City of National City

Storm Water Best Management Practice (BMP) Manual

October 2019

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Attachments

1. City of National City Best Management Practice (BMP) Design Manual

1 Introduction

1.1 Storm Water Best Management Practices (BMPs) Manual

This Storm Water BMP Manual (hereafter, "Manual") is to be used in conjunction with the City of National City (City) Storm Water Management and Discharge Control Ordinance (Storm Water Ordinance), codified as National City Municipal Code (NCMC) Chapter 14.22 and the water quality protection provisions of the Grading Ordinance, codified as NCMC Chapter 15.70. This Manual is not a stand-alone document, but must be read in conjunction with other parts of the Storm Water Ordinance and the Grading Ordinance (collectively, "Ordinances"). In general, this Manual sets out in more detail, by project category, what Dischargers must do to comply with the Ordinances and to receive permits for projects and activities that are subject to the Ordinances. The Manual and the Ordinances have been prepared to provide the City with the legal authority necessary to comply with the requirements of Regional Water Quality Control Board (RWQCB), San Diego Region Order No. R9-2013-0001, as amended by Order No. R9-2015-0001 (MS4 Permit).

1.2 Purposes

The purposes of this Manual are to establish clear minimum storm water management requirements and controls, and to support the following objectives stated in Section 14.22.020 of the Storm Water Ordinance:

- To establish requirements for discharges into the Municipal Separate Storm System (MS4), receiving waters, and the environment;
- To protect, to the maximum extent practicable (MEP), life, property, receiving waters, aquatic life, and the environment from loss, injury, degradation, or damage by discharges from within the City's jurisdiction;
- To protect the MS4 from damage; and
- To meet the requirements of state and federal law and the MS4 Permit.

The requirements described in the Manual are primarily in the form of best management practices (BMP) to be used to reduce the amount of pollutants discharged to the City's MS4 (hereafter, "storm drain system"). The Manual is intended to provide direction to residents, businesses, contractors, developers, and City staff about what is necessary to meet the City's storm water requirements. All terms used in the Manual have the same meaning as defined in NCMC Chapter 14.22, unless otherwise noted.

1.3 Other Potentially Applicable Regulations

The Manual provides direction on storm water BMPs required by the City of National City. In some cases, actions that have applicable storm water BMPs may also be subject to requirements of other City programs or to requirements established by other agencies. The legally responsible person taking any action is responsible for identifying all other applicable requirements and obtaining the necessary permits or approvals. A list of other requirements that commonly apply is provided below. Other requirements beyond those listed below may also apply in certain circumstances.

1.3.1 Other City of National City Requirements

Discharges to the sanitary sewer system may require approval from the City's Engineering Department. Call (619)336-4380 for more information.

Structural improvements to properties, such as building an overhead canopy, may require City permits. Contact the Building Department at (619)336-4210 for more information.

1.3.2 Requirements of Other Agencies

Work in and around natural drainages, wetlands, and other water resources may require permits from the US Army Corps of Engineers (USACE), the California Department of Fish and Wildlife, the US Fish and Wildlife Service, and the RWQCB. The most common permits required are Section 404 permits from the USACE, Lake or Streambed Alteration Agreements from the California Department of Fish and Wildlife, and Section 401 Water Quality Certifications from the RWQCB.

A number of additional permits or other approvals overseen by the State Water Resources Control Board (SWRCB) or the RWQCB may also apply. Potentially applicable regulations include, but are not necessarily limited to, those listed below.

- State of California Industrial General Permit, SWRCB Order No. 2014-0057-DWQ
- State of California Construction General Permit, SWRCB Order No. 2009-0009-DWQ
- Groundwater Dewatering Permit, RWQCB Order No. R9-2010-003[1]
- Permit for Discharges of Hydrostatic Test Water or Potable Water, RWQCB Order No. R9-2010-003
- Utility Vault Dewatering Permit, SWRCB Order No. 2014-0174-DWQ
- Conditional Waiver No. 1, Discharges from On-site Disposal Systems

[1] This order is expected to be replaced by a new order in 2015. The most recent version is Tentative Order No. R9-2015-0013. The RWQCB's proposed schedule would result in the new order going into effect on October 1, 2015.

- Conditional Waiver No. 2, "Low Threat" Discharges to Land
- Conditional Waiver No. 3, Discharges from Animal Operations
- Conditional Waiver No. 4, Discharges from Agricultural and Nursery Operations
- Conditional Waiver No. 5, Discharges from Silvicultural Operations
- Conditional Waiver No. 6, Discharges of Dredged or Fill Materials Nearby or Within Surface Waters
- Conditional Waiver No. 7, Discharges of Solid Wastes to Land
- Conditional Waiver No. 8, Discharges of Solid Wastes to Land
- Conditional Waiver No. 9, Discharges of Slurries to Land
- Conditional Waiver No. 10, Discharges of Emergency/Disaster Related Wastes
- Conditional Waiver No. 11, Aerially Discharged Wastes Over Land

Information on the most current requirements for RWQCB and SWRCB permitting and waivers can be obtained from the following website: http://www.waterboards.ca.gov/sandiego/

2 Minimum BMP Requirements

This section presents minimum BMP requirements for the following types of properties and activities:

- Construction sites;
- Post-construction sites;
- Industrial, commercial and municipal facilities; and residential properties

Wherever BMP requirements reference "where applicable," "where feasible," or similar terms that involve discretion, the final determination shall be made by Authorized Enforcement Staff. National City Municipal Code Chapter 14.22 defines "Authorized Enforcement Staff" as follows: "any City employee or contractor hired by the City who is assigned to duties involving permits and other City approvals, inspections, or enforcement related to this chapter." Authorized Enforcement Staff also have the authority to require additional BMPs beyond the minimum BMPs listed in this Manual, if necessary, to comply with Municipal Code Chapter 14.22, 15.70 or the MS4 Permit. References to "CASQA Factsheets" refer to factsheets in manuals prepared by the California Storm water Quality Association (CASQA). CASQA materials can be accessed at www.casqa.org. Some materials may not be viewable without a paid subscription.

2.1 Construction

Table 1 below presents the minimum BMPs required for construction sites within the City's jurisdiction. The City's BMP standards are based on the California Stormwater Quality Association (CASQA) BMP factsheets. Where any conflict may exist between CASQA factsheets and requirements in the Manual or the Municipal Code, the requirements of the Manual and the Municipal Code shall prevail. Complying with the BMPs described in the Manual does not ensure compliance with all other regulatory requirements, including requirements of other agencies. See Section 1 for more information about other potentially applicable requirements. Types of BMPs include project planning, erosion control, sediment control, and waste management and good site management ("housekeeping"). Following Table 1 are additional BMP requirements for sediment and erosion control, maximum disturbed area and advanced treatment methods.

Construction site BMPs are required to be site specific, seasonally appropriate, and construction phase appropriate. Construction sites are required to show the BMPs they plan to implement on their Erosion Control Plans, which shall be prepared in accordance with the BMP standards in this Manual, NCMC Chapter 14.22, and NCMC Chapter 15.70. Every construction site within the City's jurisdiction is required to select, install, and maintain BMPs that address project planning, erosion control, sediment control, and waste management and good housekeeping to reduce, retain, and manage pollutant discharges to the MEP. BMPs must be implemented at each construction site year round. Construction activity during the dry season (May 1st through September 30th) must plan for and address unseasonal rain events that may occur in the dry season. Non-storm water discharges from construction sites into the City's storm drain system are prohibited year-round. City inspectors have the authority to require additional BMPs to prevent discharges of pollutants and to prevent non-storm water discharges to the City's storm drain system from construction sites year round. Construction sites also must adhere to the requirements of all applicable additional SWRCB or RWQCB general or site specific NPDES permits for construction activities (see Section 1) at the time of construction.

Table 1. Minimum BMPs for Construction Sites

BMP Categories	Required, where applicable[1]	CASQA BMP Factsheet No.	CASQA BMP Factsheet Name	Municipal Permit BMP Categories							CASQA BMP Objectives (P = Primary, S= Secondary)					
				Project Planning	Erosion Control	Run-on & Runoff Control	Sediment Control	House-keeping	Non-Storm Water Management	Active/ Passive Sediment Treatment	Erosion Control	Sediment Control	Tracking Control	Wind Erosion	Non-Storm Water Management	Waste Management
Project Planning	Yes	EC-1	Scheduling	x							P	S	S	S		
Erosion Control	Yes, Select Effective Combination[2, 3]	EC-2	Preservation of Existing Vegetation[3]	x	x						P					
		EC-3	Hydraulic Mulch[3]		x						P			S		
		EC-4	Hydroseeding		x						P			S		
		EC-5	Soil Binders[3]		x						P			S		
		EC-6	Straw Mulch[3]		x						P			S		
		EC-7	Geotextiles and Mats[3]		x						P			S		
		EC-8	Wood Mulching[3]		x						P			S		
		EC-14	Compost Blankets[3]		x						P					
	Yes, Select Effective Combination[2]	EC-9	Earth Dikes and Drainage Swales			x					P					
		EC-10	Velocity Dissipation Devices			x					P					
		EC-11	Slope Drains			x					P					
	Yes	EC-12	Stream Bank Stabilization		x						P	S			S	
	Potential Alternative[4]	EC-15	Soil Preparation Roughening[3]		x						P	S				
		EC-16	Non-Vegetative Stabilization[3]		x						P	S			S	

