

July 10, 2015

Dale Bowyer
San Francisco Bay Regional Water Quality Control Board
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Re: Draft Municipal Regional Stormwater NPDES Permit

Dear Mr. Bowyer:

Thank you for the opportunity to review and comment on the draft Municipal Regional Stormwater NPDES Permit (“Draft MRP”) for 76 municipalities and local agencies in Alameda, Contra Costa, Santa Clara, and San Mateo Counties and the cities of Fairfield, Suisun City, and Vallejo (collectively, the “Permittees”). Baykeeper has actively participated in the development and implementation of the existing municipal regional stormwater NPDES permit, Order R2-2009-0074 (“2009 Permit”), and has significant questions and concerns about the Draft MRP, as discussed in detail below.

C.1. Compliance with Discharge Prohibitions and Receiving Waters Limitations

Baykeeper is concerned with the addition of the following “safe harbor” language in section C.1 of the Draft MRP:

Compliance with Provisions C.9 through C.14 of this Order, which prescribe requirements and compliance schedules for Permittees to manage their cause and contributions to violation of water quality standards or to prevent violation of water quality standards for pesticides, trash, mercury, polychlorinated biphenyls (PCBs), copper, and bacteria, shall constitute compliance with Receiving Water Limitations B.1 and B.2 for these pollutants in receiving waters identified in the provisions. Compliance with Provision C.10, which prescribes requirements and compliance schedules for Permittees to manage their discharges of trash, shall constitute compliance with Discharge Prohibitions A.2 for discharges of trash.

Baykeeper is strongly opposed to this new language, which is inconsistent with core requirements of the federal Clean Water Act (“CWA”) requiring that an NPDES permit ensure compliance with the terms included in the permit. (*See* 33 U.S.C. § 1342(a).) In particular, whereas the present permit requires strict compliance with the narrative and numeric receiving water standards covered by Receiving Water Limitations B.1 and B.2 and Discharge Prohibition A.2, the Draft MRP would effectively eliminate these standards for pollutants covered by sections C.9 through C.14, instead requiring only implementation of the programmatic elements required pursuant to those provisions. Because the ultimate effluent quality permitted for discharge under this permit may contain more pollutants than currently permitted, these provisions are less stringent than the effluent limitations contained in the prior permit, thereby

requiring analysis under the anti-backsliding provision of the federal Clean Water Act. (33 U.S.C. § 1342(o)(1) [“a permit may not be renewed, reissued, or modified to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit”]; *see* 40 C.F.R. § 122.44(l)(1) [“when a permit is renewed or reissued, interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit”].) At present, none of the exceptions to the CWA’s anti-backsliding prohibition appear to apply. (33 U.S.C. § 1342(o)(2).) Moreover, as explicitly provided in the Clean Water Act, “[i]n no event may such a permit to discharge into waters be renewed, reissued, or modified to contain a less stringent effluent limitation if the implementation of such limitation would result in a violation of a water quality standard” established under the CWA. (33 U.S.C. § 1342(o)(3).)

The Draft MRP references “compliance schedules” contained in permit sections C.9 through C.14, but is unclear exactly what the basis and scope of these compliance schedules are. If the Draft MRP proposes to incorporate “schedules of compliance” pursuant to 40 C.F.R. § 122.47, it is unclear why any of the pollutants covered by sections C.9 through C.14 should qualify for such a schedule of compliance. The Draft MRP does not propose any new receiving water limitations or discharge prohibitions for any of these pollutants, all of which are presently covered by the existing permit, and none of which are presently subject to any compliance schedules that we are aware of.

Lastly, we note specific concerns with the pollutants referenced in this new provision, which are discussed more fully in separate sections of this comment. For example, the language in Section C.1 appears to refer to water quality standards for bacteria relevant to all Permittees, but Section C.14 only contains control measures for the City of Pacifica and San Mateo County. Mercury, PCBs, and pesticide toxicity each have specific receiving water limits established by TMDL, and the Draft MRP should be revised to more clearly affirm that the TMDL limits must be complied with in the effluent discharged, and not simply through implementation of programmatic requirements. Lastly, the copper program requirements are important, but do not cover the full range of copper generating sources that may cause or contribute to water quality exceedences without additional controls or treatment.

C.2.f. Corporation Yard BMP Implementation

The Draft MRP requires Permittees to inspect each corporation yard in their jurisdiction each year between September 1 and September 30 to ensure that best management practices (“BMPs”) are fully implemented. This date range should be moved to earlier in the year for two reasons. First, it is not uncommon for the first rain event of the season to occur in the month of September, as happened in 2014. Second, the BMP inspection should be completed sufficiently far in advance of the “rainy season” to allow time for any BMPs determined to be insufficient or in disrepair to be remedied prior to the first rain event of the season. At the same time, we recognize that the inspection should occur as close to the rainy season as possible, to provide better information that BMPs are in working order during the wet season. Given these goals, we recommend a revision to move the BMP inspection period to between August 1 and August 15.

C.3. New Development and Redevelopment

A. Section C.3.b.ii.2-3 Is Ineffective to Meet Green Infrastructure-Related Goals.

We ask the Board to reconsider the square footage threshold for new and redevelopment projects subject to source control through implementation of low impact development (“LID”). The current threshold of 10,000 ft² effectively ensures only the largest of new and redevelopment projects, or those projects outside the central urban core of the Bay Area, will be subject to stormwater management controls.

Moreover, the 10,000 ft² threshold does not meet the requirement that MS4 NPDES permits include controls to reduce the discharge of pollutants to the “maximum extent practicable” (“MEP”). (33 U.S.C. § 1342(p)(3)(B)(iii).) The proposed threshold is twice that of San Francisco’s standard under their Stormwater Management Ordinance which has proven, since passage of the Ordinance in 2010, that a lower threshold standard is feasible in even the most urban areas of Region 2.¹ In addition, the Draft MRP incorporates a 5,000 ft.² threshold for “Special Land use Categories” (Draft MRP, C.3-3), indicating that the Regional Board has determined that a lower threshold is feasible.

The MEP standard “imposes a clear duty on the agency to fulfill the statutory command to the extent that it is feasible or possible.” (*Defenders of Wildlife v. Babbitt*, 130 F. Supp. 2d 121, 131 (D.D.C. 2001); *Friends of Boundary Waters Wilderness v. Thomas*, 53 F.3d 881, 885 (8th Cir. 1995) (“feasible” means “physically possible”). One state hearing board has stated that “[MEP] means to the fullest degree technologically feasible for the protection of water quality, except where costs are wholly disproportionate to the potential benefits” (*North Carolina Wildlife Fed. Central Piedmont Group of the NC Sierra Club v. N.C. Division of Water Quality* (N.C.O.A.H. October 13, 2006) 2006 WL 3890348, Conclusions of Law 21-22.) The North Carolina board further found that the permits in question violated the MEP standard both because commenters highlighted measures that would reduce pollution more effectively than the permits’ requirements and because other controls, such as infiltration measures, “would [also] reduce discharges more than the measures contained in the permits.” (*Id.* at Conclusions of Law 19.)

Similarly, here, the San Francisco example shows that a 5,000 ft.² threshold is feasible and more effective at reducing pollution than the 10,000 ft.² threshold proposed in the Draft MRP. Therefore, Baykeeper requests that a 5,000 ft.² threshold, which has been established for “Special Land Use Categories” (Section C.3.b.ii.1.) in the Draft MRP, be used for all new and redevelopment projects. In the absence of lower thresholds for implementation, the “goals for reducing the adverse water quality impacts of urbanization and urban runoff on receiving waters” established pursuant to Section C.3.j., Green Infrastructure Planning and Implementation, will never be realized.

¹ City and County of San Francisco ordinance requiring the development and maintenance of stormwater management controls for specified activities that disturb 5,000 ft² or more of ground surface, *available at*: www.sfbos.org/ftp/uploadedfiles/bdsupvrs/ordinances10/o0083-10.pdf.

B. The Regional Board Should Develop Tools for Permittees to Determine Compliance with Section C.3.d.

Volume- and flow-based hydraulic design standards presented in Section C.3.d.i. are presented as hydrologic and hydraulic standards, requiring expertise to conduct site-specific calculations. Baykeeper's experience is that in the absence of readily-available site-specific precipitation data, the regulated community either must hire consultants to conduct expensive analysis for generation of site-specific values, or make estimates based on information found on the internet. To ensure adequate oversight and consistent implementation, the Regional Board should prepare site-specific calculations of the 85th percentile storm runoff event, the 85th percentile hourly rainfall intensity, and information necessary to calculate the 50-year peak flow rate.

