrid lots, parking groves, permeable overflow parking, etc.).
12. Use curb-cuts to direct pavement runoff into swales, landscaping, and natural areas prior to entering the MS4.
13. Direct rooftop runoff to pervious areas such as yards, open channels, or vegetated areas, and avoid routing rooftop runoff to the roadway or the urban runoff conveyance system.
14. Pitch driveways and parking areas toward yards and vegetated areas prior to draining into the MS4.
15. Conserve and utilize natural soils and/or use amended soils to encourage light infiltration/ percolation.
16. Minimize disturbances to natural drainages
17. Minimize soil compaction in planned green space (landscaped areas, lawns, etc.) and re-till soils when compacted by grading/construction equipment.
18. Maximize Rainfall Interception.
19. Maximizing canopy interception and water conservation by preserving existing native trees and shrubs, and planting additional native or drought tolerant trees and large shrubs.
20. Cisterns / Rain barrels.
21. Foundation landscaping.

<u>Minimize Directly Connected Impervious Areas (DCIAs):</u>

1. Draining rooftops into adjacent landscaping prior to discharging to the storm drain.
2. Use curb-cuts to allow parking lots to drain into landscape areas co-designed as biofiltration areas and/or swales prior to draining into the MS4.
3. Draining roads, sidewalks, and impervious trails into adjacent landscaping.
4. Slope and Channel Protection.
5. Use of natural drainage systems to the maximum extent practicable.
6. Stabilized permanent channel crossings.
7. Planting native or drought tolerant vegetation on slopes.
8. Energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels that enter unlined channels.

Source Control BMPs

1. Storm drain system stenciling and signage
2. Outdoor material and trash storage area designed to reduce or control rainfall runoff
3. Efficient irrigation system

Treatment Control BMPs

1. Biofilters
2. Bioretention Swale (detains and infiltrates water through soil)
3. Stormwater Planter Box (open-bottomed)
4. Stormwater Flow-Through Planter (sealed bottom)
5. Vegetated filter strip
6. Bioretention Area
7. Vegetated / Rock SwaleVegetated filterVegetated Roofs / Modules / Walls
8. Detention Basins
9. Extended/dry detention basin with grass / vegetated lining
10. Extended/dry detention basin with impervious lining

<u>Infiltration Facilities</u>

1. Infiltration basin
2. Infiltration trench
3. Dry well
4. Permeable Paving
5. Gravel
6. Permeable asphalt
7. Pervious concrete
8. UnitPermeable unit pavers, ungrouted, set on sand or gravel
9. Subsurface Reservoir Bed

<u>Wet Ponds and Wetlands</u>

1. Wet pond (permanent pool)
2. Constructed wetland

<u>Filtration Systems</u>

1. Media filtration
2. Sand filtration

<u>Hydrodynamic Separation Systems</u>

1. Swirl Concentrator
2. Cyclone Separator

Trash Racks and Screens

APPENDIX C

STORM WATER MANAGEMENT PLAN GUIDELINES

Purpose
To describe the permanent storm water Best Management Practices (BMPs) that will be incorporated in the project to mitigate the impacts of urban runoff due to the development.

Minimum SWMP Requirements
The Storm Water Management Plan and Drainage Study Report shall be prepared by Civil Engineer registered in the State of California. The Development Services staff may be able to provide resources for example SWMPs or SWMP templates.

SWMP Organization & Content

1. Table of Contents

2. Vicinity Map

3. Project Description
   - ❑ Narrative of project activities

4. Site Map
   - ❑ Entire property included on one map (use key map if multi-sheets)
   - ❑ Drainage areas and direction of flow
   - ❑ Private storm drain system(s)
   - ❑ Nearby water bodies and municipal storm drain inlets
   - ❑ Location of storm water conveyance systems (ditches, inlets, storm drains, etc.)
   - ❑ Location of existing and proposed storm water controls
   - ❑ Location of “impervious” areas- paved areas, buildings, covered areas
   - ❑ Locations where materials would be directly exposed to storm water
   - ❑ Location of building and activity areas (e.g. fueling islands, garages, waste container area, wash racks, hazardous material storage areas, etc.)
   - ❑ Areas of potential soil erosion (including areas downstream of project)

5. Identify Pollutants of Concern in Receiving Waters
   - ❑ Identify anticipated pollutants from project area in accordance with Section 3.1.1. of this document
   - ❑ Identify receiving waters, watershed and hydrologic unit basin number
   - ❑ Identify impaired water bodies downstream of the project and impairment
   - ❑ Identify primary pollutants of concern
   - ❑ Provide Drainage Study Report in accordance with Section 3.1.3. of this document