Table 1. Minimum BMPs for Construction Sites (continued)

BMP Categories	Required[1]	CASQA BMP Factsheet No.	CASQA BMP Factsheet Name	Municipal Permit BMP Categories							CASQA BMP Objectives (P = Primary, S= Secondary)					
				Project Planning	Erosion Control	Run-on & Runoff Control	Sediment Control	House-keeping	Non-Storm Water Management	Active/ Passive Sediment Treatment	Erosion Control	Sediment Control	Tracking Control	Wind Erosion	Non-Storm Water Management	Waste Management
Sediment Control	Yes, Select Effective Combination[2, 5]	SE-1	Silt Fence[6]				x					P				
		SE-2	Sediment Basin[7]				x					P				
		SE-3	Sediment Traps[7]				x					P				
		SE-4	Check Dam				x				S	P				
		SE-5	Fiber Rolls[6]				x				S	P				
		SE-6	Gravel Bag Berm				x				S	P				
	Yes	SE-7	Street Sweeping and Vacuuming				x	x				S	P			
	Yes	TC-1	Stabilized Construction Entrance/Exit				x				S	S	P			
	At Discretion of City[8]	TC-2	Stabilized Construction Roadway				x				S	S	P			
	At Discretion of City[8]	TC-3	Tire Wash				x					S	P			
	Yes	SE-10	Storm Drain Inlet Protection				x					P				
	Potential Alternative[9]	SE-12	Manufactured Linear Sediment Controls				x				S	P				P
		SE-13	Compost Socks and Berms				x				S	P				
		SE-14	Biofilter Bags				x					P				
	At Discretion of City[8]	WE-1	Wind Erosion Control				x					S		P		
	At Discretion of City[8, 10]	SE-11	Active Treatment Systems[10]							x	P					

Table 1. Minimum BMPs for Construction Sites (continued)

BMP Categories	Required[1]	CASQA BMP Factsheet No.	CASQA BMP Factsheet Name	Municipal Permit BMP Categories							CASQA BMP Objectives (P = Primary, S= Secondary)					
				Project Planning	Erosion Control	Run-on & Runoff Control	Sediment Control	House-keeping	Non-Storm Water Management	Active/ Passive Sediment Treatment	Erosion Control	Sediment Control	Tracking Control	Wind Erosion	Non-Storm Water Management	Waste Management
Waste Management and Good Housekeeping	Yes	NS-1	Water Conservation Practices						x		S	S			P	
	Yes	NS-2	Dewatering Operations						x			S			P	
	Yes	NS-3	Paving and Grinding Operations						x						P	S
	Yes	NS-4	Temporary Stream Crossing						x		S	S	S		P	
	Yes	NS-5	Clear Water Diversion						x						P	
	Yes	NS-6	Illicit Connection/Discharge						x						P	
	Yes	NS-7	Potable Water/Irrigation[11]						x						P	
	Yes	NS-8	Vehicle and Equipment Cleaning					x	x						P	
	Yes	NS-9	Vehicle and Equipment Fueling					x	x						P	
	Yes	NS-10	Vehicle and Equipment Maintenance					x	x						P	
	Yes	NS-11	Pile Driving Operations						x						P	
	Yes	NS-12	Concrete Curing						x						P	P
	Yes	NS-13	Concrete Finishing						x						P	P
	Yes	NS-14	Material Over Water						x						P	P
	Yes	NS-15	Demolition Adjacent to Water						x							P
	Yes	NS-16	Temporary Batch Plants						x							P
	Yes	WM-1	Material Delivery & Storage					x								P
	Yes	WM-2	Material Use					x								P
	Yes	WM-3	Stockpile Management					x			S	S				P
	Yes	WM-4	Spill Prevention & Control					x								P
	Yes	WM-5	Solid Waste Management					x								P

Table 1. Minimum BMPs for Construction Sites (continued)

BMP Categories	Required[1]	CASQA BMP Factsheet No.	CASQA BMP Factsheet Name	Municipal Permit BMP Categories							CASQA BMP Objectives (P = Primary, S= Secondary)					
				Project Planning	Erosion Control	Run-on & Runoff Control	Sediment Control	House-keeping	Non-Storm Water Management	Active/ Passive Sediment Treatment	Erosion Control	Sediment Control	Tracking Control	Wind Erosion	Non-Storm Water Management	Waste Management
Waste Management and Good Housekeeping (continued)	Yes	WM-6	Hazardous Waste Management					x								P
	Yes	WM-7	Contaminated Soil Management					x								P
	Yes	WM-8	Concrete Waste Management					x	x						S	P
	Yes	WM-9	Sanitary/ Septic Waste Management					x	x							P
	Yes	WM-10	Liquid Waste Management					x	x							P

Notes

1. BMPs marked as required do not need to included in plans or implemented if demonstrated not to be applicable satisfactory to City staff.
2. A combination of the BMPs within these categories that will be effective, as determined by City staff, must be proposed. Typically not all BMPs within the category will be necessary to provide an effective combination.
3. The City requires erosion control BMPs to be applied to areas that have been inactive for at least 10 days.
4. These BMPs may be included as part of the overall effective combination of erosion control BMPs if approved by City staff.
5. **An effective combination of sediment control BMPs includes both full perimeter protection and sediment control within the boundaries of the site.**
6. Silt fence and fiber rolls must be staked into the ground as shown in the CASQA factsheet[2] to be effective. Therefore, they may not be used in paved areas or other areas where staking is not possible; gravel bags (SE-6) or compost socks (SE-13) must be used instead.
7. Sediment basins and traps must be sized per CASQA and City standards. Due to site drainage patterns, sediment basins and traps are often located where permanent post-construction BMPs will eventually be installed. All accumulated sediment from the construction phase must be removed prior to final installation of permanent post-construction BMPs to maintain the as-designed percolation rate.
8. These BMPs are not required to be included in plans or implemented unless specifically directed to be included by City staff.
9. These BMPs may be included as part of the overall effective combination of erosion control BMPs if approved by City staff.
10. Active treatment systems may be required for Construction General Permit Risk Level 3 sites, as necessary to meet CGP standards. They may also be required for other sites at the discretion of City staff.
11. The CASQA factsheet[2] implies some irrigation runoff may be acceptable. However, irrigation runoff discharges are considered illegal discharges and are prohibited per the City's Municipal Code.

[2] Available via www.casqa.org. The initial version of the manual was prepared in 2009, but it is regularly updated, and the City requires compliance with the most recent version available online. Accessing the BMP handbook requires a subscription.

2.1.1 Additional Erosion and Sediment Control Requirements

In addition to the minimum BMPs listed in the table above, construction projects are also required to comply with the requirements of National City's Municipal Code Chapter 15.70 (Grading and Erosion Control) and the following BMPs:

- All removable protective devices shown shall be in place at the end of each working day when there is a fifty percent chance of rain within a forty-eight hour period.
    - Per NCMC 15.70.140, If erosion control BMPs are not installed or maintained within two hours of notification at the twenty-four hour number on the plans, the City Engineer may order City crews to do the work or may issue contracts for such work and charge the cost of this work along with reasonable overhead charges to the cash deposits or other instruments implemented for this work without further notification to the owner. No additional work on the project except erosion control work may be performed until the Permittee restores the full amount drawn from the deposit.

- At any time of year, an inactive area shall be fully protected from erosion and discharges of sediment. An area is considered inactive if construction activities have ceased for a period of 10 or more consecutive days.

- No grading shall be allowed from October 1st through the following April 30th on any site if the City Engineer determines that erosion, mudflow or sediment of silt discharge may adversely affect water quality, downstream properties, drainage courses, storm drains, streets, easements, or public or private facilities or improvements unless an approved erosion and sediment control system has been implemented on the site.
    - If the City determines that it is necessary for the City to cause erosion and sediment control measures to be installed or cleanup to be done, the Permittee shall pay all of the City's direct and indirect costs including extra inspection, supervision, and reasonable overhead charges.

2.1.2 Advanced Treatment Methods

For the majority of the construction sites within the City's jurisdiction, the minimum required BMPs, if correctly installed and maintained, should adequately control sediment discharges from the site. However, if it is determined that a site possesses characteristics that could result in standard construction BMPs being ineffective in the treatment of sediment, thus resulting in an exceptional threat to water quality, advanced treatment will be required. A site is considered to be an exceptional threat to water quality if it meets ALL of the following criteria:

- The site, or a portion of the site, is located within or adjacent to (within 200 feet) a receiving water body listed on the Clean Water Act Section 303(d) List of Water Quality Limited Segments as impaired for sedimentation or turbidity;
- Disturbance is greater than five acres, including all phases of the development;

- Disturbed slopes are steeper than 4:1 (horizontal: vertical) and higher than 10 feet that drain toward the 303(d) listed receiving water body;
- Contains a predominance of soils with U.S. Department of Agriculture – Natural Resources Conservation Service Erosion factors *K* greater than or equal to 0.4.

Alternatively, applicants may perform a Revised Universal Soil Loss Equation or Modified Universal Soil Loss Equation analysis to prove to the City Engineer's satisfaction that advanced treatment is not required.

Treatment effluent water quality shall meet or exceed the water quality objectives for turbidity and any other parameter deemed necessary by the City as listed in the *Water Quality Control Plan for the San Diego Basin for Inland Surface Water and Lagoons and Estuaries (2007)* for the appropriate hydrologic unit.