Comparable documentation, in the form of isohyetal maps to indicate local variations in precipitation, has been in place in Los Angeles since 2004, thus easing the requirements expected from engineers, consultants, and planners, most of whom are unqualified to verify the accuracy of the calculations.² Development of lookup tables and maps for the region entails a discrete level of effort by staff, which would serve the region for decades by easing permit requirements and ensuring consistent implementation of stormwater controls. If staff is unable to conduct such analysis, development of such tools by the Permittees should be included as a permit requirement.

C. Sections C.3.j and C.12.c Must Provide Additional Specificity to Attain TMDL Wasteload Allocations.

Baykeeper applauds the Regional Board for requiring the completion of Green Infrastructure Plans by Permittees, though additional specifications are required to meet the stated objectives:

The Plan is intended to serve as an implementation guide and reporting tool during this and subsequent Permit terms to provide reasonable assurance that urban runoff Total Maximum Daily Load (TMDL) wasteload allocations (e.g., for the San Francisco Bay mercury and PCBs TMDLs) will be met, and to set goals for reducing, over the long term, the adverse water quality impacts of urbanization and urban runoff on receiving waters.

In particular, Section C.3.j. (Green Infrastructure Program Plan Development) contains a number of requirements related to scheduling, map development, adoption of policies, and reporting – none of which relate to the implied goals of reducing mercury, PCBs, and other contaminants in receiving waters. This will undoubtedly result in high expenses related to generation of voluminous reports, for review by overwhelmed staff who are unable to provide adequate review. This has given rise to valid criticism from the

² Isohyetal maps for Los Angeles County are *available at*:
http://www.ladpw.org/wrd/publication/engineering/Final_Report-Probability_Analysis_of_85th_Percentile_24-hr_Rainfall1.pdf.

Permittees that no clear path to compliance exists with regard to this permit provision, or for the interrelated C.12.c. provision (Plan and Implement Green Infrastructure to reduce PCB loads).

We request that if the Regional Board is asking Permittees to reduce contaminant loading through Green Infrastructure, staff specify the location and design standards intended to achieve wasteload reductions. Alternatively, the Regional Board should follow pathways similar to those pursued in Region 4 (Los Angeles), to develop watershed management programs that include multi-benefit regional projects to ensure that MS4 discharges achieve compliance with all final WQBELs set forth in the Basin Plan and do not cause or contribute to exceedances of receiving water limitations by retaining through infiltration or capture and reuse the storm water volume from the 85th percentile, 24-hour storm for the drainage areas tributary to the multi-benefit regional projects.

Green infrastructure holds immense promise for reducing contaminants in a cost-effective manner, while achieving ancillary benefits to communities and habitats. In the absence of targeted implementation, however, risks associated with the proposed provision include high expenses in staff time and consulting fees to generate paperwork, rather than achieving improvements in the watershed. In addition, installations may generate no pollutant load reductions if located in “clean” areas. Over the last decade, millions of dollars have been spent identifying loads and hotspots for mercury, PCBs, and other stormwater-borne pollutants. If this permit in fact aims to achieve reductions in these pollutants through green infrastructure, adequate data exists to target locations for stormwater capture.

For example, a recent report drafted for the Regional Monitoring Program (“RMP”), funded in part by stormwater agencies in order to target management decisions, found particular areas known to contribute PCBs at disproportionately high rates.³ Based on Table 1, taken from the RMP report, Pulgas Creek in San Carlos is known to maintain relatively low flows but high concentrations of PCBs, as well as copper, carbaryl, and PAHs. Such data could be utilized in modeling strategies comparable to those conducted in Los Angeles and Orange Counties, as well as the Puget Sound region, to identify areas contributing disproportionately high pollutant loads and prioritize placement of multi-benefit green infrastructure to capture, infiltrate, and reuse stormwater.

³ Gilbreath A., Hunt J., Wu J., Kim, P., and McKee L., *Final Draft Report: Pollutants of concern (POC) loads monitoring progress report, water years (WYs) 2012, 2013, and 2014* (2015). Prepared by San Francisco Estuary Institute, Richmond, CA.

Table 1. Synthesis of concentrations of pollutants of concern based on three years of sampling data

Analyte Name	Unit	Lower Marsh Creek		Richmond Pump Station		San Leandro Creek		Guadalupe River		East Sunnyvale Channel		Pulgas Creek	
		Number (% detect)	Mean (std.error)	Number (% detect)	Mean (std.error)	Number (% detect)	Mean (std.error)	Number (% detect)	Mean (std.error)	Number (% detect)	Mean (std.error)	Number (% detect)	Mean (std.error)
SSC	mg/L	101 (94%)	108 (97%)	117 (95%)	136 (100%)	137 (98%)	96 (99%)	204 (23.5)	56.8 (5.57)	115 (13.8)	157 (12.3)	232 (31.4)	56.5 (6.27)
ΣPCB	ng/L	22 (100%)	32 (100%)	44 (100%)	39 (100%)	40 (100%)	29 (100%)	1.25 (0.258)	13.8 (1.57)	8.01 (1.16)	14.3 (2.4)	104 (27.5)	505 (261)
Total Hg	ng/L	31 (100%)	32 (100%)	44 (100%)	39 (100%)	40 (100%)	31 (100%)	38.4 (9.62)	39.6 (7.8)	106 (24.2)	212 (35.9)	47.6 (6.68)	18.2 (2.39)
Total MeHg	ng/L	20 (90%)	16 (100%)	30 (100%)	27 (100%)	27 (93%)	20 (100%)	0.291 (0.0741)	0.208 (0.0633)	0.397 (0.0663)	0.504 (0.0677)	0.295 (0.0376)	0.189 (0.033)
TOC	mg/L	30 (100%)	32 (100%)	44 (100%)	40 (100%)	40 (100%)	28 (100%)	7.13 (0.34)	11.2 (1.82)	8.24 (0.462)	12.2 (1.96)	10.1 (1.1)	20.5 (5.54)
NO3	mg/L	28 (96%)	32 (100%)	45 (100%)	36 (100%)	41 (100%)	28 (100%)	0.569 (0.0402)	0.976 (0.143)	0.425 (0.0659)	0.917 (0.099)	0.472 (0.0872)	0.466 (0.0864)
Total P	mg/L	30 (100%)	32 (100%)	44 (100%)	40 (100%)	41 (100%)	28 (100%)	0.415 (0.0441)	0.384 (0.0256)	0.288 (0.024)	0.414 (0.0376)	0.411 (0.0429)	0.29 (0.047)
PO4	mg/L	30 (100%)	31 (100%)	45 (100%)	40 (100%)	41 (100%)	28 (100%)	0.0987 (0.0074)	0.218 (0.0141)	0.1 (0.00412)	0.15 (0.0156)	0.128 (0.00905)	0.124 (0.0189)
Hardness	mg/L	4 (100%)	5 (100%)	8 (100%)	7 (100%)	8 (100%)	6 (100%)	176 (19.3)	129 (38.6)	56.5 (4.94)	138 (12.7)	124 (32.6)	69.8 (12)
Total Cu	ug/L	8 (100%)	8 (100%)	11 (100%)	10 (100%)	10 (100%)	7 (100%)	13.7 (3.59)	22.5 (4.49)	16.2 (3.07)	21.6 (2.87)	17.9 (1.88)	43.9 (10.1)
Dissolved Cu	ug/L	8 (100%)	8 (100%)	11 (100%)	10 (100%)	10 (100%)	7 (100%)	2.74 (0.588)	8.45 (1.53)	5.98 (0.682)	5 (0.939)	5.5 (1.09)	18.6 (3.91)
Total Se	ug/L	8 (100%)	8 (100%)	11 (100%)	10 (100%)	10 (100%)	7 (100%)	0.742 (0.103)	0.409 (0.0638)	0.223 (0.019)	1.31 (0.252)	0.606 (0.147)	0.292 (0.0632)
Dissolved Se	ug/L	8 (100%)	8 (100%)	11 (100%)	10 (100%)	10 (100%)	7 (100%)	0.647 (0.0886)	0.366 (0.0586)	0.166 (0.0149)	1.07 (0.266)	0.519 (0.146)	0.244 (0.0526)
Carbaryl	ng/L	8 (25%)	8 (88%)	12 (50%)	10 (90%)	10 (40%)	7 (100%)	3.63 (2.39)	21.6 (4.72)	5.82 (2.11)	29.5 (6.87)	6.5 (2.78)	105 (26.3)
Fipronil	ng/L	8 (100%)	8 (75%)	11 (91%)	10 (100%)	10 (90%)	7 (86%)	12.2 (1.19)	6.31 (1.92)	10.1 (1.89)	11.3 (1.56)	6.5 (1.13)	3.29 (0.68)
ΣPAH	ng/L	4 (100%)	4 (100%)	5 (100%)	11 (100%)	6 (100%)	6 (100%)	140 (46.5)	527 (279)	1260 (494)	416 (116)	1350 (455)	1660 (1070)
ΣPBDE	ng/L	4 (100%)	5 (100%)	5 (100%)	5 (100%)	6 (100%)	6 (100%)	27 (10.1)	789 (644)	28.5 (11.7)	60.8 (18.3)	47 (16)	45.6 (13.1)
Delta/ Tralomethrin	ng/L	8 (75%)	8 (75%)	10 (40%)	10 (50%)	9 (89%)	7 (43%)	1.5 (0.637)	2.29 (0.818)	0.391 (0.207)	0.852 (0.328)	1.77 (0.469)	0.386 (0.205)
Cypermethrin	ng/L	8 (88%)	8 (100%)	11 (55%)	10 (70%)	10 (80%)	7 (100%)	11.7 (8.24)	4.84 (1.38)	0.368 (0.115)	1.49 (0.512)	3.29 (0.63)	2.42 (0.663)
Cyhalothrin lambda	ng/L	7 (86%)	7 (100%)	9 (56%)	10 (70%)	8 (75%)	6 (83%)	1.23 (0.486)	1.1 (0.228)	0.616 (0.376)	0.556 (0.174)	0.656 (0.296)	0.35 (0.12)
Permethrin	ng/L	8 (75%)	8 (100%)	11 (55%)	10 (80%)	10 (100%)	7 (86%)	6.08 (2.29)	17.7 (5.91)	3.59 (1.24)	10.5 (2.34)	21.8 (3.61)	10.7 (3.03)
Bifenthrin	ng/L	8 (100%)	8 (100%)	11 (91%)	10 (90%)	10 (90%)	7 (100%)	75.2 (29.9)	5.88 (0.796)	8.08 (2.69)	5.29 (1.18)	8.01 (1.95)	5.14 (1.81)

