

Section 8 Attachment

Attachment 8.1: BMP Requirements and Options for Residential Sources

Attachment 8.1 – BMP Requirements and Options for Residential Sources

- A. **Key Definitions**
- B. **Watershed Protection Ordinance (WPO) Excerpts Applicable to Residential Dischargers**
- C. **BMP Requirements and Options for Specific Residential Pollutant-generating Activities (PGAs)**

A. Key Definitions

“Best management practices” (BMPs) shall have the same meaning as defined in California Regional Water Quality Control Board, San Diego Region Order No. R9-2007-0001, NPDES No. CAS0108758, Attachment C. Best management practices may include any type of pollution prevention and pollution control measure that achieves compliance with this chapter.

“Discharge”, when used as a verb, means to allow or cause to allow pollutants to directly or indirectly enter into the stormwater conveyance system or receiving waters. When used as a noun, “discharge” means the pollutants, stormwater or non-stormwater that are discharged.

“Discharger” means any person or entity engaged in activities or operations or owning facilities, which will or may result in pollutants entering stormwater, the stormwater conveyance system, or receiving waters or the owners of real property on which such activities, operations or facilities are located, except that a local government is not a discharger as to activities conducted by others in public rights of way.

“Feasible” means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, and technological factors as determined in the sole discretion of the County.

“Illicit connection” means a pipe, facility, or other device connected to the stormwater conveyance system or receiving waters, which has not been authorized by the County; or a permitted/authorized pipe, facility, or other device, which conveys unauthorized discharges.

“Maximum extent practicable” (MEP) shall have the same meaning as defined in California Regional Water Quality Control Board, San Diego Region Order No. R9-2007-0001, NPDES No. CAS0108758, Attachment C.

“Non-stormwater” shall have the same meaning as defined in California Regional Water Quality Control Board, San Diego Region Order No. R9-2007-0001, NPDES No. CAS0108758, Attachment C.

“Pollutant” means any agent introduced to stormwater or non-stormwater through human activity that may cause, potentially cause, or contribute to the degradation of water quality such that public health, the environment, or beneficial uses of waters may be affected. The term includes dredged spoil, rock, sand, or silt, excluding sediment, silt, or substances in quantities which would enter stormwater from a natural undeveloped watershed; solid waste, sewage, garbage, or medical waste; green waste; construction debris, concrete asphalt or concrete cement waste; pool backwash and filter media; wrecked, retired or discarded equipment; radioactive materials; industrial waste; fecal coliform, fecal streptococcus, and enterococcus bacteria and other pathogens that pose a threat to human health; volatile organic carbon, surfactants, oil and grease, petroleum hydrocarbons, total organic carbon, lead, copper, chromium, cadmium, silver, nickel, zinc, cyanides, phenols, and biocides; and any contaminant which can significantly degrade the quality of receiving waters by altering pH, total suspended solids or solids capable of settling, biochemical oxygen demand, chemical oxygen demand, nutrients, or temperature.

“Pollution prevention” means the practices and processes that reduce or eliminate the generation of pollutants such as 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 or toxicity.

“Receiving waters” shall mean waters of the state as defined in California Regional Water Quality Control Board, San Diego Region Order No. R9-2007-0001, NPDES No. CAS0108758, Attachment C.

“Residential discharger” means the occupant, real property owner(s), manager, caretaker, or association board officer of a single-family dwelling, a multiple-family dwelling, mobile home park, condominium complex, or board-and-care house, or other housing structure.

“Stormwater conveyance system” means private and public drainage facilities other than sanitary sewers within the unincorporated area of San Diego County by which urban run-off is conveyed to receiving waters, and includes but is not limited to roads, streets, constructed channels, aqueducts, storm drains, pipes, street gutters, inlets to storm drains or pipes, or catch basins.

“Stormwater management” means the use of structural (treatment control) or non-structural (source control) BMPs that are designed to reduce urban run-off pollutant loads, discharge volumes, and/or peak discharge flow rates or velocities. When applied to the County or another municipality, stormwater management also includes planning and programmatic measures.

“Stormwater management plan” means a plan, submitted on a County form or in a County approved format with an application for a County permit or other County approval, identifying the measures that will be used for stormwater and non-stormwater management during the permitted activity.

“Water quality standards” shall have the same meaning as defined in California Regional Water Quality Control Board, San Diego Region Order No. R9-2007-0001, NPDES No. CAS0108758, Attachment C.

B. Watershed Protection Ordinance (WPO) Excerpts Applicable to Residential Dischargers

Key sections of the Watershed Protection Ordinance (WPO) with applicability to Residential Dischargers are provided below. The WPO is provided in its entirety in Attachment 2.2.

Sec. 67.804. Discharge Prohibitions.

(a) It is unlawful for any person to discharge or cause the discharge of pollutants directly or indirectly into the stormwater conveyance system or receiving waters, except as set forth in section 67.805 or as otherwise authorized by law.

(b) It is unlawful for any person to construct, use or maintain a connection to the stormwater conveyance system that discharges any matter other than stormwater, except as set forth in section 67.805(a). This section expressly supersedes any previously issued permit or authorization granted by the County and expressly prohibits any previously legal non-conforming connection.

(c) It is unlawful to throw, deposit, leave, abandon, maintain, or keep materials or wastes on public or private lands in a manner and place where they may result in a discharge.

(d) 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.

Sec. 67.805. Exemptions from Discharge Prohibitions.

The following are exempt from the prohibitions in section 67.804:

(a) Any discharge or connection regulated under a valid facility-specific NPDES permit or facility-specific Regional Water Quality Control Board Waste Discharge Requirements permit, not including a state General permit, provided that the Discharge or connection is in compliance with all relevant permit conditions to the satisfaction of the Regional Water Quality Control Board.