6. Identify Conditions of Concern
   - ❑ Provide Drainage Study Report
   - ❑ Identify conditions of concern
   - ❑ Provide runoff calculations

7. Identify LID Site Design BMPs
   - ❑ Maintain pre-development rainfall runoff characteristics
   - ❑ Protect slopes and channels

8. Identify Source Control BMPs
   - ❑ Materials Storage
   - ❑ Trash storage
   - ❑ IPM

- ❑ Efficient irrigation and landscape design
- ❑ Inlet stenciling and signage
- ❑ Other controls (as applicable)

9. BMPs for individual Priority Project Categories (as applicable)
   - ❑ Private road
   - ❑ Residential driveways and guest parking
   - ❑ Dock areas
   - ❑ Maintenance bays
   - ❑ Vehicle wash areas
   - ❑ Outdoor processing areas
   - ❑ Surface parking areas
   - ❑ Non-retail fueling areas
   - ❑ Steep hillside landscaping

10. Identify Structural Treatment Control BMPs
    - ❑ Design criteria (include calculations)
    - ❑ Basis for selection (include targeted pollutants, justification, and alternative analysis)
    - ❑ Pollutant removal information (other than vendor specifications)
    - ❑ Restrictions, if appropriate
    - ❑ Location of BMPs
    - ❑ Literature References

11. BMP Maintenance conditions

CITY OF VISTA
STORM WATER MANAGEMENT PLAN (SWMP)
SUBMITTAL REQUIREMENTS CHECKLIST

PROJECT: _____ DATE OF REPORT: _____
REVIEWED BY: _____ DATE REVIEWED: _____
PRELIMINARY REVIEW: _____ FINAL REVIEW: _____

No.	Requirement	Applicable? (Y/N)	Addressed? (Y/N)	Comment
	Prepared by a Registered Civil Engineer	Y		
1.	**Table of Contents**	Y		
2.	**Vicinity Map**	Y		
3.	**Project Description**	Y		
4.	**Site Map**	Y		
	Entire property on one map	Y		
	Drainage areas/direction of flow	Y		
	Private storm drain systems	Y		
	Nearby water bodies/municipal storm drain inlets	Y		
	Location of storm water conveyance systems	Y		
	Location of existing/proposed storm water controls and BMPs	Y		
	Location of impervious areas	Y		
	Location where materials would be exposed to storm water	Y		
	Location of building and activity areas	Y		
	Areas of potential soil erosion	Y		
5.	**Identification of Pollutants of Concern (POCs)**	Y		
	Identification of pollutants from the project area	Y		
	Identification of receiving waters	Y		
	Identification of watershed and hydrologic unit basin number	Y		
	Identification of 303(d) listed receiving waters	N/A		303(d) listings not applicable at this time
	Identification of primary and secondary pollutants of concern	Y		
6.	**Identification of Conditions of Concern (COCs)**	Y		
	Drainage Study Report	Y		
	Identification of Conditions of Concern	Y		
	Runoff calculations	Y		
7.	**Identify LID Site Design BMPs**	Y		
	Maintain pre-development rainfall runoff characteristics	Y		
	Protect slopes and channels	Y		
8.	**Identify Source Control BMPs**	Y		
	Outdoor material storage areas			

No.	Requirement	Applicable? (Y/N)	Addressed? (Y/N)	Comment
	Trash storage areas			
	IPM – Integrated Pest Management Program			
	Efficient irrigation systems and landscape design			
	Storm drain system stenciling and signage			
9.	**BMPs for Individual Priority Project Categories**	Y		
	Private roads			
	Residential driveways and guest parking			
	Dock areas			
	Maintenance bays			
	Vehicle wash areas			
	Outdoor processing areas			
	Surface Parking Areas			
	Non-retail fueling areas			
	Steep Hillside landscaping			
10.	**Treatment Control BMPs**			
	LEAD method proposed?			
	Numeric sizing standards (design criteria)			
	Treatment Control BMP selection (include target pollutants, justification and alternative analysis)			
	Pollutant removal information (in addition to vendor specifications)			
	Restrictions on use of infiltration BMPs			
	Location of treatment control BMPs			
	Structural Treatment Limited Exclusion?			
	Literature references			
11.	**Storm Water BMP Maintenance**	Y		
12.	**Final SWMP Submitted in Hardcopy and CD format?**	Y		
General Comments:				
NA – Not applicable (no revision is required) Revisions to the SWMP are required for all those requirements listed in this table as applicable, but identified as not addressed with an N.				