In sum, significant resources have been expended to monitor stormwater-borne pollutants in the region and identify areas that contribute disproportionately to pollutant loading and impacts to beneficial uses. Failure to utilize this data for uses such as targeted green infrastructure installation and PCB load reduction puts into question the utility of the RMP and use of public funds to collect such data. It also supports arguments by Permittees that data is not being used to inform this permit and provide clear pathways to compliance with TMDL requirements. We ask that staff review available information to inform targeted wasteload reductions through installation of green infrastructure and other means.

C.4. Industrial and Commercial Site Controls

In implementing an industrial and commercial site control program, Baykeeper believes that a minimum number of inspections should be required each year. We recognize that each jurisdiction varies in size, and therefore no single number could fairly apply to all Permittees, but

instead suggest that a set percentage (such as 10%) of industrial and commercial sites with potential to discharge stormwater pollutants be inspected annually.

Baykeeper also notes that the Draft MRP appears to lack any provisions requiring Permittees to regularly inspect and repair their stormwater infrastructure. We request that a provision be added to the Draft MRP requiring Permittees to implement an on-going inspection program to annually inspect all stormwater treatment and flow control BMPs and facilities that are owned, operated, or regulated by the Permittees and to implement appropriate maintenance actions where any damage or defects are discovered.

C.7. – Public Information and Outreach

C.7.a. – Storm Drain Inlet Marking

Baykeeper believes that over the course of the permit term, Permittees should be able to inspect and maintain all (*i.e.*, 100%) of storm drain inlet markings of municipality maintained inlets, rather than the 80% proposed in the Draft MRP.

C.7.e – Public Outreach and Citizen Involvement Events

We are concerned that footnote 1 to Table 7.1 may allow for fewer total events simply by virtue of a regional collaborative disseminating advertising materials throughout each jurisdiction, thereby providing said jurisdiction with credit for the event, even if the event is held within another jurisdiction. We recommend that the number of events required be determined on a Permittee-by-Permittee basis.

C.8. Water Quality Monitoring

The Water Quality Monitoring, Section C.8, included in the Draft MRP purports to answer a variety of information needs, yet, and perhaps because of its grand scope, fails to focus on whether stormwater discharges comply with the MRP conditions. The Fact Sheet states that “[o]ne purpose of the water quality monitoring is to demonstrate the effectiveness of the Permittees’ stormwater management actions pursuant to this Permit and, accordingly, demonstrate compliance with the conditions of the Permit.” (Fact Sheet, A-60 – A-61.) In addition, the Water Quality Monitoring is intended to answer questions that may not have anything to do with stormwater discharges, such as whether conditions in receiving waters protect beneficial uses, the extent of receiving water problems, whether conditions are getting better or worse, and the overall effectiveness of TMDL point and nonpoint source control measures. (*Id.* at A-61, A-65.) While gathering general information about the water quality of receiving water is important, this monitoring cannot take the place of or take precedence over monitoring whether stormwater discharges comply with MRP conditions.

Federal regulations require that each NPDES permit includes monitoring provisions that “yield data which are representative of the monitored activity” (40 C.F.R. § 122.48(b)) and that “assure compliance with permit limitations.” (40 C.F.R. § 122.44(a)(1)(i); *see Natural Res. Def. Council v. County of Los Angeles* (“*LA County*”) (9th Cir. 2013) 725 F.3d 1194, 1207) [“an

NPDES Permit is unlawful if a permittee is not required to effectively monitor its permit compliance”].) Accordingly, the MRP must include monitoring provisions that allow each Permittee, the Regional Board, and third parties to determine whether a Permittee is complying with the permit. (*See Sierra Club v. Union Oil Co. of Cal.* (9th Cir. 1982) 813 F.2d 1480, 1483; *see also City of Brentwood v. Central Valley Regional Water Quality Control Bd.* (2004) 123 Cal.App.4th 714, 723.) The monitoring provisions are key to the efficient operation of the MRP, as any other NPDES permit. (*Sierra Club*, 813 F.2d at 1491 [“The NPDES program fundamentally relies on self-monitoring.”].) Monitoring serves a dual purpose: first, to allow Permittees to assess their own compliance and quickly respond if non-compliance is discovered, and, second, to “keep enforcement actions simple and speedy.” (*City of Brentwood*, 123 Cal.App.4th at 723-24.)

To be legally sufficient and effective at monitoring permit compliance, the water quality monitoring provisions must focus on the discharges regulated by the permit (*i.e.*, stormwater discharges). Yet, Section C.8 does not appear to be aimed at monitoring stormwater discharges. For instance, the Pollutants of Concern (“POC”) Monitoring, Section C.8.f., does not require Permittees to monitor when or where stormwater discharges occur. Also, the Creek Status Monitoring, Section C.8.d., similarly does not focus on stormwater discharges but rather at determining the overall water quality of receiving waters. Instead of focused monitoring of stormwater discharges, the MRP allows Permittees to take the whole permit term to first identify if water quality impacts are present through the POC and Creek Status Monitoring, and second to determine whether stormwater discharges are actually a source contributing to those water quality impacts.⁴

A. POC Monitoring, Section C.8.f., Does Not Require Permittees to Monitor When or Where Stormwater Discharges Occur.

Section C.8.f. sets out the requirements for monitoring POCs during the permit term. Unlike the 2009 Permit, this section almost never states *when* Permittees should sample, nor does it ever specify *where* Permittees should sample. (*See* Fact Sheet, A-66.) The only specific requirements for POC monitoring are the types of POCs that must be monitored and the minimum number of samples to be collected per county over the permit term. (Draft MRP, Table 8-4, C.8-15.) Quite surprisingly, the Draft MRP specifically requires testing during a storm event or during the wet season for only one POC - toxicity.⁵ (*Id.*) The Draft MRP gives

⁴ Moreover, monitoring focused generally on the water quality of receiving waters is repetitive of studies that have been conducted over several years in the region. As stated above, over the last decade, millions of dollars have been spent identifying loads and hotspots for mercury, PCBs, and other stormwater-borne pollutants. Yet the Water Quality Monitoring and SSID Project provisions, as explained in this section, fail to incorporate the knowledge gained through these studies and asks Permittees to spend valuable resources to start at the beginning to identify water quality impacts that have most likely already been studied.