Additionally, the City may require advanced treatment for sites that have a record of noncompliance with the City's construction BMP requirements, regardless of if they meet the above criteria. For projects where advance treatment is required, the applicant must submit the design, operations and maintenance schedule, monitoring plan, and certification of training of staff to the satisfaction of the City.

2.1.3 Responsibility for Training

Construction site owners and operators are responsible for training all applicable field personnel such that all construction BMPs required by the City are implemented consistently and effectively.

2.2 Post-Construction

All new development and redevelopment projects are required to comply with the standards in the City of National City Best Management Practice (BMP) Design Manual (Attachment 1). These BMPs include, but are not limited to, site design, source control, and structural BMPs.

2.3 Industrial, Commercial, and Municipal

Table 2 presents the minimum required BMPs for industrial, commercial, and municipal sites and sources. BMP categories include Discharge Control, Erosion and Sediment Control, Good Housekeeping, Material Storage and Handling, Pesticide and Fertilizer Management, Outdoor Work Areas, Spill Prevention and Response, and Waste Management.

Table 2. Minimum BMPs for Industrial, Commercial, and Municipal Sites

No.	BMP Title	BMP Description	Industrial, Commercial, and Municipal Implementation
These BMPs are applicable to all municipal, and industrial and commercial properties and activities, regardless of whether the activity is conducted by the property owner, lessee, contractor, or other persons. For additional storm water educational resources and BMP fact sheets, see the City's storm water website: http://www.ci.national-city.ca.us.			
Discharge Control			
1	Eliminate illegal connections to the municipal separate storm sewer system (MS4; Hereafter, "storm drain system").	Find and abate all illegal connections to the storm drain system through properly approved procedures, permits, and protocols.	Illegal connections are man-made physical connections to the storm drain system that convey discharges that are not composed entirely of storm water. Illegal discharges include grey water (i.e., laundry rinse water); waste water; or irrigation water, including recycled or reclaimed water, that are effectively prohibited from being discharged to the storm drain system under National Pollutant Discharge Elimination System (NPDES) Permit, Order No. R9-2013-0001 (storm drain system Permit). Any suspected unpermitted physical connections to the City's storm drain system shall be reported to the City's Storm Water Hotline at (619) 336-4389. Illegal connections to the storm drain system shall be removed immediately.
2	Eliminate illegal non-storm water discharges.	Non-storm water (water other than rain) shall not be discharged to the City's storm drain system. Limited exceptions may apply.	To eliminate illegal discharges, do not allow any solid or liquid material except uncontaminated storm water to enter City storm drains, curb gutters along City streets, or any other part of the City's storm drain system. Connections that convey illegal discharges to the City's storm drain system are illegal connections and shall be eliminated. Additional guidance about how to manage common types of discharges is provided in minimum BMPs 3 through 12 below. Report any suspected illegal discharges to the Storm Water Hotline at (619) 336-4389.
3	Properly dispose of process and wash water.	All process* water and wash water shall be contained, captured, and reused or properly disposed of to the sanitary sewer or an appropriate waste hauler, or to landscaping or other pervious surfaces.	Waste water, from processes such as, stone/tile cutting, cement mixing, industrial rinsing, or water used to detect tire leaks, and wash water from activities such as mopping, hosing, pressure washing, or any other commercial or industrial applications, contains pollutants and shall not be disposed of to City storm drains, curbs and gutters, or any other part of the City's storm drain system. All process* and wash water must be contained, captured, and disposed of appropriately. Permanent or temporary containment/collection measures should be used to direct or pump process or wash water to the sanitary sewer, collection container, or onsite landscaped or pervious area(s) to infiltrate or evaporate, without resulting in erosion or runoff to the storm drain system or any adjacent property. If wastewater contains powders or solids (e.g., stone- or tile-cutting water, concrete slurry), pretreatment may be necessary to settle out solids before water may be reused or pumped to the sanitary sewer. Contact the Engineering Division at (619) 336-4380 for approval to discharge to the sanitary sewer system, as an industrial pretreatment permit may be required. **Process water is defined as "any water which, during manufacturing or processing, comes into direct contact or results from the production or use of any raw material, intermediate product, finished product, by product, or waste product. Environmental Protection Agency, 40 CFR 122.2.*

Table 2. Minimum BMPs for Industrial, Commercial, and Municipal Sites (continued)

No.	BMP Title	BMP Description	Industrial, Commercial, and Municipal Implementation
Discharge Control (continued)			
4	Eliminate the discharge of vehicle and equipment wash water.	Discharge of vehicle, boat, and equipment wash water to the storm drain system shall be contained, captured, and reused, or disposed of to the sanitary sewer, an appropriate waste hauler, or to landscaping or other pervious surfaces. No drains within wash areas shall be connected to the storm drain system.	This BMP is applicable to all industrial and commercial properties and activities, regardless of whether the activity is conducted by the property owner, lessee, contractor, or other persons. Water associated with washing activities shall not be allowed to enter City storm drains, curbs and gutters, or any other part of the City's storm drain system. Wash areas shall not include any drains that connect to the storm drain system. Sewer drains within wash areas are allowable if appropriate permits have been obtained from the Engineering Division which may be contacted at (619) 336-4380 for details. Drains connected to dead sumps are allowable if proof of appropriate waste water disposal can be provided promptly upon City request. Construction of any new drains or rerouting of existing drainage systems will generally require a permit from the Building Division (619) 336-4210). When washing is conducted outside permanent designated wash areas, all wash water must be contained, captured, and disposed of appropriately. Designated washing areas may consist of a container, a berm, or a liner to collect and contain liquids and prevent runoff. Use of a control nozzle or similar mechanism is required to maximize control over the quantity of water used. Discharge to the City's storm drain system is strictly prohibited. Contained water shall be collected and captured using a wet vacuum or equivalent. Allowing contained water to evaporate is an acceptable method of disposal only if any remaining residue is removed to prevent future pollutant discharges. Captured wash water may be disposed through the sanitary sewer system with the approval of the Engineering Division which can be contacted at (619) 336-4380. Businesses are responsible for obtaining necessary permits. Wash water containing oil, paint, or other hazardous waste should be disposed of properly in accordance with applicable regulations. If only biodegradable soaps and uncontaminated water are used, wash water may be directed to onsite landscaped or pervious area(s) to infiltrate or evaporate, without resulting in erosion or runoff to the storm drain system or any adjacent property. This can be accomplished by washing the vehicle on a landscaped area or using a berm to direct wash water to a landscaped area.

Table 2. Minimum BMPs for Industrial, Commercial, and Municipal Sites (continued)

No.	BMP Title	BMP Description	Industrial, Commercial, and Municipal Implementation
Discharge Control (continued)			
5	Properly dispose of water from fire sprinkler maintenance activities.	Fire sprinkler system discharges containing corrosion inhibitors, fire suppressants, or antifreeze shall be disposed through the sanitary sewer system, not the storm drain system. Fire sprinkler system discharges without corrosion inhibitors, fire suppressants, or antifreeze shall be disposed through the sanitary sewer, if practicable. When not practicable to discharge to the sanitary sewer system, the water shall not be discharged unless adequate precautions have been taken to prevent the transport of pollutants to the storm drain system.	Water discharged from fire sprinkler systems can be a source of chemical pollutants, or may transport pollutants already on the ground. Fire sprinkler systems containing corrosion inhibitors, fire suppressants, or antifreeze shall be discharged to the sanitary sewer system (sewer). Contact the Engineering Division at (619) 336-4380 for approval to discharge to the sewer. Fire sprinkler systems without corrosion inhibitors, fire suppressants, or antifreeze should discharge to the sewer. Where connection to the sewer cannot occur, perform one or a combination of the following to prevent any discharge: • do not drain system on days forecasted for rain in your area; • direct flows to onsite landscaped or pervious area to infiltrate or evaporate, without resulting in erosion or runoff to the storm drain system or any adjacent property; • direct flows to a contained, paved area in order to collect water using a wet vacuum or equivalent and dispose of collected water properly. Any remaining residue on pavement shall be removed to prevent future pollutant discharges. Allowing contained water to evaporate is an acceptable method of disposal only if remaining residues are removed. For any portion of the flows that cannot be managed with the above methods, clean trash and debris from the flow path to the discharge point, and mechanically filter remaining flow with an appropriate filter fabric or other equivalent media prior to the discharge entering the storm drain system as a clear, odorless, pH neutral liquid.
6	Eliminate irrigation runoff.	Irrigation runoff to the storm drain system shall be eliminated through proper landscape maintenance and watering practices.	Irrigation runoff may contain pollutants or serve as a transport mechanism for pollutants already on the ground. Irrigation runoff entering the storm drain system is an illegal discharge. Where irrigation systems are used, regular maintenance and visual observation of the system shall be performed to prevent overspray, leaks, and other problems that result in runoff to City storm drains, curbs and gutters, or any other part of the City's storm drain system. If the weather forecast predicts rain, sprinklers shall be temporarily shut off to prevent water waste and runoff. Installing automatic rain shutoff devices or smart controllers, using micro-irrigation systems (e.g., drip irrigation), or implementing low water use landscaping may also help eliminate irrigation runoff. It is recommended to avoid runoff by using a control nozzle or similar mechanism when watering by hand.
7	Eliminate nursery irrigation discharges.	All irrigation water and associated pollutants from nurseries, garden centers, and similar facilities shall be prevented from reaching City storm drains, curbs and gutters, or any other part of the City's storm drain system.	Irrigation runoff from nurseries, garden centers, and other businesses that grow plants typically contains nutrients, pesticides and sediment and may serve as a transport mechanism for other pollutants located on the ground. Measures to prevent or retain irrigation runoff shall be implemented. In some cases it may be possible to retain and reuse excess irrigation water, which conserves water, and can also reduce water charges. Containers, berms, or liners may be used to collect and contain irrigation water and prevent runoff. When watering by hand, use of a control nozzle or similar mechanism is required to control the quantity of water used. Contained water should be collected and captured using a wet vacuum or equivalent. Allowing contained water to evaporate is an acceptable method of disposal only if any remaining residue is removed to prevent future pollutant discharges. Discharge to the City's storm drain system is prohibited.