APPENDIX D

SUGGESTED RESOURCES	HOW TO GET A COPY
The County of San Diego Low Impact Development Handbook; Stormwater Management Strategies . (2007). Presents guidance for LID stormwater planning and management techniques. Fact Sheets on LID BMPs are provided in the Appendices.	The County of San Diego The Department of Planning and Land Use 5201 Ruffin Road, Suite B San Diego, CA 92123 http://www.sdcounty.ca.gov/dplu/LID_PR.html www.sdcounty.ca.gov/dplu/
Better Site Design: A Handbook for Changing Development Rules in Your Community (1998) Presents guidance for different model development alternatives.	Center for Watershed Protection 8391 Main Street Ellicott City, MD 21043 410-461-8323 www.cwp.org
California Urban runoff Best Management Practices Handbooks (2003) for Construction Activity, Municipal, and Industrial/Commercial Presents a description of a large variety of Structural BMPs, Treatment Control, BMPs and Source Control BMPs	Los Angeles County Department of Public Works Cashiers Office 900 S. Fremont Avenue Alhambra, CA 91803 626-458-6959 www.cabmphandbooks.org
16. Caltrans Urban runoff Quality Handbook: Planning and Design Staff Guide (Best Management Practices Handbooks (1998) Presents guidance for design of urban runoff BMPs	California Department of Transportation P.O. Box 942874 Sacramento, CA 94274-0001 916-653-2975
Bioretention Manual (updated 2002) Presents guidance for designing, building, and maintaining bioretention facilities.	Prince George's County Watershed Protection Branch 9400 Peppercorn Place, Suite 600 Landover, MD 20785 http://www.co.pg.md.us/Government/AgencyIndex/DER/ESD/Bioretention/bioretention.asp
Contra Costa Clean Water Program *Stormwater C.3 Guidebook* Includes an integrated design approach to meet California Stormwater NPDES treatment and hydrograph modification management requirements using Low Impact Development site design techniques and facilities.	Contra Costa Clean Water Program 255 Glacier Drive Martinez, CA 94553 www.cccleanwater.org/construction/nd.php
Design of Stormwater Filtering Systems (1996) by Richard A. Claytor and Thomas R. Schuler Presents detailed engineering guidance on ten different urban runoff-filtering systems.	Center for Watershed Protection 8391 Main Street Ellicott City, MD 21043 410-461-8323
Development Planning for Stormwater Management, A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), (May 2000)	Los Angeles County Department of Public Works http://dpw.co.la.ca.us/epd/ or http://www.888cleanLA.com

SUGGESTED RESOURCES	HOW TO GET A COPY
Florida Development Manual: A Guide to Sound Land and Water Management (1988) Presents detailed guidance for designing BMPs	Florida Department of the Environment 2600 Blairstone Road, Mail Station 3570 Tallahassee, FL 32399 850-921-9472
Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters (1993) Report No. EPA–840-B-92-002. Provides an overview of, planning and design considerations, programmatic and regulatory aspects, maintenance considerations, and costs.	National Technical Information Service U.S. Department of Commerce Springfield, VA 22161 800-553-6847
17. Guide for BMP Selection in Urban Developed Areas (2001)	18. ASCE Envir. and Water Res. Inst. 19. 1801 Alexander Bell Dr. 20. Reston, VA 20191-4400 21. (800) 548-2723
22. Low-Impact Development Design Strategies - *23. An Integrated Design Approach* (June 1999)	24. Prince George's County, Maryland 25. Department of Environmental Resource 26. Programs and Planning Division 27. 9400 Peppercorn Place 28. Largo, Maryland 20774 *29. http://www.co.pg.md.us/Government/DER/PPD/pgcounty/lidmain.htm*
Maryland Stormwater Design Manual (1999) Presents guidance for designing urban runoff BMPs	Maryland Department of the Environment 2500 Broening Highway Baltimore, MD 21224 410-631-3000
30. National Stormwater Best Management Practices (BMP) Database, Version 1.0 Provides data on performance and evaluation of urban runoff BMPs	American Society of Civil Engineers 1801 Alexander Bell Drive Reston, VA 20191 703-296-6000
31. National Stormwater Best Management Practices Database (2001)	32. Urban Water Resources Research Council of ASCE 33. Wright Water Engineers, Inc. 34. (303) 480-1700
Operation, Maintenance and Management of Stormwater Management (1997) Provides a thorough look at storm water practices including, planning and design considerations, programmatic and regulatory aspects, maintenance considerations, and costs.	Watershed Management Institute, Inc. 410 White Oak Drive Crawfordville, FL 32327 850-926-5310
35. *Portland Stormwater Management Manual* (2004) 36. 37. Includes design illustrations and criteria for bioretention facilities.	Environmental Services 1120 SW 5th Ave., Rm. 1000 Portland, OR 97204 503-823-7740 38. 39. http://www.portlandonline.com/bes/index.cfm?c=35122&
40. Potential Groundwater Contamination from Intentional and Non-Intentional Stormwater Infiltration	41. Report No. EPA/600/R-94/051, USEPA (1994).