⁵ Even for toxicity, the Draft MRP does not state that such monitoring needs to occur near outfalls. The Diazinon and Pesticide-Related Toxicity in Bay Area Urban Creeks, Water Quality Attainment Strategy and Total Maximum Daily Load (“Pesticide TMDL”) states that, “If aquatic life is to be protected at all creek locations, each urban creek must meet these proposed toxicity targets at all locations, *including those near storm drain outfalls where urban runoff enters receiving waters.*” (Pesticide TMDL at 59 [emphasis added].) Thus, even the monitoring for toxicity is insufficient because it fails to provide that toxicity testing must occur near storm drain outfalls.

no guidance as to where sampling should be conducted. As such, the Draft MRP does not require Permittees to monitor when and where stormwater discharges - the discharges regulated by the MRP - will occur, namely during storm events at or near stormwater outfalls.

Instead of stating when and where representative sampling should occur, the Draft MRP sets up a complicated system whereby Permittees create their own monitoring plan based on “five priority POC management information needs” (“Monitoring Priorities”). (See Draft MRP, C.8-13 - C.8-14.) It is unlikely that a Permittee’s POC monitoring will focus on stormwater discharges given that only two Monitoring Priorities, Source Identification and Management Action Effectiveness, emphasize stormwater to any extent. Under Source Identification, Permittees should monitor to “identify[] which sources or watershed source areas provide the greatest opportunities for reductions of POCs in urban stormwater runoff.” (Draft MRP, C.8-13.) Under Management Action Effectiveness, a Permittee should monitor to evaluate “the effectiveness or impacts of existing management actions,” with a “focus on monitoring the effectiveness of specific management actions in reducing or avoiding POCs in MS4 discharges.” (Draft MRP, C.8-13 - C.8-14, Table 8.3.) These two Monitoring Priorities, although not exclusively focused on stormwater, at least mention stormwater discharges. However, the remaining three Monitoring Priorities do not highlight stormwater discharges as a focus of the monitoring at all. (See *id.*)

Even if the Monitoring Priorities were aimed at monitoring stormwater discharges, the permit includes no procedure by which the Regional Board or impacted third parties can hold Permittees accountable for an insufficient monitoring program. The Fact Sheet states that “the permit requires that monitoring be intelligently and flexibly directed toward answering the management information needs.” (Fact Sheet, A-66.) Yet there is no method by which a Permittee’s monitoring program is reviewed or under which Permittees can be held accountable.

In order to be legally sufficient and to provide the most appropriate means of monitoring stormwater discharges, Baykeeper asks that the POC monitoring provisions be modified in two ways: (1) to expressly require POC monitoring during storm events, or if appropriate, during the wet season, and (2) to require that Permittees identify sampling locations at MS4 outfalls that are representative of the potential pollutants being discharged (*i.e.*, outfalls that discharge stormwater runoff from urban infrastructure). While Baykeeper agrees that “it is impractical to sample all of the urban runoff outfalls in the region,” we do not agree that this type of monitoring “would not provide commensurately better information relative to the management information needs for pollutants of concern.” (Fact Sheet, A-66.) Rather, sampling at representative outfalls would balance the limited resources of Permittees with the need to assure stormwater discharges are meeting the conditions of the MRP, as is required by the Clean Water Act.

B. The Creek Status Monitoring Provisions in Section C.8.d. Fail to Focus on Stormwater Discharges.

Even more so than the POC monitoring requirements, the Creek Status Monitoring, Section C.8.d., will not effectively monitor the impacts of stormwater discharges. The Draft MRP states that the “Creek status monitoring is intended to assess the chemical, physical, and biological impacts of *urban runoff* on receiving waters.” (Draft MRP, C.8-2 [emphasis added].)

Despite the stated purpose of this monitoring, the questions the Creek Status Monitoring is intended to answer concern the general water quality of receiving waters, not the impact that stormwater has on these waters. (*See id.*) Specifically, the Fact Sheet states that monitoring is intended to answer whether water quality objectives are being met in local receiving waters and whether conditions in receiving waters are supportive of or likely to be supportive of beneficial uses. (*Id.*)

Moreover, the specific sampling requirements under this section often require sampling during the dry season, when stormwater discharges do not occur. For example, the Draft MRP requires biological assessments (Section C.8.d.i.), and monitoring for toxicity in the water column (Section C.8.d.iv.), and pathogen indicators (Section C.8.d.vi.) during the dry season. Because this sampling will only occur in the dry season, it will not indicate whether stormwater discharges cause or contribute to any water quality issues discovered. Particularly curious, the Draft MRP requires sampling for pathogen indicators during the dry season, yet the Draft MRP also states that the monitoring is intended to detect sewer leaks. In order to detect exfiltration from the sanitary sewer system to the MS4, rainfall is required. It makes no sense that monitoring for these parameters, in particular pathogens, occurs during the dry season.

Again, the Fact Sheet states that sampling at all outfalls is impracticable and “would not provide commensurately better information.” (Fact Sheet, A-63.) Yet representative outfall sampling would provide information targeted at stormwater discharges and would allow “assess[ment] of the chemical, physical, and biological impacts of urban runoff on receiving waters,” which is the stated purpose of Creek Status Monitoring. (*See* Draft MRP, C.8-2.) Instead, the Creek Status Monitoring, by providing information only about the receiving waters, is only a “first step in identifying sources of pollutants.” (Fact Sheet, A-63.) In other words, this type of monitoring fails to “yield data which are representative of the monitored activity,” as required of NPDES permits. (40 C.F.R § 122.48(b).)

C. The Deficiencies in Water Quality Monitoring Will Lead to Unnecessary Delay in Addressing Water Quality Impacts.

Instead of monitoring stormwater discharges, the Draft MRP sets up a lengthy, costly, and potentially fruitless process to determine whether stormwater discharges are the source of water quality impacts, through the Stressor/Source Identification (“SSID”) Projects, Section C.8.e. As explained above, the Creek Status and POC Monitoring do not focus on whether stormwater discharges are causing or contributing to water quality impacts in receiving waters. Rather, they focus on determining whether the receiving waters in general have water quality issues. Thus, when water quality impacts are discovered, the Permittees must consider an SSID Project to study whether stormwater is contributing to the impact. (Draft MRP, C.8-10.)

An SSID Project is a three-step process. Step 1 requires the Permittee to develop a work plan for the SSID Project. Step 2 requires the Permittee to conduct SSID investigations according to the work plans. If Steps 1 and 2 conclude that stormwater discharges are sources of water quality issues, Step 3 requires the Permittee to submit a report describing current BMPs, the current level of implementation, and additional BMPs that the Permittee will implement to

prevent or reduce discharges of pollutants. However, if the Permittee determines that stormwater is not a source, no follow-up actions are required.

In effect, the SSID Project process allows Permittees to delay or avoid taking any real steps to address water quality issues posed by stormwater discharges. The Draft MRP fails to require that Permittees start all SSID Projects by the end of the permit term. The Draft MRP only requires that half of all SSID Projects (2.5 for the largest counties) be started by the third year of the permit term, and that Permittees *attempt* to complete all steps for half of the SSID Projects during the permit term. Step 3 is simply a report stating what additional BMPs are needed. It does not require that BMPs actually be implemented. Therefore, at the end of the permit term, no real, on-the-ground changes to address illegal stormwater discharges are required to happen. At a minimum, the MRP should clarify that all SSID Projects required by the permit be completed prior to end of the permit term.

A Permittee need not conduct an SSID Project for all, or even a significant percentage of, water quality impacts discovered. A Permittee need only *consider* conducting an SSID Project, but must actually conduct only a minimum number of SSID Projects. However, for a stormwater countywide program, it is unclear how many total SSID Projects are required. The Draft MRP states that:

If conducted through a stormwater countywide program, the Santa Clara and Alameda Permittees each shall be required to initiate no more than five (minimum one for toxicity) SSID projects; the Contra Costa and San Mateo Permittees each shall be required to initiate no more than three SID (one for toxicity) projects; and the Fairfield-Suisun and Vallejo Permittees each shall be required to initiate no more one SSID project(s) during the Permit term.