(b) Stormwater discharges regulated under the State General Industrial Stormwater Permit or State General Construction Stormwater permit, are exempt from discharge prohibitions established by this chapter, provided that the discharger is in compliance with all relevant general permit conditions to the satisfaction of the Regional Water Quality Control Board.

(c) Non-stormwater agricultural discharges that the State Water Resources Control Board or Regional Water Quality Control Board explicitly allows pursuant to a written waiver, waste discharge requirement, or formal policy, provided that the discharger can demonstrate compliance with all relevant permit, waiver or policy conditions to the satisfaction of the State Water Resources Control Board or Regional Water Quality Control Board.

(d) Except as described in section 67.806(g), the following categories of non-stormwater discharges, if the discharger installs, implements and maintains BMPs or other appropriate action to reduce the discharge of pollutants to the MEP using the best available technology and if the discharge does not degrade the stormwater conveyance system:

- (1) Diverted stream flows, provided required permits are obtained.
 - (2) Flows from riparian habitats and wetlands.
 - (3) Foundation drains, not including active groundwater dewatering systems.
 - (4) Individual residential washing of vehicles.
 - (5) Irrigation water including recycled water used for irrigation.
 - (6) Landscape irrigation.
 - (7) Lawn watering.
 - (8) Rising groundwater.
 - (9) Swimming pool, spa, or fountain discharges (if the disinfectant concentration is reduced to 0.0 ppm chlorine or bromine and the pH adjusted to 7.2 - 8.0 pH) excluding filter backwash, acid wash, and algicide-treated other process water discharges.
 - (10) Uncontaminated ground water infiltration to storm drains.
 - (11) Uncontaminated pumped ground water.
 - (12) Water from crawl space pumps.
 - (13) Water from footing drains, not including active groundwater dewatering systems.
 - (14) Springs.
 - (15) Air conditioning condensation.
 - (16) County pre-approved diversions of potable water as part of utility line maintenance, provided that the discharge does not cause erosion or contain sediment or other pollutants.
 - (17) Discharges from potable water sources not subject to NPDES Permit No. CAG679001, other than water main breaks.
- (e) Exemptions to protect public health and safety. Discharges of trauma scene post-cleanup residues, and other discharges provided that it is in conformance with the California RWQCB's Conditional Waiver of Waste Discharge Requirements, Resolution No. R9-2007-0104, adopted October 10, 2007.
- (f) Any discharge category described in section 67.805(d) that the authorized enforcement official determines is a significant source of pollutant to waters of the United States shall be prohibited from entering the stormwater conveyance system or receiving waters, or the discharger shall implement additional BMPs to reduce pollutants in that discharge to the MEP, using the best available technology.
- (1) The authorized enforcement official may issue a written notice to the discharger imposing a schedule to cease the discharge or implement the additional BMPs.

(2) The schedule may take into account the nature and severity of any effects caused by the discharge and the time required to design, engineer, fund, procure, construct and make appropriate BMPs or interim BMPs operational.

67.806 General Best Management Practice Requirements

The following requirements apply to all dischargers:

(a) All dischargers must perform and maintain the following BMPs:

(1) Prior to the rainy season, remove or secure any significant accumulations of eroded soils from slopes previously disturbed by landscaping, clearing or grading, if those eroded soils could otherwise enter and impact the stormwater conveyance system or receiving waters during the rainy season.

(2) Implement, as practicable, those stormwater pollution prevention practices that are generally recognized in that discharger's industry or business as being effective and economically advantageous.

(3) Eliminate illicit connections.

(4) Protect, from erosion, those slopes that have been disturbed by clearing, grading, or landscaping and are more than three feet in height or steeper than 3:1 (run-to-rise). Slope protection shall occur prior to the first rainy season following the clearing, grading or landscaping of the slope and continuously thereafter.

(5) Store all materials and wastes with the potential to pollute stormwater in a manner that either prevents contact with rainfall and runoff from storm flows or contains contaminated runoff for treatment and disposal.

(6) Locate, configure, and manage stockpiles of soil, green waste and compost to prevent the release of materials to the stormwater conveyance system or receiving waters.

(7) Use all materials with the potential to pollute runoff, such as outdoor cleaning and maintenance products, fertilizers, pesticides and herbicides in accordance with label directions. No such product may be disposed of or rinsed into receiving waters or the stormwater conveyance system.

(8) Use dry methods such as sweeping, vacuuming, raking, and application of absorbents to cleanup Pollutants, unless wet cleanup methods are otherwise allowed in this Chapter.

(b) All applications to the County for a permit or approval associated with a development project must be accompanied by a stormwater management plan on a form or in a format specified by the County. The plan shall describe the manner in which the BMPs required by this chapter will be implemented.

(c) After construction is completed, all development projects with the potential to add pollutants to stormwater or to affect the flow rate or velocity of stormwater runoff shall employ the following post-construction BMPs, where feasible, to ensure that pollutants and runoff from

the development will be reduced to the MEP and will not significantly degrade receiving water quality:

(1) Source control BMPs. Source control BMPs include storm drain system stenciling and posting of signs; posting of signs or other form of notification at storm drain inlets and access points to creeks and channels discouraging illegal dumping and stating the receiving water by name; properly designed outdoor material storage areas; properly designed trash storage areas; and implementation of efficient irrigation systems.

(2) LID BMPs. LID BMPs shall maximize infiltration, provide retention, slow runoff, minimize impervious footprint and constructed widths and direct runoff from impervious areas into landscaping.