SUGGESTED RESOURCES	HOW TO GET A COPY
42. Preliminary Data Summary of Urban runoff Best Management Practices (August 1999) *43.* 44. EPA-821-R-99-012	45. http://www.epa.gov/ost/stormwater/ 46.
47. *Reference Guide for Stormwater Best Management Practices* (July 2000)	48. City of Los Angeles 49. Urban runoff Management Division 50. 650 South Spring Street, 7th Floor 51. Los Angeles, California 90014 52. http://www.lacity.org/san/swmd/
Second Nature: Adapting LA's Landscape for Sustainable Living (1999) by Tree People Detailed discussion of BMP designs presented to conserve water, improve water quality, and achieve flood protection.	Tree People 12601 Mullholland Drive Beverly Hills, CA 90210 (818) 623-4848 Fax (818) 753-4625
Start at the Source (1999) Detailed discussion of permeable pavements and alternative driveway designs presented.	Bay Area Stormwater Management Agencies Association 2101 Webster Street Suite 500 Oakland, CA 510-286-1255 www.basmaa.org
Stormwater Management in Washington State (1999) Vols. 1-5 Presents detailed guidance on BMP design for new development and construction.	Department of Printing State of Washington Department of Ecology P.O. Box 798 Olympia, WA 98507-0798 360-407-7529
53. Stormwater, Grading and Drainage Control Code, Seattle Municipal Code Section 22.800-22.808, and Director's Rules, Volumes 1-4. (Ordinance 119965, effective July 5, 2000)	54. City of Seattle 55. Department of Design, Construction & Land Use 56. 700 5th Avenue, Suite 1900 57. Seattle, WA 98104-5070 58. (206) 684-8880 59. http://www.ci.seattle.wa.us/dclu/Codes/sgdccode.htm
Texas Nonpoint Source Book – Online Module (1998)www.txnpsbook.org Presents BMP design and guidance information on-line	Texas Statewide Urban runoff Quality Task Force North Central Texas Council of Governments 616 Six Flags Drive Arlington, TX 76005 817-695-9150
The Practice of Watershed Protection by Thomas R. Shchuler and Heather K. Holland	Center for Watershed Protection 8391 Main Street Ellicott City, MD 21043 410-461-8323 www.cwp.org
Urban Storm Drainage, Criteria Manual – Volume 3, Best Management Practices (1999) Presents guidance for designing BMPs	Urban Drainage and Flood Control District 2480 West 26th Avenue, Suite 156-B Denver, CO 80211 303-455-6277

APPENDIX E

POTENTIAL PERMANENT TREATMENT BMP MAINTENANCE MECHANISMS

1. Project proponent agreement to maintain storm water BMPs: The City may enter into a contract with the project proponent obliging the project proponent to maintain, repair and replace the storm water BMP as necessary into perpetuity. Security may be required.
2. Assessment districts: The City may approve an Assessment District or other funding mechanism created by the project proponent to provide funds for storm water BMP maintenance, repair and replacement on an ongoing basis. Any agreement with such a District shall be subject to the Public Entity Maintenance Provisions above.
3. Lease provisions: In those cases where the City holds title to the land in question, and the land is being leased to another party for private or public use, the City may assure storm water BMP maintenance, repair and replacement through conditions in the lease.
4. Public entity maintenance: The City may approve a public or acceptable quasi-public entity (e.g., the County Flood Control District, or annex to an existing assessment district, an existing utility district, a state or federal resource agency, or a conservation conservancy) to assume responsibility for maintenance, repair and replacement of the permanent treatment BMP. Unless acceptable to the City, public entity maintenance agreements shall ensure estimated costs are front-funded or reliably guaranteed, (e.g., through a trust fund, assessment district fees, bond, letter of credit or similar means). In addition, the City may seek protection from liability by appropriate releases and indemnities. The City shall have the authority to approve storm water BMPs proposed for transfer to any other public entity within its jurisdiction before installation. The City shall be involved in the negotiation of maintenance requirements with any other public entities accepting maintenance responsibilities within their respective jurisdictions; and in negotiations with the resource agencies responsible for issuing permits for the construction and/or maintenance of the facilities. The City must be identified as a third party beneficiary empowered to enforce any such maintenance agreement within their respective jurisdictions.