Table 2. Minimum BMPs for Industrial, Commercial, and Municipal Sites (continued)

No.	BMP Title	BMP Description	Industrial, Commercial, and Municipal Implementation
Discharge Control (continued)			
8	Properly dispose of discharges from swimming pools, spas, fountains, reflective pools, and filter backwash.	Swimming pools, spas, fountains, reflective pools, and filter backwash water shall be properly disposed of to prevent pollutants from entering the storm drain system.	Swimming pool, spa, fountain, reflective pool, pond, and filter backwash water shall be properly disposed of to prevent pollutants from entering the storm drain system. Discharges from swimming pools and spas to the storm drain system are allowed only if the water is dechlorinated, has a pH level in the 7-8 range, is within ambient temperature, has no algae or suspended solids, and is not saline. The surface flow path shall be cleared of trash, debris, and sediment prior to discharge. Other discharges, such as from filter backwash, fountains, reflective pools, ponds, saline swimming pools, or other sources, are prohibited from entering the storm drain system. Prior to discharging large quantities of water to the sanitary sewer system, contact the Engineering Division at (619) 336-4380 to determine whether the discharge is allowed and applicable permitting requirements.
9	Control air conditioning condensation discharges.	Air conditioning condensation discharges shall be controlled to prevent them from reaching City storm drains, curbs and gutters, or any other part of the City's storm drain system.	Air conditioning condensation discharges have been identified as a source of pollutants, including copper, based on monitoring completed by the City, and are prohibited from entering the City's storm drain system unless the following BMPs are followed in order. (1) Air conditioning condensation should be directed to the sanitary sewer if allowed. Contact the Building Division at (619) 336-4210 to obtain a building permit to direct the condensation to the sanitary sewer system. (2) Air conditioning condensation discharges should be directed to onsite landscaped or pervious area to infiltrate or evaporate, without resulting in erosion or runoff to the storm drain system or any adjacent property. Directing discharges to landscaping close to a building foundation is not recommended.
10	Direct runoff from rooftops, pavement, and other impervious surfaces to landscaped areas.	Runoff from rooftops, pavement, and other impervious surfaces shall be directed to landscaped or pervious area(s) to infiltrate or evaporate, where suitable areas exist onsite. Energy dissipation and erosion control measures shall be used to prevent erosion and sediment transport.	Roof downspouts shall be directed to landscaped or pervious area(s) to minimize the transport of pollutants from the property, where feasible.
11	Eliminate pumped groundwater, foundation and footing drain discharges.	Pumped groundwater, including water from crawl space pumps is prohibited unless a separate NPDES permit has been obtained to cover the discharge, or the Regional Water Quality Control Board, San Diego Region (RWQCB) has determined in writing that no permit is needed. Discharges from foundation and footing drains that are at or below the groundwater table are also prohibited, unless covered by an NPDES permit, or if the RWQCB has determined in writing that no permit is needed.	Examples of acceptable methods to discharge uncontaminated groundwater include discharging to the sanitary sewer system or discharging to the storm drain system after obtaining an individual NPDES permit from the RWQCB. The RWQCB can be contacted at (619) 516-1990 If a sanitary sewer discharge is desired, contact the Engineering Division at (619) 336-4380 to determine whether the discharge is allowed and applicable permitting requirements.

Table 2. Minimum BMPs for Industrial, Commercial, and Municipal Sites (continued)

No.	BMP Title	BMP Description	Industrial, Commercial, and Municipal Implementation
Discharge Control (continued)			
12	Eliminate floor mat cleaning discharges.	Floor mats shall be cleaned in a manner such that there is no discharge to City storm drains, curbs and gutters, or any other part of the City's storm drain system.	Examples of floor mats are kitchen floor mats or entry/exit door mats. Indoor wash areas, mop sinks, or indoor floor drains may be designated as wash areas for floor mats if these areas drain to the sanitary sewer system. Alternatively, floor mats may be sent to an off-site cleaning service. Floor mats soiled with oily materials, such as kitchen floor mats shall only be cleaned where drains direct water through a grease trap, interceptor or clarifier before entering the City's sanitary sewer system. If no acceptable indoor wash area exists, outdoor washing should be conducted such that wash water is fully captured and disposed of to the sanitary sewer system. Alternatively, mats may be washed with potable water and biodegradable detergent such that the water drains to onsite landscaped or pervious area(s) to infiltrate or evaporate, without resulting in erosion or runoff to the storm drain system or any adjacent property. If dry cleaning techniques are used, including shaking out mats outdoors, the areas in which mats are shaken shall be cleaned by vacuuming or sweeping to prevent material shaken off mats from eventually being transported to the storm drain system. Mats may also be cleaned by vacuuming them directly, which does not release pollutants.
13	Regularly clean and maintain structural BMPs and LID installations to ensure proper performance.	BMPs installed, including Low Impact Development (LID) and other structural BMPs, must be inspected as often as necessary to ensure they perform as intended, and properly operated and maintained. BMPs must also be maintained in accordance with recorded maintenance agreements where applicable.	All installed LID and structural BMPs shall be inspected at a minimum of once annually for proper function and regularly cleaned and maintained to confirm the BMP is serving the purpose for which it was intended.
Erosion and Sediment Control			
14	Protect unpaved areas, including landscaping, from erosion using vegetation or physical stabilization.	Exposed soils that are actively eroding, or prone to erosion due to disturbance, shall be protected from erosion. Significant accumulations of eroded soil shall be removed or contained to prevent sediment transport in runoff to the storm drain system.	Soil erosion and sediment transport in runoff shall be reduced using vegetative or gravel cover, erosion control measures, sediment containment, or other equivalent measures. Examples include are but not limited to: temporary cover and containment such as erosion control blankets, gravel bags, fiber rolls, and silt fences. Such temporary measures shall be maintained and replaced as needed to maintain their effectiveness. This does not apply to natural, undeveloped areas, except where erosion is occurring as a direct result of onsite human activity, such as paving, land disturbance, or vegetation removal.

Table 2. Minimum BMPs for Industrial, Commercial, and Municipal Sites (continued)

No.	BMP Title	BMP Description	Industrial, Commercial, and Municipal Implementation
Good Housekeeping			
15	Regularly clean parking lots.	Paved parking areas, roads, and driveways located on the property shall be swept at least once per year. During each annual cleaning the entire paved area shall be cleaned. Sweeping is the preferred method. Wet cleaning methods, such as power washing, may be substituted for sweeping if all wash water is contained, captured, and disposed of appropriately.	Parking lots, roads, and driveways can be a source of pollutants, including metals, sediment, and oil and grease. Impervious pavement such as parking lots, private roads, and private driveways shall be swept, at a minimum, annually using street sweeping equipment or by hand. Build up of pollutants may require more frequent sweeping. The entire impervious area of the parking lots, roads and driveways must be cleaned at least once per year. It is recommended that the annual cleaning occur in the dry season (May 1st – September 30th) of each year. Spot cleaning and/or sweeping shall occur as needed. Cleaning using wet methods such as power washing may be substituted for sweeping provided that all wash water is contained, captured, and disposed of properly. See BMP 3 for additional details on disposal of wash water. Only areas of covered parking structures exposed to rainfall are required to be cleaned according to this BMP. This includes any exposed parking spaces and entrance/exit areas. Any paved area that drains to a bioretention area, infiltration area, or other high efficiency BMP, sized in accordance with the City's BMP Manual requirements for Priority Development Projects, is not subject to the annual sweeping requirement. Any area paved with pervious pavement (e.g., porous concrete, porous asphalt, ungrouted pavers, or gravel) is not subject to the annual sweeping requirement and instead must follow maintenance plans specific to that surface.
16	Keep storm drain free of sediment, trash, and debris.	Accumulated materials shall be removed from on-site storm drains at least once per year. Storm drains and under drains shall be kept free of significant amounts of sediment, trash, and debris.	On-site storm drains shall be cleaned using dry methods such as sweeping, scraping or use of a vacuum truck. Any discharge to the City's storm drain system associated with storm drain cleaning is an illegal discharge. Storm drains shall be cleaned by onsite staff or outside contractors at least once per year. It is recommended that cleaning should be performed during the dry season (May 1st – September 30th). Build up of materials may require more frequent cleaning. Storm drains shall be cleaned if more than half of the bottom of the catch basin is covered with materials, or if the enforcement officer directs it. Storm water has the potential to become a source of pollutants, or create a vector control problem, if permitted to stagnate. Maintain storm drains such that storm water is not permitted to collect within inlets or surrounding areas for more than 72 hours following a rain event. Maintenance of all storm drain systems, including private channels, is the responsibility of the property owner and should be conducted as dictated by the type of storm drain system. Inlets must be cleaned at least once per year as described in this BMP. Note: Bodily entry into storm drains is considered "confined space entry," and should not be performed without adherence to applicable regulations. See the Occupational Safety and Health Administration (OSHA) website for more information about confined space entry. http://www.osha.gov.