(3) Buffer zones. A project shall be designed to include a buffer zone for natural water bodies. Where buffer zones are not feasible, other equally serving methods may be implemented such as trees or access restrictions.

(4) Construction BMPs. Implement land disturbance BMPs described in section 67.811.

(5) Maintenance agreement.

(d) BMPs at construction facilities shall be inspected by the discharger before and following predicted rain events.

(e) BMPs shall be maintained to function as intended and designed. BMPs which fail shall be repaired or replaced as soon as it is safe or practicable. If BMPs fail notwithstanding their intent or design, the BMPs shall be modified or upgraded to prevent any further failure in the same or similar circumstances.

(f) Stormwater Pollution Prevention Plan (SWPPP). Notwithstanding the provisions of this chapter, an authorized enforcement official may require a discharger to prepare and submit a SWPPP for approval by the authorized enforcement official as follows:

(1) If the discharger fails to comply with any applicable requirement of this chapter after one or more written notifications or other enforcement action because BMPs have been determined to be inadequate or are not being adequately maintained.

(2) The activity at issue is considered a significant source of contaminants to the stormwater conveyance system or receiving waters despite compliance with this chapter. Any discharger required to submit and to obtain approval of a SWPPP shall install, implement and maintain the BMPs specified in the approved SWPPP at all times.

(3) The SWPPP shall identify the BMPs or corrective measures that will be used by the discharger to prevent or control pollution of stormwater to the MEP. If the facility operates under the State NPDES General Industrial Stormwater permit, the SWPPP submitted to the County shall at a minimum meet the requirements of that permit. If the activity at issue is a construction or land disturbance activity, the SWPPP submitted to the County, shall at a minimum, meet the requirements of the State NPDES General Construction Stormwater permit. If a facility discharges non-stormwater to ground water, the facility shall obtain an RWQCB permit as required by the State Water Code, and shall describe the requirements of that permit in the SWPPP.

(g) Notification of spills, releases and illicit discharges.

(1) Spills, releases, or discharges of pollutants to receiving waters or to the stormwater conveyance system shall be reported by the discharger as required by all applicable state and federal laws.

(2) Any spills, releases or discharges with the potential to endanger health, safety or the environment shall be reported to the Director or Assistant Director, Department of Public Works, within 24 hours after discovery of the spill, release or discharge. 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.

(3) If safe to do so, necessary actions shall be taken to contain and minimize the spill, release or discharge to the MEP.

(h) Sampling, testing, monitoring, and reporting.

(1) Dischargers shall perform the sampling, testing, monitoring and reporting required by this chapter.

(2) An authorized enforcement official may order a discharger to conduct testing or monitoring and to report the results to the County if one or more of the following occurs:

(A) The authorized enforcement official determines that testing or monitoring is needed to determine whether BMPs are effectively preventing or reducing pollution in stormwater to the MEP.

(B) Testing or monitoring is needed to determine whether the facility is a significant source of contaminants to receiving waters.

(C) The authorized enforcement official determines that testing or monitoring is needed to assess the impacts of a discharge on the public's health or safety or the environment.

(D) A discharge has not been eliminated after written notice by an authorized enforcement official.

(E) The RWQCB requires the County to provide any information related to the discharger's activities.

(3) Sampling, testing, or monitoring ordered pursuant to section 67.807(i)(2) may include one or more of the following:

(A) Visual monitoring of dry weather flows, wet weather erosion, discharge points, or condition of BMPs.

(B) Visual monitoring of premises for spills or discharges.

(C) Laboratory analyses of stormwater or non-stormwater discharges for pollutants.

(D) Background or baseline monitoring or analysis.

(E) Monitoring of receiving waters or sediments that may be affected by pollutant discharges by the discharger or by a group of dischargers including the discharger.

(4) The authorized enforcement official may direct the manner in which the results of required testing and monitoring are reported, and may determine that sampling, testing or monitoring may discontinue.

Sec. 67.807. Additional Minimum Best Management Practice Requirements for Residential Activities and Uses

Residential dischargers shall install, implement and maintain the following additional minimum BMPs, where applicable:

(a) Motor vehicle or boat repair and maintenance.

(1) All repair and maintenance activities shall be performed under a permanent roof or other permanent cover, where feasible.

(2) All maintenance and repair activities conducted without cover or without BMPs to prevent discharges are prohibited during times of precipitation.

(3) Any release of fluids, including boat bilge water, during repair or maintenance shall be promptly contained and cleaned up. Any absorbent materials used shall be disposed of as required by law.

(4) Degreasing or pressure washing of engines and other parts is prohibited unless the liquid wastes are contained and properly disposed of as required by law.

(5) Automotive and boat materials and wastes shall be stored indoors, under cover, or in secure and watertight containers.

(b) Motor vehicle washing.

(1) Individual motor vehicles shall be washed over porous surfaces such as lawns and gravel areas, where feasible.

(2) Unused detergent solutions shall not be disposed of directly or indirectly into the stormwater conveyance system or receiving waters. Disposal to the sanitary sewer, such as a sink, toilet or floor drain or to a porous surface, where allowed by this chapter, is required.

(3) The use of "hose off" or single use engine degreasing chemicals is prohibited, unless captured and disposed of properly.

(4) Motor vehicle washing other than individual residential motor vehicle washing is prohibited unless all wash and rinse water is diverted to a porous area, the sanitary sewer, or contained and disposed of in the same manner.

(5) Degreasing or pressure washing of engines and other parts is prohibited unless the liquid wastes are contained and properly disposed of as required by law.

(c) Motor vehicle parking.

(1) Residential dischargers shall remove excessive accumulations of oil and grease deposited by vehicles they own from parking areas, using dry cleanup methods such as absorbents, scraping, vacuuming, sweeping, mop and bucket.

