

Appendix XVIII. MS4 Outfall Monitoring Field Datasheet

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City of San Diego Trash Assessment Worksheet

Record all measurements in feet.

1 inch = .083ft. 7 inch = .581ft.
 2 inch = .166ft. 8 inch = .664ft.
 3 inch = .249ft. 9 inch = .747ft.
 4 inch = .332ft. 10 inch = .83ft.
 5 inch = .415ft. 11 inch = .913ft.
 6 inch = .498ft. 12 inch = 1 foot

Site ID: _____ Date: _____ Observer(s): _____

Is trash readily visible to the public? (Circle one) **Yes** **No** Photo Taken? (Circle one) **Yes** **No**

Area Assessed

Length (ft): _____ Width (ft): _____ Depth (ft): _____ % Trash Cover: _____

Total Assessed Volume (ft³): LxWxD _____ Total Trash Volume (ft³): TAV x %TC ÷ 100 _____

Trash Assessment Parameter	TRASH ASSESSMENT CONDITIONS				
	Optimal	Sub optimal	Marginal	Poor	Very Poor
1. Overall Level of Trash	At first glance, no trash visible. Close inspection of survey area reveals little or no trash (<10 pieces).	At first glance, little or no trash visible. Close inspection of survey area reveals small quantity of trash (10-50 pieces).	Trash is evident in low to medium levels at first glance. Close inspection of survey area reveals significant quantity of trash (51- 100 pieces).	Trash distracts the eye at first glance. Close inspection of survey area reveals substantial quantity of trash (101-400 pieces).	Trash is immediately obvious and visually dominant at first glance. Close inspection of survey area reveals excessive quantity of trash (>400 pieces).
SCORE	1	2	3	4	5
2. Threat to Aquatic Life	Trash, if any, is mostly paper or wood products or other biodegradable materials. Note: deposited biodegradable material like yard waste, food waste or leaf litter creates high oxygen demand, and should not be scored as optimal.	Little or no (<10 pieces) persistent, buoyant litter such as: hard or soft plastics, Styrofoam, balloons, cigarette butts. Presence of settleable, degradable, and nontoxic debris such as glass or metal.	Medium prevalence (10-50 pieces) of persistent, buoyant litter such as: hard or soft plastics, Styrofoam, balloons, cigarette butts. Any evidence of clumps of deposited yard waste, food waste or leaf litter. Medium prevalence (10-50 pieces) of settleable debris such as glass or metal.	Large amount (51-100 pieces) of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of deposited yard waste, food waste or leaf litter; or large amount (51-100 pieces) of settleable debris such as glass or metal.	Excessive amount (>100 pieces) of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of deposited yard waste, food waste or leaf litter; or excessive amount (>100 pieces) of settleable debris such as glass or metal.
SCORE	1	2	3	4	5
3. Threat to Human Health	No evidence of bacteria or virus hazards such as medical waste, diapers, animal or human waste. No toxic substances such as chemical containers or batteries. No ponded water for mosquito production. No evidence of puncture and laceration hazards such as broken glass or metal debris.	No bacteria or virus hazards or sources of toxic substances, but small presence (<10 pieces) of puncture and laceration hazards such as broken glass and metal debris. Presence of ponded water in trash items such as tires or containers for mosquito production, but no presence of mosquitoes.	Presence of any one of the following: mosquitoes, hypodermic needles or other medical waste; used diaper, animal waste, or human feces; any toxic substance such as chemical containers, batteries, or fluorescent light bulbs. Medium prevalence (10-50 pieces) of puncture or laceration hazards.	Presence of two of the items described in the marginal condition category. High prevalence (51-100 pieces) of puncture or laceration hazards.	Presence of more than two of the items described in the marginal condition category. Extremely high prevalence (>100 pieces) of puncture or laceration hazards.
SCORE	1	2	3	4	5
4. Dumping	No evidence of dumping. No bags of trash, no yard waste, no household items placed at site to avoid proper disposal, no shopping carts.	Some evidence of dumping. Limited vehicular access limits the amount of potential dumping, or material dumped is diffuse paper-based debris.	Presence of one of the following: furniture, appliances, shopping carts, bags of garbage or yard waste, coupled with vehicular access that facilitates in-and-out dumping of materials to avoid landfill costs.	Evidence of chronic dumping, with more than one of the following items: furniture, appliances, shopping carts, bags of garbage, or yard waste. Easy vehicular access for in- and-out dumping of materials to avoid landfill costs.	Evidence of excessive chronic dumping, with several of the following items: furniture, appliances, shopping carts, bags of garbage, or yard waste. Easy vehicular access for in-and-out dumping of materials to avoid landfill costs.
SCORE	1	2	3	4	5
5. Littering	Tossed/dropped litter is incidental (< 5 pieces).	Evidence of some tossed/dropped litter (5-10 pieces).	Tossed/dropped litter is prevalent (10-50 pieces).	Large amount of tossed/dropped litter (51-100 pieces).	Excessive amount of tossed/dropped litter (>100 pieces).
SCORE	1	2	3	4	5