Table 2. Minimum BMPs for Industrial, Commercial, and Municipal Sites (continued)

No.	BMP Title	BMP Description	Industrial, Commercial, and Municipal Implementation
		Good Housekeeping (continued)	
17	Implement good housekeeping to keep site free of trash and debris.	Outdoor areas shall be cleaned as needed to keep them free of accumulations of trash, sediment, litter, and other debris.	Regular housekeeping of outdoor areas removes pollutants that would likely be transported to storm drains by storm water or urban runoff. Any accumulated trash or litter shall be picked up, and areas of sediment or debris accumulation shall be swept up. Wet cleanup methods are not necessary in most cases. If wet cleanup methods are used, all water used must be contained, collected, and disposed of properly. No discharge to the storm drain system is allowed. See BMP 3 for additional details on disposal of wash water.
		Material Storage and Handling	
18	Provide and maintain secondary containment to catch spills when storing potential liquid pollutants in outdoor areas.	Effective secondary containment shall be provided and maintained for all containers of liquid stored in outdoor areas to prevent leaks or spills from discharging pollutants to the storm drain system. Containers shall be kept in good condition and securely closed when not in use. Secondary containment shall also be provided for all liquids during transport to prevent spills due to leaks or punctures.	Secondary containment shall be used for liquid storage in outdoor areas. Secondary containment consists of a container, curb or leak-proof structure outside of the primary container, designed to prevent accidental releases of materials from the storage area. To maintain the effectiveness of secondary containment, regularly remove and appropriately dispose of spills, precipitation, or other liquids that accumulate in the secondary containment. Provide liquid storage containers with covers to prevent precipitation from accumulating in or causing overflows from the secondary containment. Materials stored indoors and at least 5 feet away from entrances/exits do not require secondary containment. If evidence of spills due to inadequate containment is observed, the City enforcement official may specify a minimum required containment capacity. Other applicable regulations may apply to the use of secondary containment, especially for hazardous materials, which are regulated by the County of San Diego Department of Environmental Health at (858) 505-6880.
19	Properly store and dispose of hazardous substances.	Hazardous materials and wastes shall be stored, managed, and disposed in accordance with federal, state, and local laws and regulations. Hazardous materials and wastes shall also be stored such that they will not come into contact with storm water or other non-storm water flows, if leaks or spills occur.	Proper storage and disposal of all hazardous materials and wastes is required. Hazardous materials and wastes generated by business activities are additionally regulated by the County of San Diego Department of Environmental Health. Disposal of hazardous wastes using an authorized hazardous waste collection service is required. Store hazardous materials and wastes, and their primary storage containers, with sufficient cover and/or containment to prevent contact with storm water.
20	Cover, contain, and/or elevate materials stored outside that may become a source of pollutants in storm water or non-storm water.	Materials stored outdoors shall be covered, contained, and/or elevated to prevent storm water and non-storm water from contacting and transporting materials and pollutants to the storm drain system.	When runoff from precipitation, over-irrigation, or water from other sources moves along the ground it can pick up pollutants and convey them to the storm drain system. Covering, containing, and/or elevating materials off of the ground prevents pollutants from contaminating storm water by preventing run-on from directly contacting materials, and by preventing materials from being transported by water or wind. Outdoor materials that are not a potential source of pollutants do not require coverage. Some examples of cover include roofs, awnings, and tarps. Where coverage is not feasible or is cost prohibitive, alternative approaches such as installing berms around the stored materials, directing runoff to pervious areas, or installing treatment devices may be allowed. Elevate materials off the ground using pallets or other shelving and do not store them in the path of storm water run-off. Note that installing structural coverage will usually require obtaining permits from the City prior to installation. To determine applicable regulations and whether a permit would be required, contact the Building Division at (619) 336-4210.

Table 2. Minimum BMPs for Industrial, Commercial, and Municipal Sites (continued)

No.	BMP Title	BMP Description	Industrial, Commercial, and Municipal Implementation
Pesticide and Fertilizer Management			
21	Properly manage pesticides and fertilizers.	Pesticides and fertilizers shall be applied in strict accordance with the manufacturer's label, as authorized by the U.S. Environmental Protection Agency to minimize the introduction of pollutants to the storm drain system. Chemicals shall be stored safely in covered and contained areas. Waste products shall be disposed of in accordance with the manufacturer's label and applicable hazardous waste regulations. The use of integrated pest management principles is encouraged to reduce or eliminate use of chemicals.	Apply pesticides and fertilizers carefully according to the requirements on the manufacturer's label. If outdoor pesticide or fertilizer use is necessary, carefully use only the needed amount and clean up afterwards to prevent irrigation water or other runoff from carrying chemicals to storm drains. Be sure to check the label to verify if the product can be used on exterior impervious surfaces, such as driveways and building foundations. Reduce the risk of pesticide use by using less toxic alternatives and Integrated Pest Management (IPM). For more information about IPM, see the University of California Statewide IPM Program at http://www.ipm.ucdavis.edu.
Outdoor Work Areas			
22	Implement controls to prevent pollution from exposed outdoor work areas.	Activities that may generate pollutants shall be conducted in covered, contained areas. When these activities are conducted outside, the work areas shall be cleaned at least once a day to prevent pollutant accumulation, and the activities shall not be conducted when it is raining. Work areas that are not covered and contained shall also be located such that runoff flowing through the work areas is minimized. Work areas shall be designed such that concentrated flows are not directed through the work areas.	This BMP applies to all activities conducted outdoors that may generate pollutants. Some common examples are loading/unloading operations, waste disposal, vehicle or equipment repair, cutting, grinding, sanding, painting, processing of wood, plastics, metals and concrete. Outdoor activities often generate debris or waste liquids that have an increased risk of outdoor spills. In order to avoid contaminating storm water runoff, the following precautions shall be taken as appropriate: (1) move activities indoors; (2) cover areas where outdoor activities are performed, including building canopies; (3) protect areas where outdoor activities are performed from runoff from upstream areas, including building berms; (4) prevent spills or by-products from escaping contained areas; (5) do not conduct outdoor activities that may generate pollutants when it is raining; (6) protect storm drain inlets and ensure adequate spill response materials are readily available; and, (7) thoroughly clean outdoor work areas at least daily to remove accumulated sediment, debris, oil and grease, particulate matter, and other pollutants. Structural treatment devices shall also be installed to remove pollutants from contaminated runoff if source control BMPs are not effective.

Table 2. Minimum BMPs for Industrial, Commercial, and Municipal Sites (continued)

No.	BMP Title	BMP Description	Industrial, Commercial, and Municipal Implementation
Spill Prevention and Response			
23	Prevent or capture liquid leaks from vehicles and equipment.	Leaking vehicles or equipment shall be repaired promptly. Drip pans or other equivalent means shall be used to capture spills or leaks of oil and other fluids from vehicles awaiting maintenance and during maintenance activities. Captured fluids shall be disposed of in accordance with applicable hazardous materials regulations.	Maintain vehicles and equipment to prevent leaks and spills. This can be achieved by maintenance to prevent leaks from operative vehicles or by draining fluids if a vehicle is not intended to be used (see BMP 24 for additional details). Prevent storm water, ground water, and soil contamination by capturing leaks and spills before they contact the ground. Collect fluid leaks using drip pans or sealable containers and prevent spills using funnels, rags, and/or drop cloths when performing maintenance. Used automotive fluids, such as oil or antifreeze, are considered hazardous wastes and shall be disposed of according to current regulations. Contact the County of San Diego Department of Environmental Health at http:/www.sdcounty.ca.gov/deh.
24	Maintain a readily accessible spill cleanup kit that is appropriate for the type of material stored.	Materials and equipment appropriate for the type and quantity of potential spills shall be kept on-site and with any mobile activities, in order to serve as a spill cleanup kit. Keep cleanup materials in close proximity to locations where spills may occur, with instructions for their use clearly displayed.	The type of spill kit necessary will depend on the materials that could potentially spill at the site or mobile activity. Special attention should be paid to liquids, hazardous materials and waste storage and handling. Adequate materials shall be kept on location to respond to the largest potential spill. Examples of spill kit materials include granular absorbents, absorbent pads, absorbent rolls, or rags. If a site or activity poses the risk of large or hazardous spills, emergency phone numbers shall be posted in a visible place with the spill kit. For information regarding proper handling and cleanup of business-related hazardous materials contact the County of San Diego Department of Environmental Health. http://www.sdcounty.ca.gov/deh.
25	Drain fluids from inoperable vehicles and store or dispose of appropriately.	Oil, antifreeze, and other fluids shall be drained from inoperable vehicles intended for recycling or long-term outdoor storage. Drained fluids shall be disposed of in accordance with applicable hazardous materials regulations.	Non-operational vehicles pose a high risk of fluid leaks. Fluids shall be drained prior to storage on site to prevent spills and leaks that could contaminate soil, stain pavement, or contaminate runoff to the storm drain system. Drained materials shall be handled, stored, and disposed of in accordance with other applicable minimum BMPs, and applicable state and local requirements for hazardous materials.
26	Immediately clean up spills.	Spills shall be cleaned up immediately and prevented from entering the storm drain system. Spills that enter a storm drain and cannot be fully recovered shall be reported promptly to the City's Storm Water Hotline at (619) 336-4389.	Spills shall be cleaned using dry methods primarily. Examples of dry cleanup methods include applying dry absorbent and removing and disposing of the absorbent properly, and absorbing spilled materials with rags. Materials used to clean up hazardous wastes shall be disposed of in accordance with applicable regulations. If spills cannot be cleaned effectively using dry methods only, wet methods such as pressure washing or mopping may be used provided all wash water is contained, captured, and disposed of appropriately. Any nearby storm drains shall be protected to prevent an illegal discharge. Any discharge of water from a spill clean up to the City's storm drain system is illegal and prohibited. Allowing water to evaporate is an acceptable method of disposal only if remaining residue is removed. Contained water shall be collected and captured using a wet vacuum or equivalent. Any remaining residue on pavement or other impervious areas shall also be removed to prevent future pollutant discharges. Captured wash water may be directed to the sanitary sewer system with the approval of the Engineering Division which can be contacted at (619) 336-4380. Wash water containing oil, paint, or other hazardous waste must be disposed of properly in accordance with applicable regulations. If only biodegradable soaps and uncontaminated water are used, wash water may be directed to onsite landscaped or pervious area(s) to infiltrate or evaporate, without resulting in erosion or runoff to the storm drain system or any adjacent property.