(2) Residential dischargers shall move vehicles from streets when notified to allow for street cleaning.

(d) Home and garden care activities and product use.

(1) Residential dischargers or their contractors shall adjust irrigation systems to avoid excessive runoff.

(2) Residential dischargers or their contractors shall clean up and properly dispose of spills from gardening chemicals, fertilizers or soils to non-porous surfaces.

(3) Lawn and garden care products shall be stored in closed, labeled containers, such as in covered areas, off the ground, or under protective tarps, and in a manner that will not lead to a discharge.

(4) Household hazardous waste may not be disposed of directly or indirectly to the trash or to the street, gutter or storm drain.

(e) Home care and maintenance.

(1) Painting equipment shall not be cleaned in or over streets, sidewalks, gutters, or yard drains.

(2) Action shall be taken to minimize and contain all spills of hazardous materials, if it is safe to do so.

(3) Household hazardous materials shall be stored indoors or under cover, and in closed and labeled containers.

(f) Manure and pet waste management.

(1) Where practicable, all areas, where livestock, horses or other large animals are confined, shall be bermed or curbed to contain animal waste where it is produced or managed in a manner that avoids a discharge to the stormwater conveyance system or receiving waters. If compliance is not practicable, manure shall be cleaned up at least twice weekly and must be composted or properly stored prior to disposal.

(2) Areas used for storing or composting manure shall be located, configured or managed to prevent runoff to stormwater conveyance system or receiving waters.

(g) Private sewer laterals and on-site wastewater systems.

(1) Private sewer laterals shall be cleaned, maintained and when necessary replaced to prevent seepage and spills. On-site wastewater systems shall be pumped, maintained and when necessary modified or replaced to prevent spills.

(2) Spills from private sewer laterals and on-site wastewater systems shall be contained and cleaned-up in a manner that minimizes any release of pollutants to the stormwater conveyance system or receiving waters.

(3) Any release from a private sewer lateral that enters the stormwater conveyance system or receiving waters shall be immediately reported to the County.

(4) Failed on-site wastewater systems shall be repaired or replaced.

C. BMP Requirements and Options for Specific Residential Pollutant-generating Activities (PGAs)

Table 8.1.1 – Required and Optional Best Management Practices (BMPs) by Pollutant-generating Activity

Pollutant-generating Activity	Best Management Practice	WPO Requirement	Optional or Recommended
AUTOMOBILE AND BOAT			
Parking and storage	a. Remove excess accumulations of oil and grease deposited by vehicles from parking areas, using dry cleanings methods (e.g., absorbents, scraping, vacuuming, sweeping, mop and bucket).	◉	
	b. Move vehicles or boats from streets when notified to allow street cleaning.	◉	
Maintenance and repair	a. Perform all repair and maintenance activity under a permanent roof or other permanent cover, where feasible.	◉	
	b. All maintenance and repair activities conducted without cover or without BMPs to prevent discharges are prohibited during times of precipitation.	◉	
	c. Promptly contain and clean up any release of fluids, including boat bilge water, during repair or maintenance. Dispose of any absorbent materials used as required by law.	◉	
	d. Degreasing or pressure washing of engines and other parts is prohibited unless the liquid wastes are contained and properly disposed of as required by law.	◉	
Washing and cleaning	a. Wash individual motor vehicles over porous surfaces such as lawns and gravel areas, where feasible.	◉	
	b. Do not directly or indirectly dispose of unused detergent solutions into the stormwater conveyance system or receiving waters. Disposal to the sanitary sewer, such as sink toilet or floor drain or to a porous surface is required.	◉	
	c. Do not use "hose off" or single use engine degreasing chemicals unless captured and disposed of properly.	◉	
	d. Do not wash motor vehicles (other than individual residential motor vehicles) unless all wash and rinse water is diverted to a porous area, the sanitary sewer, or contained and disposed of in the same manner.	◉	
	e. Do not degrease or pressure wash engines and other parts the liquid wastes are contained and properly disposed of as required by law.	◉	

Pollutant-generating Activity	Best Management Practice	WPO Requirement	Optional or Recommended
	f. Use a commercial car washing facility instead of washing and cleaning automobiles in residential areas.		P2 ¹
	g. Use low toxic substitutes to wash and clean automobiles and boats.		P2
	h. Clean parts mechanically or pressure clean.		P2
Material and waste storage	a. Store automotive and boat material and wastes indoors, under cover, or in secure and watertight containers.	◉	
Waste management and disposal	a. Do not dispose of household hazardous waste directly or indirectly to the trash or to the street, gutter or storm drain.		◉
LAWN AND GARDEN			
Over-irrigation	a. Adjust irrigation systems to avoid excessive runoff.	◉	
	b. Adjust irrigation schedule according to seasonal changes.		◉
Chemical product use (fertilizers, pesticides, and herbicides)	a. Clean up and properly dispose of spills from gardening chemicals, fertilizers, or soil to non-porous surfaces.	◉	
	b. Use low-maintenance plants (native) that do not require fertilizer.		P2
	c. Use organic, slow-releasing, and/or low-toxic substitutes and use only when needed. Avoid using sprays.		P2
	d. Avoid applying chemicals prior to or during storm events.		◉
	e. Use fertilizer substitutes, such as mulch of leaves, bark, and composted manure and/or garden waste where it is not likely to get carried off into storm drains.		P2
	f. Use integrated pest management practices.		P2
Materials and waste storage	a. Store lawn and garden care products in closed, labeled containers, such as in covered areas, off the ground, or under protective tarps, and in a manner that will not lead to a discharge.	◉	
Waste management and disposal	a. Do not dispose of household hazardous waste directly or indirectly to the trash or to the street, gutter or storm drain.	◉	
	b. Compost green waste.		P2