Draft MRP, C.8-11. Does this provision mean that all Permittees in Santa Clara County collectively need only conduct one SSID Project, but no more than five, over the permit term? Or does this provision mean that all individual Permittees in Santa Clara County must conduct one SSID Project, but no more than five, over the Permit term? This provision should be clarified to make the minimum number of SSID projects required clear.

In either case, the number of SSID Projects required by the Draft MRP is arbitrary because it is not related to the number of water quality impacts discovered. In all likelihood, water quality impacts discovered through Creek Status and POC Monitoring will not require a SSID Project. This provision should be modified to tie the number of SSID Projects required to the number of water quality impacts discovered. For instance, the MRP should require that Permittees conduct SSID Projects for a specific percentage – 50% - of all water quality impacts discovered within their jurisdiction.

Even with the changes suggested above, however, this process constitutes nothing more than needless delay. Instead of a multi-year SSID Project to determine whether stormwater discharges are contributing to water quality impacts, the MRP should simply include sampling targeted at stormwater discharges, such as requiring sampling during storm events at

representative MS4 outfalls. The monitoring itself will alert a Permittee whether or not stormwater discharges are causing or contributing to water quality impacts. Thus, Steps 1 and 2 of the SSID Project process would no longer be necessary. If the monitoring shows that stormwater discharges are a source of water quality impacts, the Permittee should be required to undergo a Step 3 analysis to determine further BMPs that will actually address the water quality problems, and to implement additional BMPs within a reasonable time period.

D. Targeted Stormwater Sampling Will Benefit Permittees, the Regional Board, and Third Parties.

Monitoring requirements that focus on determining whether stormwater discharges are contributing to water quality issues will benefit all interested parties, including Permittees. In *LA County*, the Ninth Circuit held that Los Angeles County permittees responsible for violations of receiving water limitations when only in-stream monitoring had been required by the MS4 permit. (725 F.3d at 1196-97.) The permittees in that case claimed that in-stream monitoring could not show that the stormwater discharges themselves caused the water quality violations. (*Id.* at 1204.) The Ninth Circuit, however, held the permittees responsible, despite this alleged uncertainty, stating the following:

In sum, and contrary to the County Defendant’s contentions, the language of the Permit is clear – the data collected at the Monitoring Stations is intended to determine whether the Permittees are in compliance with the Permit. If the District’s monitoring data shows that the level of pollutants in federally protected water bodies exceeds those allowed under the Permit, then, as a matter of permit construction, the monitoring conclusively demonstrate that the County Defendants are not ‘in compliance’ with the Permit conditions.

(*Id.* at 1206-07.)

Assuming violations of water quality standards are discovered through the Creek Status or POC monitoring, according to *LA County*, Permittees will not be shielded from liability even if there is an argument that the monitoring does not show that stormwater discharges are causes of the violations. It only makes sense to include monitoring that focuses on stormwater discharges, specifically sampling at representative outfalls during storm events. Such monitoring will allow Permittees, regulators, and third parties to effectively determine whether stormwater discharges are the actual source of water quality violations and to take actions to remedy such violations.

C.9. Pesticides Toxicity Control

Baykeeper appreciates the limitations that the Permittees face in regulating the use and application of pesticides in their jurisdictions. At the same time, Baykeeper also recognizes that, despite the regulatory challenges, stormwater is the primary source of pesticide loads to Bay Area urban creeks. (Diazinon and Pesticide-Related Toxicity in Bay Area Urban Creeks, Water Quality Attainment Strategy and Total Maximum Daily Load, November 9, 2005 (“Pesticide TMDL”) at 43.) Because essentially the only source of pesticides in Bay Area urban creeks is

urban runoff, the TMDL assigns all waste load reductions to stormwater. (Pesticide TMDL at 72.) The Clean Water Act requires that the Regional Board incorporate the waste load allocations included in the Pesticide TMDL into the MRP. (See 40 C.F.R. § 122.44(d)(1)(vii)(B).) Therefore, despite the challenges faced by Permittees and the Regional Board in meeting waste load allocations, reductions of pesticide loads must occur in accordance with the Pesticide TMDL and the Clean Water Act.

Baykeeper is concerned that the Draft MRP does not establish a system whereby Permittees are required to reduce pesticide use. The last permit iteration required Permittees to establish IPM ordinances and policies and to report pesticide use. The Draft MRP requires Permittees to maintain these ordinances and policies and to continue to track pesticide use, reporting specifically when they increase use. (Draft MRP, C.9-1 – C.9-2.) However, there is no obligation that Permittees actually decrease the use of pesticides, and as a result, there is no obligation that Permittees reduce the amount of pesticides entering urban creeks through urban runoff.

As stated in the Pesticide TMDL, IPM “may involve the use of pesticides, but only when *absolutely necessary*.” (Pesticide TMDL at 80.) Regional Board staff has found that “most IPM policies need improvements, such as fully committing to IPM throughout the municipality and clarifying that pesticides with known water quality impacts should only be used as a last resort.” (Staff Summary Report, Urban Creeks Pesticide Toxicity TMDL - Implementation Status Report (Mar. 9, 2011).) However, the Draft MRP fails to require that Permittees only use pesticides when necessary. The Draft MRP should be revised to require that Permittees, in fact, reduce their pesticide use in their municipal operations and on municipal property and only use pesticides when necessary.

Also, there is no requirement in the Draft MRP that Permittees modify their IPM policies to include new or developing practices that have proven to be effective. The Draft MRP requires only that Permittees describe their IPM tactics or strategies in their annual reports. (Draft MRP, C.9-2.) As advancements in IPM evolve, the MEP standard for municipal stormwater discharge controls also evolves. (See 33 U.S.C. § 1342(p)(3)(B)(iii).) MEP is not static; the standard anticipates and requires new and additional controls to be included with each successive permit. As U.S. EPA has explained, NPDES permits, including the MEP standard, will “evolve and mature over time” and must be flexible “to reflect changing conditions.” (55 Fed. Reg. 47,990, 48,052 (Nov. 16, 1990).) “EPA envisions application of the MEP standard as an iterative process. MEP should continually adapt to current conditions and BMP effectiveness and should strive to attain water quality standards. Successive iterations of the mix of BMPs and measurable goals will be driven by the objective of assuring maintenance of water quality standards.” (64 Fed. Reg. 68,722, 68,754 (Dec. 8, 1999).) Therefore, the Draft MRP must include a mechanism by which Permittees are required to evaluate and implement new and effective methods of IPM.⁶

⁶ The Pesticide TMDL also incorporates adaptive management as being key to reducing pesticide loads. (Pesticide TMDL at 81, 96-98.)

This failure to update IPM standards is especially problematic since the 2009 Permit required Permittees to evaluate their IPM efforts, how effective those efforts appear to be, and the attainment of pesticide concentration and toxicity targets for water and sediment. (2009 Permit at 82.) It is unclear if and how the Draft MRP builds and learns from the lessons learned during the last permit term. It is critical that this type of reporting is not merely a paper exercise, but is used to more effectively address pesticide pollution. Yet there is no analysis or discussion in the Draft MRP or the Fact Sheet discussing whether pesticide use has decreased through the 2009 Permit, whether IPM measures are proving to be effective, and whether pesticide concentrations and toxicity targets are being attained.

C.10. Trash Load Reduction

Baykeeper wishes to repeat our on-going disappointment with trash load reduction efforts conducted pursuant to the 2009 Permit. Permittees failed to generate valid trash load baselines and adequate Trash Load Reduction Tracking Methods, which in turn has prevented their on-going ability to demonstrate compliance with mandatory trash load reductions. Permittee's failure to develop adequate baselines, tracking methods, and load reductions is due in large part to the 2009 Permit's lack of specificity. Instead of including specific methodologies in the 2009 Permit, the Regional Board required Permittees to develop these tools themselves, an obligation which the Permittees outsourced to the Bay Area Stormwater Management Agencies Association ("BASMAA"). BASMAA is not a regulatory agency, but rather an organization representing the interests of Permittees. Despite the fact BASMAA has received \$870,000 in Proposition 84 funds to develop monitoring methods and other deliverables pursuant to the Trash Reduction Provisions, the assessment protocols do not provide a mechanism for determining compliance with trash load reduction standards (*i.e.*, 100% trash load reduction by July 1, 2022). This approach clearly is not working and the Regional Board must introduce specific permit requirements if it wishes to clean up trash-laden shorelines and urban creeks currently clogged with trash.