Table 2. Minimum BMPs for Industrial, Commercial, and Municipal Sites (continued)

No.	BMP Title	BMP Description	Industrial, Commercial, and Municipal Implementation
Spill Prevention and Response (continued)			
27	Temporarily protect storm drains from non-storm water discharges while conducting activities that have the potential to result in a discharge.	If activities cannot be fully contained, or minor failures in containment would potentially result in discharges of non-storm water to the storm drain system, temporary measures shall be used to protect storm drains. Any activity-related materials that enter the storm drain system shall be removed promptly and disposed of appropriately (in accordance with other minimum BMPs).	Activities such as construction, pressure washing, vehicle or equipment maintenance or cutting, grinding, sanding, painting or processing of wood, plastics, metals and concrete may generate pollutants that have the potential to result in a discharge to the storm drain system. Temporary measures may include temporary covers, sand bags, vendor products, etc., that are effective at blocking spills, debris, or contaminated runoff from reaching the storm drain system. Examples of activity-related materials that might accidentally enter storm water conveyances include fluid leaks or spills, sawdust, metal shavings, litter, or other debris. If material enters the storm drain inlet, the material shall be immediately removed by using a shop vacuum, broom and pan, mop, or other tool. Materials must be disposed of properly in accordance with applicable regulations. Note that bodily entry into storm drains is considered "confined space entry," and is not recommended without adherence to applicable regulations. See the Occupational Safety and Health Administration (OSHA) for more information about confined space entry. http://www.osha.gov
Waste Management			
28	Provide pollution prevention signage for storm drains.	Pollution prevention signage shall be provided for all on-site storm drain inlets and catch basins with prohibitive language (e.g., "No Dumping – Drains to Ocean").	Examples of storm drain prohibitive signage include concrete stamping, paint stenciling, signage posting, and the installation of ceramic or plastic tiles.

Table 2. Minimum BMPs for Industrial, Commercial, and Municipal Sites (continued)

No.	BMP Title	BMP Description	Industrial, Commercial, and Municipal Implementation
		Waste Management (continued)	
29	Keep trash/waste storage areas free of exposed trash, sediment, and debris.	Disposal areas for trash and other wastes shall be cleaned as frequently as necessary to keep these areas free of loose trash, litter, debris, liquids, powders, and sediment. Liquid waste, hazardous waste, medical waste, universal waste, and other items prohibited by current regulations shall not be placed in solid waste dumpsters.	All trash containers shall be covered and free of holes or cracks that allow liquid or solid wastes to spill onto the ground. Areas where trash or other wastes are stored shall be cleaned as necessary to prevent debris from entering the storm drain system. All trash, sediment and debris shall be removed using dry cleaning methods such as sweeping as needed. If wet cleaning methods are used to clean up liquid spills, all wash water must be contained, captured, and disposed of appropriately using one or more of the following methods: • Contained water should be collected and captured using a wet vacuum or equivalent. Allowing contained water to evaporate is an acceptable method of disposal only if remaining residues are removed. Any remaining residue on pavement or other impervious areas shall also be removed to prevent future pollutant discharges. • Captured wash water may be directed to onsite landscaped or pervious area(s) to infiltrate or evaporate, without resulting in erosion or runoff to the storm drain system or any adjacent property. • Captured wash water that does not contain hazardous wastes may also be disposed of to the sanitary sewer system if allowed by the Engineering Division which can be contacted at (619) 336-4380. • Wash water containing hazardous wastes will require disposal by an appropriate contractor. Wash water containing hazardous materials will require disposal by an appropriate contractor. Additional information about hazardous material disposal can be obtained from the County of San Diego Department of Environmental Health. More information regarding what types of items may be placed in trash receptacles can be obtained from your waste disposal company (refer to billing statement for contact number or if waste disposal is contracted through a property manager or association, from your property manager or association contact).
30	Properly store and dispose of green waste.	Green waste shall be properly stored and disposed of such that it will not be transported to the storm drain system by storm water or non-storm water runoff.	Green waste shall not be left or dumped in areas where it may enter a storm drain or be exposed to storm water flows including curbs, gutters and streets. It shall be contained and covered to prevent transport by rain or wind if stored on pavement or other impervious areas. Green waste shall be collected and used appropriately on-site, or disposed of properly to the green waste section of the landfill. Specific information regarding green waste collection can be obtained from your waste disposal company (refer to billing statement for contact number or if waste disposal is contracted through a property manager or association, from your property manager or association contact).

Table 2. Minimum BMPs for Industrial, Commercial, and Municipal Sites (continued)

No.	BMP Title	BMP Description	Industrial, Commercial, and Municipal Implementation
Waste Management (continued)			
31	Manage animal waste and animal washing in a manner that prevents transport of wastes and wash water off-site.	Animals and animal waste shall be managed and stored in a manner that prevents animal supplies, waste, and wash water from entering the storm drain system. Collect and dispose of animal waste through trash receptacles or the sanitary sewer, as appropriate.	Animal waste can be a source of bacteria, viruses, and other pollutants. Animal waste shall be collected promptly to avoid the spread of disease and the contamination of runoff. If animal waste must be kept on-site, cover and contain such storage areas to prevent pollutants from being transported in runoff. Any water used to clean animals or animal housing shall be disposed of to the sanitary sewer or allowed to infiltrate into landscaping without runoff. If animal wash areas exist on site, they shall be designed to prevent discharges to the storm drain system. Animal wash areas shall not be established near storm drains. Sewer or septic system drains within animal wash areas are subject to permitting requirements; call the Building Division at (619) 336-4210 for additional details.
32	Protect waste storage areas from contact with storm water and non-storm water flows on to the property.	Stored trash and other wastes shall be protected from contact with storm water and non-storm water flows. Trash and other wastes shall be contained to prevent transport of trash off site, and to keep surrounding areas and on site storm drains free of trash and other wastes.	To protect materials, supplies, trash, or other wastes contact from storm water and non-storm water flows, those materials and wastes shall be kept in either: (1) covered storage areas that are solidly screened to eliminate contact with precipitation and to prevent run-on from adjoining areas and off site transport of wastes and pollutants; or, (2) containers with closed lids that exclude precipitation and do not allow run-on. It is recommended to locate mobile trash receptacles (dumpsters and trash cans) away from storm drains and storm water flows. Also see BMP 32 for additional requirements for waste cooking oil storage.
33	Cooking oil waste shall be managed to prevent illegal discharges.	Waste cooking oil shall be managed in a manner that prevents discharges.	Waste containers for oils, grease, fats, or tallow shall be kept indoors where appropriate facilities exist to maintain compliance with health, fire, and other applicable codes. Most grease rendering services will now provide containers to store used cooking oil indoors free of charge. Contact your grease rendering service provider for additional details. Where indoor facilities are incompatible with such codes, waste containers shall be kept within a covered and/or contained area to prevent residual waste transport in runoff. The chosen storage option (cover, containment, or both) shall be sufficient to prevent the discharge of any storm water that has contacted any residual waste oil on the bin or surrounding areas. This means that overhead cover is sufficient to prevent any storm water contact with the bin and any residue in the surrounding area, the containment is of a high enough capacity to retain all storm water that has contacted the bin and any residue in the surrounding area, or both in conjunction will prevent any discharge of residual waste oil, even during heavy rains and/or windy conditions. Areas surrounding the waste container that are not covered or contained shall be kept free of residual pollutants.

2.4 Residential

Table 3 presents the minimum required BMPs for residential. BMP categories include Discharge Control, Erosion and Sediment Control, Good Housekeeping, Material Storage and Handling, Pesticide and Fertilizer Management, Spill Prevention and Response, and Waste Management.