¹ Pollution prevention BMP

Pollutant-generating Activity	Best Management Practice	WPO Requirement	Optional or Recommended
HOUSEHOLD AND HOME			
Painting	a. Do not clean painting equipment in or over streets, sidewalks, gutters, or yard drains.	◉	
Repair and maintenance	a. Minimize and contain all spills of hazardous materials, if it is safe to do so.	◉	
Outdoor cleaning	a. Use dry methods (sweep, vacuum, etc.) to clean outdoor areas, such as sidewalks, driveways, and patios.		P2
	b. Divert wash water to landscaped or pervious surfaces using portable berms or sandbags. Remove and discard accumulated residual litter.		◉
	c. Protect storm drain inlets from run-off.		◉
Pool, spa, and fountain care	a. Properly maintain pools, spas, and fountains to prevent the need for excessive toxic chemicals.		◉
	b. Never clean filters in the street, gutter, or storm drain. Rinse cartridge filters onto a dirt area and spade filter residue into the soil. Keep backwash discharges out of the street and storm drain. Backwash sand and diatomaceous earth filters onto a dirt area. Dispose of spent filter materials in the trash.		◉
	c. Do not discharge backwash wastewater to the stormwater conveyance system or receiving waters. Dispose of backwash wastewater to the sanitary sewer, to a holding tank or settling pond, or by infiltration to the soil.		◉
	d. Pool, spa, and fountain water intended for discharge to the stormwater conveyance system shall contain a concentration of zero ppm chlorine or bromine prior to discharge. Water discharged after acid washing shall be neutralized to a pH of 7.2 – 8.0.		◉
Materials and waste storage	a. Store household hazardous materials indoors or under cover, and in closed and labeled containers.	◉	
Waste management and disposal	a. Do not directly or indirectly dispose of household hazardous waste to the trash or to the street, gutter or storm drain.		◉

Pollutant-generating Activity	Best Management Practice	WPO Requirement	Optional or Recommended
PETS			
Pet waste disposal	a. Pick up waste around the home and during walks.		◉
	b. Properly dispose of waste into a covered receptacle immediately to prevent material from entering into the stormwater conveyance system or receiving waters.		◉
	c. Bury pet waste in the yard in several locations throughout property. Dig a hole at least 5 inches deep and away from vegetable gardens and any water body, ditch or well.		◉
	d. Flush waste down the toilet where it is properly treated.		◉
Pet care	a. Bathe and clean pets indoors to allow wash water to drain into the sanitary sewer.		◉
	b. Wash pets over porous surfaces such as lawns and gravel areas.		◉
	c. Do not directly or indirectly dispose of unused detergent solutions to the stormwater conveyance system or receiving waters. Instead dispose of solutions to the sanitary sewer (e.g., through a sink, toilet or floor drain) or to a porous surface.		◉
LIVESTOCK AND LARGE ANIMALS			
Manure management	a. Where practicable, berm or curb all areas where livestock, horses or other large animals are confined to contain animal waste where it is produced, or manage waste in a manner that avoids a discharge to the stormwater conveyance system or receiving waters. If compliance is not practicable, clean up manure at least twice weekly and compost or properly store it prior to disposal.	◉	
Manure disposal	a. Dispose of manure in a covered waste receptacle.		◉
Composting	a. Locate, configure, or manage areas used to store or compost manure to prevent runoff to stormwater conveyance system or receiving waters.	◉	

Attachment 9.1 – Dry Weather Sampling Sites

Attachment 9.1 Dry Weather Sampling Sites

Watershed	Site ID	HSA	Location	Latitude	Longitude	TB Page	TB Grid	Conveyance Type
Santa Margarita River	SMG07	902.22	Sandia Creek @ Sandia Creek Drive	33.42460	-117.24904	997	F3	Natural Creek
	SMG08	902.21	De Luz Creek @ De Luz Road	33.42184	-117.32179	996	G4	Natural Creek
	SMG09	902.22	Santa Margarita River @ Ecological Reserve Entrance	33.42839	-117.19561	998	C3	Natural Creek
	SMG10	902.21	Santa Margarita River @ Sandia Creek Drive	33.40750	-117.25018	997	G5	Natural Creek
San Luis Rey River	SLR01	903.12	Moosa Canyon Creek @ Old River Road	33.28369	-117.21886	1068	A2	Natural Creek
	SLR02	903.12	Little Gopher Canyon Creek @ Old River Road	33.26578	-117.23320	1067	J4	Natural Creek
	SLR04	903.11	Hutchinson Street @ Hidden Lake Lane	33.24084	-117.24198	1087	H1	Natural Creek
	SLR06	903.12	Live Oak Creek @ Oak Cliff Drive	33.33545	-117.18830	1048	E1	Earthen Channel
	SLR08	903.14	Moosa Canyon Creek @ Sunday Drive	33.21497	-117.03338	1090	E4	Earthen Channel
	SLR10	903.13	Old 395 Creek @ Old Hwy 395	33.20494	-117.12968	1089	C5	Outlet
	SLR11	903.13	Old 395 Creek @ Welk View Drive	33.23783	-117.14607	1089	A1	Earthen Channel
	SLR12	903.12	Green Canyon Creek @ Sycamore Road	33.33312	-117.23551	1047	H2	Natural Creek
	SLR14	903.12	Ostrich Farm Creek @ Highway 76	33.29353	-117.22373	1048	A7	Natural Creek
	SLR15	903.13	Moosa Canyon Creek @ End of Betsworth Road	33.22763	-117.08392	1089	H2	Natural Creek
	SLR16	903.12	San Luis Rey River @ Vista Way	33.26052	-117.23836	1067	H5	Natural Creek
	SLR17	903.12	Keyes Creek @ Dunlin Road (San Luis Rey River)	33.32384	-117.15723	1048	H3	Natural Creek
	SLR18	903.21	San Luis Rey River @ Couser Canyon Pass	33.34040	-117.13124	1029	B7	Natural Creek
	SLR20	903.22	Yuma Creek @ Pala Road (Highway 76)	33.28840	-116.95981	1051	D7	Natural Creek
	SLR21	903.22	Pauma Creek @ Pala Road (Highway 76)	33.32370	-116.99665	1050	J2	Natural Creek
	SLR27	903.12	Live Oak Creek @ Highway 76	33.31514	-117.19418	1048	D4	Natural Creek