An example of disappointing results can be seen at the mouth of East Creek Slough in Oakland. Photos taken after storm events in 2012 and 2014 suggest conditions have worsened here. Similar results have been observed in South Bay creeks and recent (early-2015) monitoring by the San Francisco Estuary Institute ("SFEI") for microplastics indicate small fish in the South Bay may have higher levels of plastic contamination that typically seen in the Great Lakes.⁷

⁷ Based on initial unpublished results provided by Rebecca Sutton of SFEI.



Figure 1. West-facing view near the terminus of East Creek Slough in the Martin Luther King Jr. Regional Shoreline, Oakland. Photo taken by Ian Wren on March 14, 2012



Figure 2. Northwest-facing view of a storm drain near East Creek Slough in the Martin Luther King Jr. Regional Shoreline, Oakland. Photo taken by Ian Wren on March 14, 2012



Figure 3 and 4. North- and south-facing views at the mouth of East Creek Slough in the Martin Luther King Jr. Regional Shoreline, Oakland. Photos taken by Ian Wren on December 8, 2014

A. Section C.10’s Compliance Assessment Protocols Lack Specificity or Enforceability.

Since performance shall ultimately be judged based on receiving water quality, the Regional Board must provide the basis upon which receiving waters shall be evaluated and how load reduction should be calculated. The specifications for receiving water observations, described in Section C.10.b.iii., lack sufficient detail for Permittees to follow and provide no basis from which Permittees can determine compliance with permit terms. As such, they are inconsistent with the Clean Water Act:

First and foremost, the Clean Water Act requires every NPDES permittee to monitor its discharges into the navigable waters of the United States in a manner sufficient to determine whether it is in compliance with the relevant NPDES permit. 33 U.S.C. § 1342(a)(2); 40 C.F.R. § 122.44(i)(1) (“[E]ach NPDES permit shall include conditions meeting the following . . . monitoring requirements . . . to assure compliance with permit limitations.”). That is, an NPDES permit is unlawful if a permittee is not required to effectively monitor its permit compliance. See 40 C.F.R. § 122.26(d)(2)(i)(F) (“Permit applications for discharges from large and medium municipal storm sewers . . . shall include . . . monitoring procedures necessary to determine compliance and noncompliance with permit conditions . . .”).

(LA County, 725 F.3d at 1207.)

In particular, Baykeeper has serious concerns regarding the Draft MRP's approach of demonstrating attainment of mandatory deadlines through the use of "trash generation areas," which appear to be arbitrarily established and may have no correlation to the quality of receiving waters. Although the four Very High, High, Moderate, and Low categories have specific trash generation rates attached to them, there appears to be significant discretion and confusion regarding how the Permittees will categorize areas within their jurisdictions and calculate percentage discharge reductions.

We urge the Regional Board to develop an alternate compliance standard based on trash loading at the point of discharge. A sample alternative compliance framework for assessing trends at the point of outfalls is provided as Appendix 1 to these comments. This approach calls for end-of-pipe full capture devices, some of which have been evaluated by Permittees, to assess trash loading from representative discharge points. Such an approach has been endorsed by Region 4 and may be preferred by some Permittees given the lack of a clear compliance pathway under the proposed C.10 language. The Regional Board may also wish to specify such an approach where Permittees discharge to a 303(d) listed waterbody for trash.

Receiving water observations and assessment protocols must also be described in order to reduce uncertainty and the perception of shifting standards imposed on Permittees as the permit progresses. Options for evaluating receiving water quality and load reduction performance include fixed line transects at known trash hot spots, end of pipe full capture, and installation of trash booms.

B. The Regional Board Should Require Mandatory Deadlines Rather than "Performance Guidelines" in All Years.

Baykeeper does not understand the approach taken in Section C.10.a.i. of requiring mandatory trash reductions in years 2017 and 2022, but "performance guidelines" in years 2016 and 2019. The Regional Board should revise the Draft MRP to state that the 60% reduction requirement for July 1, 2016 and the 80% reduction requirement for July 1, 2019 are mandatory deadlines.

C. The Regional Board Should Not Offer Any Additional Offsets or Credits for Source Control.

While Baykeeper supports educational programs and municipal ordinances, such as polystyrene food container bans, that can potentially reduce the generation of trash, Permittees should not be allowed to meet the mandatory deadlines in the Draft MRP by simply obtaining "offsets" for these measures, without demonstrating actual reductions in trash discharges from the MS4 system. If these types of source control measures are actually working and effective, Permittees will get all the credit they need based on the fact that trash discharges will be reduced. No further offsets or credits should be provided in addition to what is already included in the Draft MRP.

D. Reporting and Consequences for Non-Compliance under Section C.10.F. Must Be Strengthened.

Baykeeper is greatly concerned about the lack of consequences for Permittees that cannot demonstrate attainment of the mandatory deadlines or performance guidelines. In particular, the consequences of non-compliance must be strengthened in order to achieve the stated reductions and avoid violations of Discharge Prohibition A.2. For Permittees that fail to meet performance guidelines, the Regional Board should (1) impose specific control actions to achieve attainment of the guideline, and (2) require the Permittees to demonstrate attainment within a specific time period (*i.e.*, 6 months). For Permittees that fail to meet mandatory deadlines, the Regional Board should (1) require the installation of additional full trash capture systems to achieve the deadline, and (2) require the Permittees to demonstrate compliance with the deadline within a specific time period (*i.e.*, 6 months) rather than the Draft MRP's standard of "in a timely manner."

C.11. Mercury Controls

The San Francisco Bay Mercury TMDL calls for an urban stormwater mercury load reduction of 40 kg/yr between the 2003 estimated load (160 kg/yr) and 2018 (120 kg/yr). The Draft MRP should be revised to make clear that this is an enforceable limit. (*See* Basin Plan, 7-29 [adopting interim milestone].)

The Draft MRP mercury controls completely hand over development of both load reduction techniques as well as assessment methodologies to the Permittees. (*See* Fact Sheet, A-87.) We are concerned, in particular, that any assessment methodology used to determine compliance with waste load allocations be supported by actual stormwater sampling data, and not be purely theoretical. Without stormwater discharge monitoring, there is no way by which Permittees or the Regional Board can judge whether the control measures are actually reducing mercury loads into receiving waters. As stated above, the water quality monitoring provisions currently do not require Permittees to specifically monitor stormwater discharges, and must be revised. In fact, the Mercury TMDL, as adopted in the Basin Plan, requires that Permittees "monitor levels of methylmercury *in discharges*." (Basin Plan, 7-29 [emphasis added].) The Fact Sheet states that this requirement to monitor discharges was satisfied during the 2009 Permit. However, since discharges are still occurring, the requirement in the TMDL is still applicable and must be included in the MRP.

Granting almost complete discretion to Permittees to develop load reduction techniques and assessment methodologies is troubling also because Section C.1 of the Draft MRP negates the safeguard usually provided by Receiving Water Limitations. Receiving Water Limitations are included in NDPES permits to ensure that discharges do not cause to water quality impacts, if technology-based standards are insufficient to protect beneficial uses. Section C.1 states that if a Permittee complies with the mercury controls in Section C.11, the Permittee will be deemed in compliance with Receiving Water Limitations. Yet, to reiterate, the actual control measures to regulate mercury discharges have not been developed or shown to be effective at protecting water quality. Therefore, Section C.1 takes away any safeguard that Permittees will be held liable for mercury discharges that contribute to water quality exceedances if control measures prove to be ineffective. The Regional Board should revise the Draft MRP to delete the portion of

Section C.1 that grants Permittees a safe harbor from violating Receiving Water Limitations, so as to ensure that receiving waters are protected.

In addition, the Draft MRP fails to give appropriate guidance to Permittees on how to develop control measures that meet MEP. The Draft MRP's requirement that Permittees prepare an implementation plan to achieve TMDL allocations limits control measures to those that are "economically feasible" without explanation as to how that term should be interpreted consistent with MEP. (Draft MRP, C.11-6.) "[MEP] means to the fullest degree technologically feasible for the protection of water quality, except where costs are wholly disproportionate to the potential benefits" (*North Carolina Wildlife Fed. Central Piedmont Group of the NC Sierra Club v. N.C. Division of Water Quality* (N.C.O.A.H. October 13, 2006) 2006 WL 3890348, Conclusions of Law 21-22.) To meet this standard, the MRP should require an explanation of pollution controls that were rejected as economically infeasible, together with a description of how the Permittee determined that the costs were "wholly disproportionate to the potential benefits." This analysis will allow the Regional Board and the public be able to consider whether pollution control methods more effective than those proposed by Permittees are required.