The City may accept alternative maintenance mechanisms if such mechanisms are as protective as those listed above.

Examples of agreements are located on the following pages. The type of agreement necessary will depend on the project type and size.

RECORDING REQUESTED BY:

THE CITY OF VISTA
AND WHEN RECORDED MAIL TO:

City of Vista
Land Development Division
600 Eucalyptus Avenue
Vista, California 92084

The recordation of this document is a benefit to the City.

(THIS SPACE FOR RECORDER'S USE ONLY)

STORM WATER MANAGEMENT AND DISCHARGE CONTROL MAINTENANCE AGREEMENT

This agreement is made by and between the City of Vista, a municipal corporation [City] and _____ _____, [Property Owner] the owner of property more particularly described as _____[legal description] in the City of Vista, County of San Diego, State of California.

A. Property Owner is required pursuant to the City of Vista Municipal Code, Section 13.18, and the Storm Water Standards Manual to enter into a Storm Water Management and Discharge Control Maintenance Agreement [Maintenance Agreement] for the installation and maintenance of Permanent Stormwater Best Management Practices [Permanent Stormwater BMP's] prior to the issuance of construction permits. The Maintenance Agreement is intended to ensure the establishment and maintenance of Permanent Stormwater BMP's onsite, as described in the project's Storm Water Management Plan [SWMP] and Plan File/Drawing No(s). _____.

B. Property Owner wishes to obtain an engineering and/or building permit according to Plan File/Drawing No(s). _____.

NOW, THEREFORE, the parties agree as follows:

1. Property Owner shall have prepared, or if qualified, shall prepare an Operation and Maintenance Procedure [OMP] for Permanent Stormwater BMP's, satisfactory to the City, consistent with Plan File/Drawing No(s). _____.
2. Property Owner shall install, maintain and repair or replace all Permanent Stormwater BMPs within their property, according to the OMP guidelines as described in the project's SWMP and Plan File/Drawing No(s). _____.
3. Property Owner shall maintain operation and maintenance records into perpetuity. These records shall be made available to the City for inspection upon request at any time.
4. The Property Owner shall comply with all SWMP and OMP requirements with the most recently City approved version of the applicable SWMP or OMP available at the City of Vista for the property described above.
5. Property Owner shall grant the City an easement giving the City the right to enter onto the land (and any necessary adjacent land needed for access) to maintain the BMPs.
6. The City shall have the right to maintain all Permanent Stormwater BMPs if the BMPs are not properly maintained. The cost for such maintenance will be the responsibility of the Property Owner.
7. This Maintenance Agreement shall commence upon execution of this document by all parties named hereon, and shall run with the land.

Executed by the City of Vista and by Property Owner in Vista, California.
NOTE: NOTARY ACKNOWLEDGMENTS FOR ALL SIGNATURES MUST BE NOTARIZED

_____ (Signature) _____ (Print Name & Title) _____ (Date)	APPROVED By: _____ (City Engineer) _____ (Date)

RECORDING REQUESTED BY:

THE CITY OF VISTA
AND WHEN RECORDED MAIL TO:

City of Vista
Land Development Division
600 Eucalyptus Avenue
Vista, California 92084
The recordation of this document is a benefit to the City

(THIS SPACE FOR RECORDER'S USE ONLY)

STORM WATER MANAGEMENT AND DISCHARGE CONTROL MAINTENANCE AGREEMENT

This agreement is made by and between the City of Vista, a municipal corporation [City] and _____ _____, [Property Owner] the owner of property more particularly described as _____[legal description] in the City of Vista, County of San Diego, State of California.