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Site ID: _____ Date: _____ Observer(s): _____

6. Trash Accumulation from Storm Drain	Little or no trash in the survey area which comes from the storm drain (< 5 pieces).	Some trash in the survey area which comes from the storm drain (5-10 pieces).	Significant amount of trash in the survey area comes from the storm drain (10-50 pieces).	Large amount of trash in the survey area comes from the storm drain (51-100 pieces).	Excessive amount of trash in the survey area comes from the storm drain (>100 pieces).
SCORE	1	2	3	4	5
7. Trash Accumulation From Outside Transport	Trash, if any, appears to have been directly deposited at the survey area either via the storm drain or other direct deposition (Litter, dumping).	Some trash (<10 pieces) deposited at survey area by outside transport (means other than storm drain, littering, or dumping).	Significant amount of trash (10 to 50 pieces) deposited at survey area by outside transport (means other than storm drain, littering, or dumping).	Large amount of trash (51-100 pieces) deposited at survey area by outside transport (means other than storm drain, littering, or dumping).	Excessive amount of trash (>100 pieces) deposited at survey area by outside transport (means other than storm drain, littering, or dumping).
SCORE	1	2	3	4	5
COLUMN TOTALS					

OVERALL CONDITION

TOTAL OF ALL COLUMNS = OVERALL SCORE: _____

OVERALL SCORE	OVERALL CONDITION	ACTION TO BE TAKEN	
7	Optimal	☐ Continue Scheduled Monitoring	☐ Continue Public Outreach and Education
		☐ Other	
8-14	Sub-optimal	☐ Continue Scheduled Monitoring	☐ Continue Public Outreach and Education
		☐ Other	
15-21	Marginal	☐ Increased Public Outreach and Education Efforts	☐ Enforcement Action
		☐ Install BMPS's/increase use of existing BMP's	☐ Municipal Crew to collect trash
		☐ Other	
22-28	Poor	☐ Increased Public Outreach and Education Efforts	☐ Enforcement Action
		☐ Install BMPS's/increase use of existing BMP's	☐ Municipal Crew to collect trash
		☐ Other	
29-35	Very Poor	☐ Increased Public Outreach and Education Efforts	☐ Enforcement Action
		☐ Install BMPS's/increase use of existing BMP's	☐ Municipal Crew to collect trash
		☐ Other	

TRASH SOURCE

Trash Category	% of Total Trash Volume	Source				Method of Disposal		Entry Route			
Choose from List Below	<i>*Round to the nearest 5% *Column Sum must = 100%</i>	General Public	Business Related (specify)	School	Homeless/ Transient	Littering	Dumping	Storm Drain	Dumping	Upstream	Other (specify)
		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Automotive	Biohazard	Cigarette Butts		Construction		Fabrics/Clothing		Food Packaging			
Landscape	Large Objects	Toxic Waste		Other Household		Plastic Grocery Bags		Other (specify)			
Comments: _____											



City of San Diego MS4 Outfall Discharge Monitoring Station Inventory Data Sheet

Record all measurements in feet.