Table 3. Minimum BMPs for Residential Sites

No.	BMP Title	BMP Description	Residential Implementation
		Discharge Control	
1	Eliminate illegal connections to the municipal separate storm sewer system (MS4; Hereafter, "storm drain system").	Find and abate all illegal connections to the storm drain system through properly approved procedures, permits, and protocols.	Illegal connections are man-made physical connections to the storm drain system that convey discharges that are not composed entirely of storm water. Illegal discharges include grey water (i.e., laundry rinse water); waste water; or irrigation water, including recycled or reclaimed water, that are effectively prohibited from being discharged to the storm drain system under National Pollutant Discharge Elimination System (NPDES) Permit, Order No. R9-2013-0001 (Municipal Permit). Any suspected unpermitted physical connections to the City's storm drain system shall be reported to the City's Storm Water Hotline at (619) 336-4389. Illegal connections to the storm drain system shall be removed immediately.
2	Eliminate illegal non-storm water discharges.	Non-storm water (water other than rain) shall not be discharged to the City's storm drain system. Limited exceptions may apply.	To eliminate illegal discharges, do not allow any solid or liquid material except uncontaminated storm water to enter City storm drains, curb gutters along City streets, or any other part of the City's storm drain system. Connections that convey illegal discharges to the City's storm drain system are illegal connections and shall be eliminated. Additional guidance about how to manage common types of discharges is provided in minimum BMPs 3 through 10 below. Report any suspected illegal discharges to the Storm Water Hotline at (619) 336-4389.
3	Properly dispose of process* and wash water.	All process* water and wash water shall be contained, captured, and reused or properly disposed of to the sanitary sewer or an appropriate waste hauler, or to landscaping or other pervious surfaces.	All process* and wash water must be contained, captured, and reused, or properly disposed of to the sanitary sewer, an appropriate waste hauler, or to landscaping or other pervious surfaces without resulting in erosion or runoff to the storm drain system or any adjacent property. **Process water is defined as "any water which, during manufacturing or processing, comes into direct contact or results from the production or use of any raw material, intermediate product, finished product, by product, or waste product. Environmental Protection Agency, 40 CFR 122.2.*
4	Properly dispose of vehicle and equipment wash water.	Discharge of vehicle, boat, and equipment wash water to the storm drain system should be contained, captured, and reused, or disposed of to the sanitary sewer, an appropriate waste hauler, or to landscaping or other pervious surfaces.	Minimizing use of water, detergents, and other vehicle wash products is encouraged. Non-commercial car washes, such as fundraisers and other similar activities, are not considered individual residential vehicle washing. Discharges to the storm drain system from these activities are prohibited.
5	Properly dispose of water from fire sprinkler maintenance activities.	Fire sprinkler system discharges containing corrosion inhibitors, fire suppressants, or antifreeze shall be disposed through the sanitary sewer system, not the storm drain system. When not practicable to discharge to the sanitary sewer system, the water shall not be discharged unless adequate precautions have been taken to prevent the transport of pollutants to the storm drain system.	Water discharged from fire sprinkler systems can be a source of chemical pollutants, or may transport pollutants already on the ground. Fire sprinkler systems containing corrosion inhibitors, fire suppressants, or antifreeze shall be discharged to the sanitary sewer system (sewer). Contact the Engineering Division at (619) 336-4380 for approval to discharge to the sewer. Fire sprinkler systems without corrosion inhibitors, fire suppressants, or antifreeze should discharge to the sewer.

Table 3. Minimum BMPs for Residential Sites (continued)

No.	BMP Title	BMP Description	Residential Implementation
Discharge Control (continued)			
6	Eliminate irrigation runoff.	Irrigation runoff to the storm drain system shall be eliminated through proper landscape maintenance and watering practices.	Irrigation runoff may contain pollutants or serve as a transport mechanism for pollutants already on the ground. Irrigation runoff entering the storm drain system is an illegal discharge. Where irrigation systems are used, regular maintenance and visual observation of the system shall be performed to prevent overspray, leaks, and other problems that result in runoff to City storm drains, curbs and gutters, or any other part of the City's storm drain system. If the weather forecast predicts rain, sprinklers shall be temporarily shut off to prevent water waste and runoff. Installing automatic rain shutoff devices or smart controllers, using micro-irrigation systems (e.g., drip irrigation), or implementing low water use landscaping may also help eliminate irrigation runoff. It is recommended to avoid runoff by using a control nozzle or similar mechanism when watering by hand.
7	Properly dispose of discharges from swimming pools, spas, fountains, reflective pools, and filter backwash.	Swimming pools, spas, fountains, reflective pools, and filter backwash water shall be properly disposed of to prevent pollutants from entering the storm drain system.	Swimming pool, spa, fountain, reflective pool, pond, and filter backwash water shall be properly disposed of to prevent pollutants from entering the storm drain system. Discharges from swimming pools and spas to the storm drain system are allowed only if the water is dechlorinated, has a pH level in the 7-8 range, is within ambient temperature, has no algae or suspended solids, and is not saline. The surface flow path shall be cleared of trash, debris, and sediment prior to discharge.
8	Control air conditioning condensation discharges.	Air conditioning condensation discharges shall be controlled to prevent them from reaching City storm drains, curbs and gutters, or any other part of the City's storm drain system.	Air conditioning condensation shall be directed to landscaped areas or other pervious surfaces, or to the sanitary sewer, where feasible.
9	Eliminate pumped groundwater, foundation and footing drain discharges.	Pumped groundwater, including water from crawl space pumps is prohibited unless a separate NPDES permit has been obtained to cover the discharge, or the Regional Water Quality Control Board, San Diego Region (RWQCB) has determined in writing that no permit is needed. Discharges from foundation and footing drains that are at or below the groundwater table are also prohibited, unless covered by an NPDES permit, or if the RWQCB has determined in writing that no permit is needed.	Examples of acceptable methods to discharge uncontaminated groundwater include discharging to the sanitary sewer system or discharging to the storm drain system after obtaining an individual NPDES permit from the RWQCB. The RWQCB can be contacted at (619) 516-1990. If a sanitary sewer discharge is desired, contact the City Engineering Division at (619) 336-4380 to determine whether the discharge is allowed and applicable permitting requirements.
10	Regularly clean and maintain structural BMPs and LID installations to ensure proper performance.	BMPs installed, including Low Impact Development (LID) and other structural BMPs, must be inspected as often as necessary to ensure they perform as intended, and properly operated and maintained. BMPs must also be maintained in accordance with recorded maintenance agreements where applicable.	All installed LID and structural BMPs shall be inspected at a minimum of once annually for proper function and regularly cleaned and maintained to confirm the BMP is serving the purpose for which it was intended.

Table 3. Minimum BMPs for Residential Sites (continued)

No.	BMP Title	BMP Description	Residential Implementation
		Discharge Control (continued)	
11	Temporarily protect storm drains from non-storm water discharges while conducting activities that have the potential to result in a discharge.	If activities cannot be fully contained, or minor failures in containment would potentially result in discharges of non-storm water to the storm drain system, temporary measures shall be used to protect storm drains. Any activity-related materials that enter the storm drain system shall be removed promptly and disposed of appropriately (in accordance with other minimum BMPs).	Activities such as construction, pressure washing, vehicle or equipment maintenance or cutting, grinding, sanding, painting or processing of wood, plastics, metals and concrete may generate pollutants that have the potential to result in a discharge to the storm drain system. Temporary measures may include temporary covers, sand bags, vendor products, etc., that are effective at blocking spills, debris, or contaminated runoff from reaching the storm drain system. If material enters the storm drain inlet, the material shall be immediately removed by using a shop vacuum, broom and pan, mop, or other tool. Materials must be disposed of properly in accordance with applicable regulations. Note that bodily entry into storm drains is considered "confined space entry," and is not recommended without adherence to applicable regulations. See the Occupational Safety and Health Administration (OSHA) for more information about confined space entry. http://www.osha.gov
12	Direct runoff from rooftops, pavement, and other impervious surfaces to landscaped areas.	Runoff from rooftops, pavement, and other impervious surfaces shall be directed to landscaped or pervious area(s) to infiltrate or evaporate, where suitable areas exist onsite. Energy dissipation and erosion control measures shall be used to prevent erosion and sediment transport.	Roof downspouts shall be directed to landscaped or pervious area(s) to minimize the transport of pollutants from the property, where feasible.
		Erosion and Sediment Control	
12	Protect unpaved areas, including landscaping, from erosion using vegetation or physical stabilization.	Exposed soils that are actively eroding, or prone to erosion due to disturbance, shall be protected from erosion. Significant accumulations of eroded soil shall be removed or contained to prevent sediment transport in runoff to the storm drain system.	Soil erosion and sediment transport in runoff shall be reduced using vegetative or gravel cover, erosion control measures, sediment containment, or other equivalent measures. Examples include but are not limited to: temporary cover and containment such as erosion control blankets, gravel bags, fiber rolls, and silt fences. Such temporary measures shall be maintained and replaced as needed to maintain their effectiveness. This does not apply to natural, undeveloped areas, except where erosion is occurring as a direct result of onsite human activity, such as paving, land disturbance, or vegetation removal.
		Good Housekeeping	
13	Regularly clean parking lots.	Paved parking areas, roads, and driveways located on the property shall be kept free of trash, sediment, and debris.	Parking lots, roads, and driveways can be a source of pollutants, including metals, sediment, and oil and grease. Sweeping is the preferred method. Wet cleaning methods, such as power washing, may be substituted for sweeping if all wash water is contained, captured, and disposed of appropriately.