Property Owner is required pursuant to the City of Vista Municipal Code, Section 13.18, and the Storm Water Standards Manual to enter into a Storm Water Management and Discharge Control Maintenance Agreement [Maintenance Agreement] for the installation and maintenance of Permanent Stormwater Best Management Practices [Permanent Stormwater BMPs] prior to the issuance of construction permits by the City of Vista for work on the property [Improvements]. Property Owner covenants and agrees with the City of Vista as follows:

1. The Property Owner shall install, maintain, repair and replace all Permanent Storm Water Best Management Practices [Permanent Storm Water BMPs] for the Improvements as required by the City Manager, the City Engineer or their designated representative [City Manager], and as more particularly described in attached exhibit(s) and incorporated by reference. Maintenance shall include inspection and servicing of Permanent Storm Water BMPs on a minimum annual basis. The Property Owner shall maintain, repair and replace the Permanent Storm Water BMPs until all obligations under this Maintenance Agreement are assumed by a home owners association, or until the obligation is transferred to and assumed by another entity, satisfactory to the City Manager. The Property Owner shall grant the entity assuming any obligation under this Agreement all necessary access rights.

2. The Property Owner shall submit an Operation and Maintenance Procedure [OMP] for the Permanent Storm Water BMPs, satisfactory to the City Manager, at the time this Agreement is executed. The OMP shall describe employee training programs and duties, routine service and operating schedules, maintenance frequency, and specific maintenance activities, as more particularly described in attached exhibit(s) and incorporated by reference. Through the OMP, the Property Owner may also designate a Responsible Party, satisfactory to the City Manager, to maintain the Permanent Storm Water BMPs. The designation of a Responsible Party to maintain the Permanent Storm Water BMPs does not relieve the Property Owner of any of the obligations or duties under this Agreement. The Property Owner or designated Responsible Party shall retain records of the OMP for at least five years, and these records shall be made available to the City for inspection upon request.

3. The Property Owner agrees to defend, indemnify, protect, and hold harmless the City, its agents, officers and employees, from and against all claims, demands, causes of action, liability or loss asserted or established for damages or injuries to any person or property arising out of the installation, maintenance, repair or replacement of the Permanent Storm Water BMPs. Claims, demand, causes of action, liability or loss that arise from, are connected with, or are caused or claimed to be caused by the acts or omission of the Property Owner, the Property Owner's agents, officers and employees are covered.

Also covered are the claims, demands, causes of action, liability or loss arising from, connected with, caused by, or claimed to be caused by the active or passive negligence acts or omissions of the City, its agents, officers, or employees which may be in combination with the negligence of the Property Owner, its employees, agents or officers, or any third party. The Property Owner's duty to defend, indemnify, protect and hold harmless shall not include any claims or liabilities arising from the established sole negligence or sole willful misconduct of the City, its agents, officers or employees.

4. Property Owner further agrees that the indemnification agreement referred to above and the duty to defend City require Property Owner to pay any costs City incurs that are associated with enforcing the indemnification provision, and defending any claims arising from the installation, maintenance, repair or replacement of the Permanent Storm Water BMPs. If City chooses, at its own election, to conduct its own defense, participate in its own defense or obtain independent legal counsel in defense on any claim related to the installation, maintenance, repair or replacement of the permanent Storm Water BMPs, Property Owner agrees to pay the reasonable value of attorneys' fees and all of City's reasonable costs.

5. Property Owner shall grant the City an easement giving the City the right to enter onto the land (and any necessary adjacent land needed for access) to maintain the BMPs. The City shall have the right to maintain all Permanent Stormwater BMPs if the BMPs are not properly maintained. The cost for such maintenance will be the responsibility of the Property Owner.

6. The Property Owner shall maintain a policy of liability insurance, as required and in an amount approved by the City Manager. This policy, with the City also named, will protect the City from any potential claims which may arise from the installation, maintenance, repair or replacement of the Permanent Storm Water BMPs.

7. This Maintenance Agreement shall commence upon execution of this document by all parties named hereon, and shall run with the land.

Executed by the City of Vista and by Property Owner in Vista, California.

NOTE: NOTARY ACKNOWLEDGMENTS FOR ALL SIGNATURES MUST BE NOTARIZED

_____ (Duly Authorized Signature) _____ (Company Name) _____ (Print Name & Title) _____ (Date) _____ (Duly Authorized Signature) _____ (Company Name) _____ (Print Name & Title) _____ (Date)	_____ SEE ATTACHED EXHIBITS _____ SEE DRAWING NUMBERS APPROVED By: _____ (City Engineer) _____ (Date)

APPENDIX F

DEFINITIONS

"Attached Residential Development" means any development that provides 10 or more residential units that share an interior/exterior wall. This category includes, but is not limited to: dormitories, condominiums and apartments.

"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.