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Site ID: _____ Date: _____ Time: _____ Observer(s): _____

GENERAL SITE DESCRIPTION Qualify for Inventory? ☐ Yes ☐ No US Proxy Site? ☐ Yes ☐ No

Site Location / Directions	Latitude	O: _____	USP: _____	
	Longitude	O: _____	USP: _____	
	TB Page	_____	TB Grid	_____

GENERAL AREA INFORMATION (information for the outfall unless otherwise specified)

*City owned? ☐ Yes ☐ No		*City parcel? ☐ Yes # _____ ☐ No		*Easement? ☐ Yes Dwg # _____ ☐ No	
*WMA (Watershed Management Area) ☐ San Dieguito ☐ Penasquitos ☐ Mission Bay / La Jolla ☐ San Diego River ☐ San Diego Bay ☐ Tijuana					
*Watershed (Hydrologic Unit) ☐ San Dieguito (905) ☐ Penasquitos (906) ☐ San Diego (907) ☐ Pueblo San Diego (908) ☐ Sweetwater (909) ☐ Otay (910) ☐ Tijuana (911)					
*Hydrologic Area				*Hydrologic Sub Area #	
*Hydrologic Sub Area Name					
*Approximate Drainage Area Non Industrial (Acres)		☐ < 50 ☐ > 50		*Approximate Drainage Area Industrial (Acres)	
				☐ < 2 ☐ > 2	
*Land Use % ☐ Ind _____ ☐ Comm _____ ☐ Res _____ ☐ Parks _____ ☐ Roads _____ ☐ Open _____ ☐ Mixed _____					
Outfall Accessibility ☐ Safe ☐ Not Overgrown ☐ Does not disturb critical habitat ☐ Inaccessible underground connection ☐ Not Safe ☐ Overgrown ☐ Disturbs critical habitat				Level of Difficulty @ Sample Point ☐ 1 ☐ 2 ☐ 3	

OUTFALL CHARACTERISTICS

Shape	☐ Circle ☐ Rectangle ☐ Other _____
Dimensions (in)	☐ Diameter _____ ☐ Length _____ ☐ Width _____ ☐ Other _____
Area (in ²)	3.14 X (Diameter ÷ 2) ² = _____ Length X Width = _____
Outfall Material	☐ Concrete ☐ Metal ☐ Plastic ☐ Other _____
Outfall Style	☐ Straight Headwall ☐ Rip Rap Energy Dissipater ☐ Concrete Energy Dissipater ☐ Wing/U Headwall ☐ L Headwall ☐ Pipe to Channel Connection ☐ Curtain Wall ☐ Other _____
Outfall Condition	☐ Normal ☐ Damaged ☐ Scour Pond ☐ Blockage ☐ Unknown due to inaccessibility ☐ Other _____
Vegetation	☐ None ☐ Limited ☐ Normal ☐ Excessive ☐ Unknown due to inaccessibility ☐ Other _____

FLOW CLASSIFICATION (at sample point)

*Historical ☐ Persistent Dry Weather ☐ Transient Dry Weather ☐ No Dry Weather ☐ Unknown Dry Weather			
Today	☐ No Flow ☐ Ponded ☐ Tidal ☐ Flowing	Does water connect to receiving water? ☐ Yes ☐ No ☐ N/A	
FLOW RATE ☐ N/A ☐ See Below ☐ N/C low volume ☐ N/C high volume ☐ N/C flow in and out of pond			
Flowing Creek or Box Culvert	width _____ ft X depth _____ ft X velocity _____ ft/sec X 448.8	GPM	
Filling a Bottle or Known Volume	volume _____ mL ÷ time to fill _____ sec X 0.01585	GPM	
Flowing Pipe	diameter _____ ft depth _____ ft velocity _____ ft/sec (to be calculated at office)	*GPM	

Starred items may be completed in the office

COMMENTS: _____

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City of San Diego

Transitional Dry Weather MS4 Outfall Discharge

Field Screening Monitoring Data Sheet

Record all measurements in feet.