Baykeeper also questions the propriety of crediting Permittees with mercury load reductions before they occur. The Draft MRP provides that:

For control measures requiring construction or installation of new infrastructure that are under construction but not fully operational as of the end of the permit term, one-half (50%) of the estimated mercury yearly load reduction shall be counted in year 5 with the remaining 50% load reduction credited during the future year that the infrastructure element is fully operational.

(Draft MRP at C.11-3.) Until planned pollution controls are in place, no mercury load reduction credit is warranted, as no mercury load reduction will have occurred. Moreover, at such time, it will remain uncertain whether the infrastructure will actually be completed, and if it is, whether it fully achieves the pollution reduction target it has been designed for. The Draft MRP makes no contingency plan for retroactively retracting credits if the project ultimately fails to achieve its goals. This may result in some level of double counting, if during the first year the infrastructure element is fully operational, the full and actual load reduction of that year is credited, in addition to the retroactive 50% credit from the construction year.

Baykeeper supports requiring reductions to be achieved through implementation of green infrastructure, but question (1) whether the modest targets represented in g/yr are sufficient to maintain progress towards both interim and final load allocations, and (2) the use of year 2040 as a planning horizon when the TMDL requires a load allocation of 82 kg/yr be attained by year 2028. This concern is magnified by the fact that the Draft MRP anticipates that its modest g/yr targets be attained across each county, rather than by each individual Permittee.

C.12. Polychlorinated Biphenyls (PCBs) Controls

Baykeeper has the same concerns with this section as with the mercury controls in regards to the following:

- The Draft MRP should be clear that interim limits are enforceable.
- Assessment methodology used to determine compliance with waste load allocations must be supported by actual stormwater sampling data and not be purely theoretical. This is particularly true for PCBs, since the Regional Board acknowledges that the “effectiveness and benefits of control measures remain uncertain.” (Fact Sheet, A-98.) Moreover, the calculation of anticipated reductions in PCB loads is based purely on modeling, which the Fact Sheet states will be updated if necessary. (*See id.*, A-98 – A-101.) Yet, without actual stormwater discharge monitoring, there is no way to judge whether the control measures were effective or the modeling properly calculated reductions.
- The MRP should not grant a safe harbor for violations of Receiving Water Limitations to Permittees even if they are in compliance with Section C.12.
- The MRP should not delete the provision that allows Permittees to count load reductions for control measures that are not yet operational.
- The MRP should be clear that MEP requires implementation of control measures that are technically feasible, unless costs are “wholly disproportionate to the potential benefits,” and Permittees should be required to show this analysis to the Regional Board.

The Draft MRP states that: “Load reductions from control measures implemented prior to the effective date of this permit may be counted toward the required reductions of this permit term if these control measures were established or implemented during the last permit term, but load reductions from the activity were not realized or credited during the last permit term.” We are unclear under what circumstances load reductions would have been achieved under the 2009 Permit term, but not credited, and how verification of such load reductions would be made to appropriately credit during under the new MRP.

The PCB load reduction assessment report includes reporting on PCBs load reductions “achieved through other relevant efforts not explicitly required by the provisions of this permit.” We ask that this be clarified to apply only to stormwater load reductions.

Again, we question the benefit and appropriateness of targeting year 2040 for demonstration of PCB load reductions through green infrastructure implementation when the TMDL waste load allocation should be achieved by 2030. We, of course, support further load reductions after the 2030 load allocations are attained, as would result from these provisions. However, we believe interim and final targets for green infrastructure leading up to year 2030 would be appropriate.

C.13 Copper Controls

Although San Francisco Bay is not impaired for copper, there is concern regarding potential increases in loading of copper to San Francisco Bay. (Basin Plan at 7-17.) The Regional Board, through the Basin Plan, has adopted numeric site-specific objectives (“SSOs”) to maintain beneficial uses. (California Regional Water Quality Control Board, San Francisco Bay Region, Copper Site-Specific Objectives in San Francisco Bay, Proposed Basin Plan Amendment and Draft Staff Report, June 6, 2007 (“Copper SSO Report”) at 4-1; *see also* Basin Plan at 7-17 – 7-20.) SSOs are only necessary when maintenance of beneficial uses cannot be achieved through reasonable treatment, source control and other pollution prevention measures. (*See id.*)

The Draft MRP proposes to meet these SSOs through the Copper Controls described in Section C.13. (Draft MRP, C.13-1 – C.13-2.) These measures include requirements that Permittees adopt ordinances prohibiting the discharge of wastewater to storm drains generated from the installation, cleaning, treating, and washing of copper architectural features and from pools, spas, and fountains that contain copper-based chemicals.⁸ (*Id.*) Also, Permittees are required to inspect industrial sources of copper. (*Id.*) These measures are the same measures included in the 2009 Permit. Section C.1 of the Draft MRP grants Permittees a safe harbor for potential Receiving Water Limitation by stating that compliance with Copper Controls in Section C.13 “shall constitute compliance during the term of this Order with Receiving Water Limitations B.1 and B.2.” (Draft MRP, C.1-1.)

Neither the Draft MRP, nor the Fact Sheet, makes any showing that the control measures included in Section C.13 are sufficient to meet copper SSOs. EPA Guidance states that, when adopting measures to maintain or re-attain water quality standards, the agency should have “reasonable assurances” that the measures it adopts will effectively meet its goals. (U.S. EPA, Report of the Federal Advisory Committee on the Total Maximum Daily Load (TMDL) Program, July 1998, at ii.) Reasonable assurance requires analyzing the effectiveness of management measures. (*Id.* at 39.) The Draft MRP simply requires the same measures it required in the 2009 Permit without any analysis of whether these measures are sufficient to meet the copper SSOs.

This failure to evaluate the effectiveness of the Copper Controls also contradicts the Basin Plan. The Basin Plan requires that the MRP include “implementation of best management practices and copper control measures to prevent urban runoff discharges from causing or contributing to exceedances of copper water quality objectives.” (Basin Plan at 7-17.) The Basin Plan specifically requires that “[r]equirements in each permit issued or reissued and applicable for the term of the permit shall be based on an updated assessment of control measures to reduce copper in stormwater runoff to the maximum extent practicable.” (*Id.*) The Draft MRP does not include an “updated assessment of control measures” for any of the three

⁸ Presumably, all Permittees have adopted such ordinances during the term of the 2009 Permit. Therefore, this provision does not impose further requirements on any Permittee and will not result in further reductions of copper in stormwater discharges.

sources targeted in Section C.13: copper architectural features, copper algaecides, and industrial sites. Rather, it simply merely repeats the same requirements that were included in the 2009 Permit.

Moreover, the 2009 Permit included additional Copper Controls that have been removed in the Draft MRP. Specifically, the 2009 Permit required Permittees to “engage in efforts to reduce the copper discharged from automobile brake pads” by participating in the Brake Pad Partnership. (2009 Permit at 103.) Although Senate Bill 346 was passed as a result of the Brake Pad Partnership, the law does not require the phase out of copper in brake pads until 2025. Substantial copper loads will enter the Bay and its tributaries in the meantime. It is unclear whether the Regional Board has considered this timeframe in determining whether the Copper Controls are sufficient. In the 2009 Permit, Permittees were also required to “conduct or cause to be conducted technical studies to investigate possible copper sediment toxicity and technical studies to investigate sub-lethal effects on salmonids.” (*Id.* at 104.) It is unclear how, or whether, the Draft MRP incorporates the information gathered from the studies over the last permit cycle, although presumably such studies were initiated to inform future copper measures.

The Draft MRP’s reliance on unproven Copper Controls is especially troubling because the Draft MRP takes away safeguards if the Copper Controls are insufficient at protecting water quality. For instance, the Draft MRP establishes that compliance with the Copper Controls is sufficient to show compliance with Receiving Water Limitations. (Draft MRP, C.1-1.) Thus, even if the Copper Controls prove to be ineffective, a Permittee would not be considered to be in violation of Receiving Water Limitations.