Attachment 9.1 Dry Weather Sampling Sites

Watershed	Site ID	HSA	Location	Latitude	Longitude	TB Page	TB Grid	Conveyance Type
	SLR29	903.12	Keys Creek @ Lilac Road	33.28808	-117.08333	1069	H1	Natural Creek
	SLR30	903.12	Couser Canyon Creek @ Couser Canyon Road	33.33488	-117.13120	1049	B1	Natural Creek
Carlsbad	CAR01	904.61	San Elijo Creek @ La Granada	33.02297	-117.22729	1168	A3	Natural Creek
	CAR02	904.62	Escondido Creek @ East County Club Drive	33.09901	-117.13047	1129	C6	Natural Creek
	CAR03	904.61	Escondido Creek @ El Camino Del Norte	33.04839	-117.22716	1148	A6	Natural Creek
	CAR04	904.52	San Marcos Creek @ Discovery Street	33.13046	-117.20045	1128	D2	Natural Creek
	CAR05	904.32	Buena Creek @ Robelini Drive	33.17239	-117.20997	1108	C3	Earthen Channel
	CAR06	904.53	San Marcos Creek @ Olive Street and Sycamore Drive	33.17993	-117.15341	1108	J2	Earthen Channel
	CAR08	904.62	Reidy Canyon Creek @ Paseo Del Norte	33.17810	-117.09193	1109	G2	Natural Creek
	CAR09	904.61	San Elijo Creek @ El Camino Real	33.01084	-117.23985	1167	J4	Natural Creek
	CAR10	904.61	Tributary of San Elijo Creek @ San Elijo Road	33.02585	-117.21569	1168	C2	Natural Creek
	CAR12	904.62	Reidy Canyon Creek @ Bachelor Lane	33.19801	-117.08966	1089	G6	Natural Creek
	CAR13	904.52	Storm Drain Outfall to Lake San Marcos @ End of San Marino Drive	33.12012	-117.20997	1128	C3	Outlet
	CAR14	904.52	Tributary to Lake San Marcos @ End of El Chino Lane	33.11896	-117.20744	1128	C3	Earthen Channel
	CAR15	904.62	Jesmond Dene Creek @ Jesmond Dene Heights Road	33.17084	-117.10002	1109	F3	Natural Creek
San Dieguito River	SDG02	905.41	Etcheverry Creek @ Highway 67	33.02243	-116.89673	1172	D2	Natural Creek
	SDG03	905.41	Santa Maria Creek @ Rangeland Road	33.03379	-116.93608	1151	H7	Natural Creek
	SDG04	905.41	Hatfield Creek @ Magnolia Avenue	33.05258	-116.84492	1153	A4	Natural Creek
	SDG05	905.11	San Dieguito River @ El Apajo (end)	32.99948	-117.20550	1168	D6	Natural Creek
	SDG07	905.11	La Zanja Canyon Creek @ Rancho Santa Fe Farms Road	32.97771	-117.18116	1188	G2	Natural Creek

Attachment 9.1 Dry Weather Sampling Sites

Watershed	Site ID	HSA	Location	Latitude	Longitude	TB Page	TB Grid	Conveyance Type
	SDG08	905.11	Green Valley Creek @ Lone Quail Road	33.01962	-117.11974	1169	E3	Earthen Channel
	SDG09	905.23	Felicita Creek @ Quite Hill Farm Road	33.07326	-117.08373	1149	J2	Natural Creek
	SDG10	905.32	Rockwood Canyon Creek @ San Pasqual Road (also called Guejito Creek or Quejito Creek)	33.09456	-116.96132	1131	E6	Natural Creek
	SDG12	905.41	Storm Drain Channel @ Seventh Street	33.04211	-116.86165	1152	H6	Concrete Channel
San Diego River	SDR01	907.33	Chocolate Canyon Creek @ Arnold Way	32.84127	-116.80540	1233	F5	Natural Creek
	SDR02	907.33	Alpine Creek @ Tavern Road	32.83192	-116.77528	1234	A6	Natural Creek
	SDR03	907.33	Alpine Creek @ Midway Drive	32.83879	-116.79011	1233	H6	Natural Creek
	SDR05	907.13	Bradley Avenue @ Graves Avenue	32.81889	-116.95928	1251	F2	Concrete Channel
	SDR07	907.13	Storm Drain Channel @ Greenfield Drive & Winrow Road	32.80826	-116.91151	1252	C3	Natural Creek
	SDR08	907.14	Los Coches Creek @ I-8 Business Route	32.83599	-116.90040	1232	D7	Natural Creek
	SDR11	907.12	San Diego River @ Channel Road	32.86473	-116.92755	1232	A2	Concrete Channel
	SDR13	907.12	Eucalyptus Hills Creek @ Riverside Drive (Storm Drain Channel)	32.86204	-116.94466	1231	H3	Concrete Channel
	SDR15	907.12	Lindo Lake @ Petite Lane	32.85716	-116.91278	1232	C3	Outlet
	SDR16	907.14	Los Coches Creek @ Los Coches Road & Ha-Hana Road	32.84004	-116.91346	1232	C6	Natural Creek
	SDR17	907.12	San Vicente Creek @ Willow Road	32.87565	-116.92145	1232	B1	Natural Creek
	SDR18	907.12	Quail Creek Inflow @ Lindo Lake	32.86030	-116.91760	1232	B3	Outlet
	SDR19	907.23	Tributary of San Vicente Creek @ San Vicente Road	33.00561	-116.82115	1173	D4	Natural Creek
	SDR20	907.23	San Vicente Creek @ Wildcat Canyon Road	32.99628	-116.84387	1173	A5	Natural Creek
	SDR21	907.14	Oak Creek @ Olde Highway 80	32.84807	-116.86946	1232	H5	Concrete Channel