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Site ID: _____ Date: _____ Time: _____ Observer(s): _____

ATMOSPHERIC CONDITIONS

Weather	☐ Sunny	☐ Partly Cloudy	☐ Overcast	☐ Fog	☐ Rain
Tide	☐ N/A	☐ Low	☐ High	☐ Incoming	☐ Outgoing
					Tide Height: _____ ft.
Last Rain	☐ > 72 hours	☐ < 72 hours	Rainfall	☐ None	If rain has fallen within past 72 hours: ☐ < 0.1" ☐ > 0.1"

SAMPLE POINT ACCESSIBILITY, STRUCTURAL CONDITION & SIGNS OF ILLICIT ACTIVITY

Safe?	☐ Yes	☐ No	Overgrown?	☐ Yes	☐ No	Critical Habitat?	☐ Yes	☐ No
Sample Point Condition	☐ Normal	☐ Damaged	☐ Scour Pond	☐ Blockage	☐ Other	_____		
Evidence of Illicit Connection?	☐ No	☐ Yes	_____					
Trash Present ?	☐ No	☐ Yes (complete trash assessment form)	☐ Low (<50 pc)	☐ Med (50-400 pc)	☐ High (>400 pc)			
Evidence of Illegal Dumping?	☐ No	☐ Yes	_____					

SAMPLE POINT FLOW CLASSIFICATION & ESTIMATION

☐ No Flow	☐ Ponded	☐ Tidal	☐ Flowing	Does water connect to receiving water?	☐ Yes	☐ No	☐ N/A
FLOW RATE	☐ N/A	☐ See Below	☐ N/C low volume	☐ N/C high volume	☐ N/C flow in and out of pond		
Flowing Creek or Box Culvert	width _____ ft X depth _____ ft X velocity _____ ft/sec X 448.8					GPM	
Filling a Bottle or Known Volume	volume _____ mL ÷ time to fill _____ sec X 0.01585					GPM	
Flowing Pipe	diameter _____ ft	depth _____ ft	velocity _____ ft/sec (to be calculated at office)			*GPM	

RUNOFF & STATION CHARACTERISTICS (if no flow, fill out biology, deposits and vegetation only)

SD Biology	☐ None	☐ Mosquitoes	☐ Algae	☐ Biofilm	☐ Snails	☐ Fish	☐ Insects	☐ Tadpoles	☐ Other
SD Deposits	☐ None	☐ Stains/Mineral	☐ Fine Particulates	☐ Coarse Sediment/Gravel	☐ Oily Deposits	☐ Other			
SD Vegetation	☐ None	☐ Limited	☐ Normal	☐ Excessive	☐ Other				
Floatables	☐ None	☐ Bubbles/Foam	☐ Sheen	☐ Algae	☐ Fecal Matter	☐ Trash	☐ Other		
Sample Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other			
Sample Color	☐ None	☐ Yellow	☐ Brown (Silty)	☐ White (Milky)	☐ Gray	☐ Other			
Sample Clarity	☐ Clear	☐ Slightly Cloudy	☐ Opaque	☐ Other					

POTENTIAL RUNOFF SOURCES & ELIMINATION (must only be completed when there is flow or ponding)

☐ Unknown	☐ Tidal (20.00+ mS/cm)	☐ Ground Water	Conductivity = _____ (mS/cm) Hanna HI98130 # _____
☐ Permitted Discharge _____	☐ Water Line Break	☐ Sewage	☐ Power Washing
☐ Irrigation Runoff	☐ Pool/Spa Discharge	De-chlorinated? ☐ Yes ☐ No	☐ Other _____
Responsible Party _____			
Location _____			
Reported?	☐ No	☐ Yes	
Flow Source Eliminated?	☐ No	☐ Yes	
Additional Notes _____			

Field Screening Samples Collected? ☐ No ☐ Yes Analytes: _____

Analytical Lab Samples Collected? ☐ No ☐ Yes Analytes: _____

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