"Commercial Development" means any development on private land that is not exclusively heavy industrial or residential uses. The category includes, but is not limited to: mini-malls and other business complexes, shopping malls, hotels, office buildings, public warehouses, hospitals, laboratories and other medical facilities, educational institutions, recreational facilities, plant nurseries, car wash facilities, automotive dealerships, commercial airfields, and other light industrial complexes.

"Commercial Development greater than 1 acre" means any commercial development that result in the disturbance of one acre or more of land.

"Detached Residential Development" means any development that provides 10 or more freestanding residential units. This category includes, but is not limited to: detached homes, such as single-family homes and detached condominiums.

"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 vegetated land area (e.g., lawns).

"Environmentally Sensitive Areas" means areas that include, but are not limited to, all Clean Water Act 303(d) impaired water bodies ("303[d] water bodies"); areas designated as an "Area of Special Biological Significance" (ASBS) by the State Water Resources Control Board (*Water Quality Control Plan for the San Diego Basin* (1994) and amendments); water bodies designated as having a RARE beneficial use by the State Water Resources Control Board (*Water Quality Control Plan for the San Diego Basin* (1994) and amendments), or areas designated as preserves or their equivalent under the Multiple Species Conservation Program (MSCP) within the Cities and County of San Diego. The limits of Areas of Special Biological Significance are those defined in the *Water Quality Control Plan for the San Diego Basin* (1994 and amendments). Environmentally sensitive area is defined for the purposes of implementing SUSMP requirements, and does not replace or supplement other environmental resource-based terms, such as "Environmentally Sensitive Lands," employed by Copermittees in their land development review processes. As appropriate, Copermittees should distinguish between environmentally sensitive area and other similar terms in their Local SUSMPs.

"Hillside" means lands that have a natural gradient of 25 percent (4 feet of horizontal distance for every 1 foot of vertical distance) or greater and a minimum elevation differential of 50 feet, or a natural gradient of 200 percent (1 foot of horizontal distance for every 2 feet of vertical distance) or greater and a minimum elevation differential of 10 feet.

"Hillside development greater than 5,000 square feet" means any development that
would create more than 5,000 square feet of impervious surfaces in hillsides with known erosive soil conditions.

"Hydromodification" means the change in the natural hydrologic processes and runoff characteristics (i.e. interception, infiltration, overland flow, interflow and groundwater flow) caused by urbanization or other land use changes that result in increased stream flows and changes in sediment transport. In addition, alternation of stream and river channels, installation of dams and water impoundments, and excessive streambank and shoreline erosion are also considered hydromodification, due to their disruption of

natural watershed hydrologic processes.…

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

“Low Impact Development (LID)” means a stormwater management and land development strategy that emphasizes conservation and the use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely reflect pre-development hydrologic functions.

"Maximum Extent Practicable (MEP)" means the technology-based standard established by Congress in the Clean Water Act 402(p)(3)(B)(iii) that municipal dischargers of urban runoff must meet. MEP generally emphasizes pollution prevention and source control BMPs primarily (as the first line of defense) in combination with treatment methods serving as a backup (additional lines of defense).

“Natural Drainage” means a natural swale or topographic depression which gathers and/or conveys runoff to a permanent or intermittent watercourse or waterbody.

“New Development” means land disturbing activities; surface grading for structural development, including construction or installation of a building or structure, the 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, or for business or commerce.

“Projects Discharging to Receiving Waters within Environmentally Sensitive Areas” means all development and significant redevelopment that would create 2,500 square feet of impervious surfaces or increase the area of imperviousness of a project site to 10% or more of its naturally occurring condition, and either discharge urban runoff to a receiving water within or directly adjacent (where any portion of the project footprint is located within 200 feet of the environmentally sensitive area) to an environmentally sensitive area, or discharge to a receiving water within an environmentally sensitive area without mixing with flows from adjacent lands (where the project footprint is located more than 200 feet from the environmentally sensitive area).
“Project Footprint” means the limits of all grading and ground disturbance, including landscaping, associated with a project.

"Receiving Waters" means surface bodies of water, which directly or indirectly receive discharges from urban runoff conveyance systems, including naturally occurring wetlands, streams (perennial, intermittent, and ephemeral (exhibiting bed, bank, and ordinary high water mark)), creeks, rivers, reservoirs, lakes, lagoons, estuaries, harbors, bays and the Pacific Ocean. The Copermittee shall determine the definition for wetlands and the limits thereof for the purposes of this definition, provided the Copermittee definition is as protective as the Federal definition utilized by the United States Army Corps of Engineers and the United States Environmental Protection Agency. Constructed wetlands are not considered wetlands under this definition, unless the wetlands were constructed as mitigation for habitat loss. Other constructed BMPs are not considered receiving waters under this definition, unless the BMP was originally constructed in receiving waters.