Attachment 9.1 Dry Weather Sampling Sites

Watershed	Site ID	HSA	Location	Latitude	Longitude	TB Page	TB Grid	Conveyance Type
	SDR22	907.33	Tributary of Chocolate Canyon Creek @ Arnold Way	32.84232	-116.80839	1233	F5	Outlet
	SDR24	907.12	Tributary to the San Diego River @ 11633 Woodside Avenue	32.85504	-116.94268	1231	H4	Earthen Channel
	SDR25	907.23	San Vicente Creek @ San Vicente Road	33.00162	-116.80160	1173	F4	Natural Creek
	SDR34	907.14	Tributary to Los Coches Creek @ 11962 Woodside Avenue	32.85565	-116.93548	1231	J4	Outlet
Sweetwater River	SWT01	909.12	Sweetwater River @ Willow Road	32.65895	-117.04231	1310	F3	Natural Creek
	SWT02	909.12	Acacia Avenue @ Bonita Road	32.66558	-117.02409	1310	J2	Concrete Channel
	SWT03	909.12	Sweetwater River @ Plaza Bonita Road	32.65069	-117.06374	1310	D4	Natural Creek
	SWT05	909.12	San Miguel Creek @ Bonita Road	32.66692	-117.02325	1310	J2	Earthen Channel
	SWT07	909.12	Quarry Road @ Swap Meet Road	32.70114	-117.00927	1291	A4	Earthen Channel
	SWT08	909.12	Casa de Oro Creek @ Valencia Street/Kings View Circle	32.73326	-117.00865	1271	A7	Concrete Channel
	SWT09	909.12	Spring Valley Creek @ Valencia Street	32.73329	-117.00857	1271	A7	Concrete Channel
	SWT10	909.22	Jamacha Road @ Willow Glen Drive	32.74445	-116.93002	1272	A5	Outlet
	SWT11	909.22	Sweetwater River @ Steele Canyon Road	32.74449	-116.91693	1272	C5	Earthen Channel
	SWT12	909.21	Sweetwater River @ Old Bridge	32.73266	-116.94029	1271	J6	Natural Creek
	SWT13	909.21	Millar Ranch Road @ Hwy 94	32.73028	-116.93887	1271	J7	Concrete Channel
	SWT14	909.12	Helix Street Next to Hwy 94	32.74968	-117.00087	1271	B5	Concrete Channel
	SWT15	909.12	Casa de Oro Creek @ Kenwood Drive/Barbic Court	32.74544	-116.99168	1271	C5	Earthen Channel
	SWT18	909.23	Harbison Canyon Road @ Collier Way	32.81511	-116.83599	1253	C2	Natural Creek
	SWT20	909.26	Via Viejas @ Private Lake	32.81894	-116.75211	1254	C1	Outlet

Attachment 9.1 Dry Weather Sampling Sites

Watershed	Site ID	HSA	Location	Latitude	Longitude	TB Page	TB Grid	Conveyance Type
	SWT21	909.26	North Fork of Sweetwater River @ Tavern Road and Real Way Lane	32.80879	-116.78036	1253	J2	Natural Creek
	SWT22	909.21	Indian Springs Creek @ Highway 94	32.71966	-116.87986	1292	G1	Natural Creek
	SWT23	909.21	Jamul Road @ Mexican Canyon Creek	32.72929	-116.87239	1272	H7	Natural Creek
	SWT25	909.21	Jamacha Boulevard-Highway 94 @ Campo Road	32.73968	-116.95245	1271	H6	Natural Creek
Otay River	OTY03	910.31	Dulzura Creek @ Otay Lakes Valley Road	32.63624	-116.88456	1293	G6	Natural Creek
	OTY04	910.33	Olive Vista Creek @ Olive Vista Drive	32.72168	-116.85344	1293	A1	Natural Creek
Tijuana River	TIJ01	911.61	Cottonwood Creek @ Old Highway 80 (Bridge Crossing)	32.78844	-116.49732	430	A6	Natural Creek
	TIJ02	911.41	Pine Valley Creek @ Old Highway 80 and Pine Valley Road	32.83776	-116.53725	1237	A5	Natural Creek
	TIJ04	911.82	Campo Creek @ Hwy 94	32.60939	-116.47421	430	B10	Natural Creek