Table 3. Minimum BMPs for Residential Sites (continued)

No.	BMP Title	BMP Description	Residential Implementation
Good Housekeeping (continued)			
14	Keep storm drain free of sediment, trash, and debris.	Accumulated materials shall be removed from on-site storm drains at least once per year. Storm drains and under drains shall be kept free of significant amounts of sediment, trash, and debris.	On-site storm drains shall be cleaned using dry methods such as sweeping or scraping. Any discharge to the City's storm drain system associated with storm drain cleaning is an illegal discharge. Storm water has the potential to become a source of pollutants, or create a vector control problem, if permitted to stagnate. Maintain storm drains such that storm water is not permitted to collect within inlets or surrounding areas for more than 72 hours following a rain event. Maintenance of all storm drain systems, including private channels, is the responsibility of the property owner and should be conducted as dictated by the type of storm drain system. Note: Bodily entry into storm drains is considered "confined space entry," and should not be performed without adherence to applicable regulations. See the Occupational Safety and Health Administration (OSHA) website for more information about confined space entry. http://www.osha.gov.
15	Implement good housekeeping to keep site free of trash and debris.	Outdoor areas shall be cleaned as needed to keep them free of accumulations of trash, sediment, litter, and other debris.	Regular housekeeping of outdoor areas removes pollutants that would likely be transported to storm drains by storm water or urban runoff. Any accumulated trash or litter shall be picked up, and areas of sediment or debris accumulation shall be swept up. Wet cleanup methods are not necessary in most cases. If wet cleanup methods are used, all water used must be contained, collected, and disposed of properly.
Material Storage and Handling			
16	Properly store and dispose of hazardous substances.	Hazardous materials and wastes shall be stored, managed, and disposed in accordance with federal, state, and local laws and regulations. Hazardous materials and wastes shall also be stored such that they will not come into contact with storm water or other non-storm water flows, if leaks or spills occur.	Proper storage and disposal of all hazardous materials and wastes is required. City of National City residents may contact the South Bay Household Hazardous Waste collection facility regarding proper disposal at (619) 691-5122.
17	Cover, contain, and/or elevate materials stored outside that may become a source of pollutants in storm water or non-storm water.	Materials stored outdoors shall be covered, contained, and/or elevated to prevent storm water and non-storm water from contacting and transporting materials and pollutants to the storm drain system.	Outdoor materials that are not a potential source of pollutants do not require coverage. Some examples of cover include roofs, awnings, and tarps. Where coverage is not feasible or is cost prohibitive, alternative approaches such as installing berms around the stored materials, directing runoff to pervious areas, or installing treatment devices may be allowed. Elevate materials off the ground using pallets or other shelving and do not store them in the path of storm water run-off. Note that installing structural coverage will usually require obtaining permits from the City prior to installation. To determine applicable regulations and whether a permit would be required, contact the Building Division at (619) 336-4210.

Table 3. Minimum BMPs for Residential Sites (continued)

No.	BMP Title	BMP Description	Residential Implementation
		Pesticide and Fertilizer Management	
18	Properly manage pesticides and fertilizers.	Pesticides and fertilizers shall be applied in strict accordance with the manufacturer's label, as authorized by the U.S. Environmental Protection Agency to minimize the introduction of pollutants to the storm drain system. Chemicals shall be stored safely in covered and contained areas. Waste products shall be disposed of in accordance with the manufacturer's label and applicable hazardous waste regulations. The use of integrated pest management principles is encouraged to reduce or eliminate use of chemicals.	Apply pesticides and fertilizers carefully according to the requirements on the manufacturer's label. If outdoor pesticide or fertilizer use is necessary, carefully use only the needed amount and clean up afterwards to prevent irrigation water or other runoff from carrying chemicals to storm drains. Be sure to check the label to verify if the product can be used on exterior impervious surfaces, such as driveways and building foundations. Reduce the risk of pesticide use by using less toxic alternatives and Integrated Pest Management (IPM). For more information about IPM, see the University of California Statewide IPM Program at http://www.ipm.ucdavis.edu.
		Spill Prevention and Response	
19	Prevent or capture liquid leaks from vehicles and equipment.	Leaking vehicles or equipment shall be repaired promptly. Drip pans or other equivalent means shall be used to capture spills or leaks of oil and other fluids from vehicles awaiting maintenance and during maintenance activities. Captured fluids shall be disposed of in accordance with applicable hazardous materials regulations.	Maintain vehicles and equipment to prevent leaks and spills. This can be achieved by maintenance to prevent leaks from operative vehicles or by draining fluids if a vehicle is not intended to be used. Prevent storm water, ground water, and soil contamination by capturing leaks and spills before they contact the ground. Collect fluid leaks using drip pans or sealable containers and prevent spills using funnels, rags, and/or drop cloths when performing maintenance.
20	Drain fluids from inoperable vehicles and store or dispose of appropriately.	Oil, antifreeze, and other fluids shall be drained from inoperable vehicles intended for recycling or long-term outdoor storage. Drained fluids shall be disposed of in accordance with applicable hazardous materials regulations.	Non-operational vehicles pose a high risk of fluid leaks. Fluids shall be drained prior to storage on site to prevent spills and leaks that could contaminate soil, stain pavement, or contaminate runoff to the storm drain system.
21	Immediately clean up spills.	Spills shall be cleaned up immediately and prevented from entering the storm drain system. Spills that enter a storm drain and cannot be fully recovered shall be reported promptly to the City's Storm Water Hotline at (619) 336-4389.	Spills shall be cleaned using dry methods primarily. Examples of dry cleanup methods include applying dry absorbent and removing and disposing of the absorbent properly, and absorbing spilled materials with rags. Materials used to clean up hazardous wastes shall be disposed of in accordance with applicable regulations. If spills cannot be cleaned effectively using dry methods only, wet methods such as pressure washing or mopping may be used provided all wash water is contained, captured, and disposed of appropriately. Wash water containing oil, paint, or other hazardous waste must be disposed of properly in accordance with applicable regulations. If only biodegradable soaps and uncontaminated water are used, wash water may be directed to onsite landscaped or pervious area(s) to infiltrate or evaporate, without resulting in erosion or runoff to the storm drain system or any adjacent property.

Table 3. Minimum BMPs for Residential Sites (continued)

No.	BMP Title	BMP Description	Residential Implementation
		Waste Management	
22	Keep trash/waste storage areas free of exposed trash, sediment, and debris.	Disposal areas for trash and other wastes shall be cleaned as frequently as necessary to keep these areas free of loose trash, litter, debris, liquids, powders, and sediment.	All trash containers shall be covered and free of holes or cracks that allow liquid or solid wastes to spill onto the ground. Areas where trash or other wastes are stored shall be cleaned as necessary to prevent debris from entering the storm drain system. More information regarding what types of items may be placed in trash receptacles can be obtained from your waste disposal company (refer to billing statement for contact number or if waste disposal is contracted through a property manager or association, from your property manager or association contact).
23	Properly store and dispose of green waste.	Green waste shall be properly stored and disposed of such that it will not be transported to the storm drain system by storm water or non-storm water runoff.	Green waste shall be contained and covered to prevent transport by rain or wind if stored on pavement or other impervious areas. Green waste shall be collected and used appropriately on-site, or disposed of properly to the green waste section of the landfill. Specific information regarding green waste collection can be obtained from your waste disposal company (refer to billing statement for contact number or if waste disposal is contracted through a property manager or association, from your property manager or association contact).
24	Manage animal waste and animal washing in a manner that prevents transport of wastes and wash water off-site.	Animals and animal waste shall be managed and stored in a manner that prevents animal supplies, waste, and wash water from entering the storm drain system. Collect and dispose of animal waste through trash receptacles or the sanitary sewer, as appropriate.	Animal waste can be a source of bacteria, viruses, and other pollutants. Animal waste shall be collected promptly to avoid the spread of disease and the contamination of runoff. If animal waste must be kept on-site, cover and contain such storage areas to prevent pollutants from being transported in runoff. Any water used to clean animals or animal housing shall be disposed of to the sanitary sewer or allowed to infiltrate into landscaping without runoff. If animal wash areas exist on site, they shall be designed to prevent discharges to the storm drain system. Animal wash areas shall not be established near storm drains. Sewer or septic system drains within animal wash areas are subject to permitting requirements; call the Building Division at (619) 336-4210 for additional details.
25	Protect waste storage areas from contact with storm water and non-storm water flows on to the property.	Stored trash and other wastes shall be protected from contact with storm water and non-storm water flows. Trash and other wastes shall be contained to prevent transport of trash off site, and to keep surrounding areas and on site storm drains free of trash and other wastes.	To protect materials, supplies, trash, or other wastes contact from storm water and non-storm water flows, those materials and wastes shall be kept in either: (1) covered storage areas that are solidly screened to eliminate contact with precipitation and to prevent run-on from adjoining areas and off site transport of wastes and pollutants; or, (2) containers with closed lids that exclude precipitation and do not allow run-on. It is recommended to locate mobile trash receptacles (dumpsters and trash cans) away from storm drains and storm water flows.