Construction of treatment control BMPs is prohibited in “Receiving Waters” may not be used to satisfy SUSMP requirements
“Residential Development” means any development on private land that provides living accommodations for one or more persons. This category includes, but is not limited to: single-family homes, multi-family homes, condominiums, and apartments.

“Restaurant” means a 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), where the land area for development is greater than 5,000 square feet. Restaurants where land development is less than 5,000 square feet shall meet all SUSMP requirements except for structural treatment BMP and numeric sizing criteria requirement and hydromodification requirement.

“Sediment” means soils or other surficial materials eroded and then transported or deposited by the action of wind, water, ice, or gravity. Sediments can increase turbidity, clog fish gills, reduce spawning habitat, lower young aquatic organisms survival rates, smother bottom dwelling organisms, and suppress aquatic vegetation growth.

“Significant Redevelopment” means development that would create,add, or replace at least 5,000 square feet of impervious surfaces on an already developed site that falls under a priority development project categories. Where redevelopment results in an increase of less than 50% of the impervious surfaces of a previously existing development, and the existing development was not subject to SUSMP requirements, the numeric sizing criteria discussed in (***) applies only to the addition, and not to the entire development. When redevelopment results in an increase of more than 50% of the impervious surfaces of a previously existing development, the numeric sizing criteria applies to the entire development. Significant redevelopment includes, but is not limited to: the expansion of a building footprint; addition to or replacement of a structure; replacement of an impervious surface that is not part of a routine maintenance activity; and land disturbing activities related with structural or impervious surfaces. Replacement of impervious surfaces includes any activity that is not part of a routine maintenance activity where impervious material(s) are removed, exposing underlying soil during construction. Significant redevelopment does not include trenching and resurfacing associated with utility work; resurfacing and reconfiguring surface parking lots; new sidewalk construction, pedestrian ramps, or bikelane on existing roads; and replacement of damaged pavement.

“LID site design BMP” also known as a significant part of Low Impact Development (LID), means any project design feature that reduces the amount of impervious surfaces, disconnects impervious surfaces, reduces creation or severity of potential pollutant sources, and/or reduces the alteration of the project site’s natural flow regime. Redevelopment projects that are undertaken to remove pollutant sources (such as existing surface parking lots and other impervious surfaces) or to reduce the need for new roads and other impervious surfaces (as compared to conventional or low-density new development) by incorporating higher densities and/or mixed land uses into the project design, are also considered LID site design BMPs.

“Source Control BMP (both structural and non-structural)” means land use or site planning practices, or structures that aim to prevent urban runoff pollution by reducing the potential for contamination at the source of pollution. Source control BMPs minimize the contact between pollutants and urban runoff. Examples include roof structures over trash or material storage areas, and berms around fuel dispensing areas.

“Storm Water Best Management Practice (BMP)” means any schedules of activities, prohibitions of practices, general good house keeping practices, pollution prevention and educational practices, maintenance procedures, structural treatment BMPs, and other management practices to prevent or reduce to the maximum extent practicable the discharge of pollutants directly or indirectly to receiving waters. Storm Water BMPs also include treatment requirements, operating procedures and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. This SUSMP groups storm water BMPs into the following categories: LID site design, source control, and treatment control (pollutant removal) BMPs.

“Storm Water Conveyance System” means private and public drainage facilities by which storm water may be conveyed to Receiving Waters, such as: natural drainages, ditches, roads, streets, constructed channels, aqueducts, storm drains, pipes, street gutters, or catch basins.

“Streets, Roads, Highways, and Freeways” means any project that is not part of a routine maintenance activity, and would create a new paved surface that is 5,000 square feet or greater used for the transportation of automobiles, trucks, motorcycles and other vehicles. For the purposes of SUSMP requirements, Streets, Roads, Highways and Freeways do not include trenching and resurfacing associated with utility work; applying asphalt overlay to existing pavement; new sidewalk, pedestrian ramps, or bikelane construction on existing roads; and replacement of damaged pavement.

“Treatment Control (Structural) BMP” means any engineered system designed and constructed to remove pollutants from urban runoff. Pollutant removal is achieved by simple gravity settling of particulate pollutants, filtration, biological uptake, media adsorption or any other physical, biological, or chemical process.