Attachment 9.2 – Laboratory Sampling and Analysis Requirements

Attachment 9.2 Laboratory Sampling and Analysis Requirements

Summary of Laboratory Sampling and Analysis Requirements

Physical and Inorganic Non-Metals	Permit Requirement?	Analytical or Field Method ⁵	Container ¹	Volume (mL)	Preservative (+ 4° C)	Holding Time	Detection Limit(s)
Field Screening Parameters							
Turbidity	Y	Horiba Multiparameter Water Quality Instrument	in situ field measurement			N/A	N/A
pH	Y		in situ field measurement			N/A	N/A
Conductivity	Y		in situ field measurement			N/A	N/A
Temperature	Y		in situ field measurement			N/A	N/A
Dissolved Oxygen	Y		in situ field measurement			N/A	N/A
Ammonia-N	Y	Field Colorimetric ²	P	250	none	N/A	0.10 mg/L
Dissolved Phosphorous-P	Y		P	250	none	N/A	0.32 mg/L
Nitrate-N	Y		P	250	none	N/A	0.68 mg/L
MBAS	Y	Detergent Test Kit ³	P	250	none	N/A	0.25 mg/L
Laboratory Analytical Parameters							
Oil and Grease	Y	EPA 1664	G	1000	HCl	28 d	1.0 mg/L
Diazinon	Y	EPA 8081	G	1000	none	7 d	0.05 ug/L
Chlorpyrifos	Y				none		0.05 ug/L
Malathion	N				none		0.05 ug/L
Total Hardness	Y	SM 2340C	P	500	none	6 months	2.0 mg CaCO ₃ /mL
Cadmium (dissolved)	Y	SM 2060	P	500	none	6 months after filtration and preservation w/ HNO ₃	5 ug/L
Copper (dissolved)	Y						5 ug/L
Lead (dissolved)	Y						5 ug/L
Zinc (dissolved)	Y						20 ug/L
Coliform, total ⁴	Y	MPN - SM 9221C	P (sterile)	100	Na ₂ S ₂ O ₃	6 hours at 4°C	20 MPN/100 mls
Coliform, fecal ⁴	Y	MPN - SM 9221C	P (sterile)				
Enterococcus ⁴	Y	MPN - SM 9230B	P (sterile)				

¹V=VOA / G=Amber Glass / P=Plastic

²Analyzed with Chemetrics VVR Water Analysis System - an automatic colorimetric method. Ammonia was measured using a Chemetrics colorimetric test kit using a color wheel beginning July 15, 2002.

³Analyzed with Chemetrics detergent test kit - visual colorimetric method using a color wheel

⁴3 extra dilutions for total & fecal Coliform Range: 20 to 1.6 million MPN/100mL and 2 extra dilutions for Enterococcus Range: 10 to 160,000 MPN/100m

⁵Analytical methods may vary depending upon laboratory contractors. However EPA or methods consistent with the Permit will be used.

Attachment 9.3 – Numeric Action Levels

Attachment 9.3 Numeric Action Levels for Field and Laboratory Analyses

Field Screening Analytes	Action Levels¹	Source/ Notes
pH	<6.5 or >9.0	Basin Plan, w/ allowance for elevated pH due to excessive photosynthesis. Elevated pH is especially problematic in combination with high ammonia
Orthophosphate-P (mg/L)	2.0	USEPA Multi-sector General Permit
Nitrate-N (mg/L)	10.0	Basin Plan, and drinking water standards
Ammonia-N (mg/L)	1.0	Based on Workgroup experience. May also consider unionized ammonia fraction
MBAS (mg/L)	1.0	Basin Plan, w/ allowance based on Workgroup field experience and possible field reagent interferences
Turbidity (NTU)	Best Professional Judgment	WQOs relevant to inland surface waters are not available. Base judgment on channel type and bottom, time since last rain, background levels, and most importantly visual observation (e.g. unusual colors and lack of clarity), and unusual odors.
Temperature (°F or °C)	Best Professional Judgment	Base judgment on season, air temperature, channel type, shading, etc.
Conductivity (umhos/cm)	Best Professional Judgment	Values > 5,000 umhos/cm may indicate IC/ID however; EC may be highly elevated in some regions due to high-TDS groundwater exfiltration to surface water, mineral dissolution, drought, and seawater intrusion. Normal source ID and discharge elimination work is not effective in these situations. Knowledge of area background conditions is important. Values < 750 may indicate excessive potable water discharge or flushing.
Laboratory Analytes	Action Levels	Source/ Notes
Oil and Grease (mg/L)	15	USEPA Multi-sector General Permit. If a petroleum sheen is observed, the sample should be collected from the water surface. Visual observations may justify immediate investigation.
Diazinon (ug/L)	0.5	Response to diazinon and chlorpyrifos levels above 0.5 ug/L should focus on education and outreach to potential dischargers in the target drainage basin. Highly elevated levels should be investigated aggressively as with other potential IC/IDs.
Chlorpyrifos (ug/L)	0.5	
Dissolved Cadmium (ug/L)	California Toxics Rule	Use California Toxics Rule Table, 1-hour criteria to determine appropriate action level for individual samples. Table provides benchmarks based on hardness and dissolved metals concentration. For example, at 300 mg/L hardness the following action levels would apply: Cd - 14 ppb; Cu - 38 ppb; Pb - 209 ppb; and Zn - 297 ppb.
Dissolved Copper (ug/L)	California Toxics Rule	
Dissolved Lead (ug/L)	California Toxics Rule	
Dissolved Zinc (ug/L)	California Toxics Rule	
Total Coliform (MPN/ 100 mls)	50,000	Action levels are based on upper 90% confidence level of Copermittees 2002 dry weather analytical monitoring data.
Fecal Coliform (MPN/ 100 mls)	20,000	
Enterococcus (MPN/ 100 mls)	10,000	

¹The referenced action levels should not be the sole criteria for initiating a source identification investigation. Dry weather monitoring data should be interpreted using a variety of available information including best professional judgment and within-site and between-site sample variability.