Moreover, the Draft MRP fails to include an accounting system whereby the Regional Board or Permittees can measure whether the Copper Controls are, in fact, regulating copper discharges so that they do not cause or contribute to violations of SSOs. As discussed above, the water quality monitoring provisions do not specifically require that Permittees monitor stormwater discharges. Permittees, on a countywide basis, must take a minimum of 20 samples for copper over the permit term, but these samples need not occur during storm events or at stormwater outfalls. (Draft MRP at C.8-15.) The Regional Board, however, recognizes that “the most significant loading of most constituents, including copper, occurs during wet weather urban runoff flow events.” (Copper SSO Report at 3-3.) It is illogical that sampling for copper, as for most constituents, need not occur during storm events when the most significant loading occurs. Moreover, since the sampling will likely not monitor the actual copper loads entering receiving waters through stormwater, the monitoring will be insufficient to determine whether the Copper Controls are effectively regulating copper loading.

Conclusion

Thank you for the opportunity to comment on and offer improvements to the Draft MRP. Baykeeper expects that some Permittees would oppose some of the recommendations made in this comment letter, by claiming that these changes would be too costly or require cuts to other programs. Yet, as the Regional Board has acknowledged, failing to properly regulate stormwater pollution will have significant public health and economic repercussions. (Fact Sheet, A-10.) While some of Baykeeper’s recommendations may arguably cost Permittees incrementally more

than the requirements included in the Draft MRP, the estimated costs of compliance are significantly lower than what households are willing to pay for clean water. (*See* Draft MRP, Fact Sheet at A-8 – A-10.) The Regional Board cites a study conducted by the California State University, Sacramento that found that households are willing to pay \$180 annually for clean water. (*Id.* at A-10.) Yet various studies have estimated that compliance with Phase I programs typically costs from \$9 to \$46 per household annually. Therefore, any costs associated with the changes Baykeeper suggests will not only ensure that the MRP meets the requirements of the Clean Water Act and effectively regulates stormwater discharges, but will also be well within the costs that average residents find reasonable to protect water quality.

Moreover, and perhaps more importantly, cost is a relevant factor in determining MEP, but only to the extent that costs associated with control technologies are prohibitive. (Draft MRP, Fact Sheet at A-8.) All studies cited in the Fact Sheet have found that the benefits to updates to stormwater controls, both non-structural and structural, far outweigh the costs. (*Id.* at A-10.) Moreover, the modifications to the MRP suggested by Baykeeper may require Permittees to invest incrementally more in compliance with the permit, but compared to the current iteration of the MRP, would not be cost prohibitive.

Yours truly,



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APPENDIX 1: ALTERNATIVE C.10 FRAMEWORK

TRASH LOAD REDUCTION: ALTERNATIVE COMPLIANCE FRAMEWORK

Permittees shall demonstrate compliance with Discharge Prohibition A.2 and trash-related Receiving Water Limitations through the timely implementation of control measures and other actions to reduce trash loads from its municipal separate storm sewer system (MS4) in accordance with the requirements of this provision.

1) SCHEDULE

Permittees shall reduce trash discharges from 2015 levels, as established herein in Section 2, to receiving waters in accordance with the following schedule:

- a. 80% by July 1, 2019; and
- b. 100%, or no adverse impact to receiving waters from trash, by July 1, 2022.

2) END-OF-PIPE LOAD ASSESSMENT PROTOCOL: BASELINE LOAD AND ON-GOING TRACKING

This recommended trash load assessment protocol entails end-of-pipe quantification at outfalls representative of various land uses. Determination of available commercial products to facilitate end-of-pipe capture was informed by final reports pursuant to the San Francisco Estuary Partnership's (SFEP) Bay Area-wide Trash Capture Demonstration Project (Demonstration Project).

Under the Demonstration Project, various structural trash capture devices were installed and tested for performance between December 2012 and February 2014.⁹ Included in the assessment were two (2) end-of-pipe net devices: Fresh Creek Technologies End of Pipe Netting Trash Trap and the Kristar Nettek Gross Pollutant Trap.¹⁰ Such nets are known as 'release nets,' since they are attached to stormwater outfalls and remain in place until flow rises sufficiently to release a catch that holds the net in place. When the nets release, they are attached to the side of the pipe by a steel cable to tether the net and retain material contained in the net.

Sixteen (16) of these two products were installed in the region under the Demonstration Project. Of these, nine (9) remained intact during the assessment period. The remaining nets required maintenance associated with ripped nets and/or clogging. Based on narrative performance assessments, the Kristar product generated better results, in terms of lower maintenance requirements and overall effectiveness. Added benefits of the Nettek Trap include lower cost, ease of installation, and a local (Santa Rosa, CA) manufacturer. Appendix 1 of the Demonstration Project Final Report contains a summary of the Kristar Nettek device.

⁹ Final reports and project summaries of the Bay Area-wide Trash Capture Demonstration Project *available at*: www.sfestuary.org/our-projects/water-quality-improvement/trashcapture/.

¹⁰ Details regarding Kristar's Nettek Gross Pollutant Trap are *available at*: www.kristar.com/index.php/trash-debris-capture/nettech-gross-pollutant-trap.

Reviews and descriptions of the Nettek product suggests they rarely fill sufficiently to cause the bags to release. Accordingly, if cleaned after a storm event, the entire quantity of material is captured and can be measured for monitoring purposes using two bags per trap. This facilitates replacement of the full or partially full bag with an empty one, so that the first bag can be taken off-site for analysis without handling of the material in the field.

The Los Angeles Regional Water Quality Control Board considers such devices as valid monitoring devices for trash load assessment in municipal storm systems, due to ease of maintenance and the ability to relocate devices after a set period at one location, provided the pipe diameters are the same.¹¹ According to the Los Angeles RWQCB, with limited funding, end-of-pipe nets could be installed over several land uses and lead to valuable monitoring results.

a) Monitoring Locations

End-of-pipe pollutant traps shall be installed at outfalls representative of distinct land uses and catchment sizes. Factors affecting feasibility include accessibility and ability to retrofit the outfall to accommodate installation.

b) Assessment Protocol

Trash shall be quantified by weight and material count from a minimum of three (3) storm events during the 2015/16 wet weather season, and each year thereafter until 2022.

Following each storm event greater than 0.3” in depth, crews of two (2) people shall inspect each capture device, remove the net and replace with an empty net. Removed nets shall be taken to an off-site location where the contents can be emptied and separated into the following categories:

- Leaves and other organic material
- Styrofoam
- Plastic
 - Bottles
 - Bags
 - other
- Paper/cardboard
- Other

Individual pieces of material falling within the categories above shall be counted and weighed. Unit loading rates, based on land area drained to that individual outfall, shall be calculated on a piece of trash/acre and pounds of trash/acre basis.

¹¹ Refer to technical documentation for the Trash Total Maximum Daily Load (TMDL) for Machado Lake in the Dominguez Channel Watershed, *available at*: www.waterboards.ca.gov/losangeles/board_decisions/basin_plan_amendments/technical_documents/2007-006/07_0607/55_%20StaffRptFinal_072407.pdf.

c) Baseline Schedule

On or before July 1, 2016, Permittees shall develop a baseline load for each monitored outfall, based on a minimum of three (3) monitoring events. Loads for each of the sub-categories identified above (2.b) shall be expressed on a per storm basis, supplemented by information including storm duration, intensity and depth, as well as catchment area draining to the individual outfalls, to generate unit loading rates.

d) On-going Assessment/Compliance Determination

End of pipe pollutant traps shall be retained in place and maintained until 2022. Annual reports shall be submitted to the Regional Board on July 1, 2017 through July 1, 2022. Reports shall include loading data from identical monitoring locations, based on a minimum of three (3) storm events, in the same manner as reported for baseline levels.

3) MANDATORY MINIMUM FULL TRASH CAPTURE SYSTEMS

Permittees shall install and maintain a mandatory minimum number of full trash capture devices, to treat runoff from an area equivalent to 30% of Retail/Wholesale Land that drains to the storm drain system within their jurisdictions. Treatment areas shall be delineated and mapped through GIS.

A full capture system is any single device or series of devices that traps all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow rate resulting from a one-year, one-hour storm in the sub-drainage area. The device(s) must also have a trash reservoir large enough to contain a reasonable amount of trash safely without overflowing trash into the overflow outlet between maintenance events.

a) Demonstration of Trash Reduction Outcomes: Full Trash Capture Systems

- i) Permittees shall maintain, and provide for inspection and review upon request to the Regional Board, documentation of the design, operation, and maintenance of each of their full trash capture systems, including the mapped location and drainage area served by each system;
- ii) The maintenance of each full capture device shall be adequate to prevent plugging, flooding, or a full condition of the device's trash reservoir.
 - a. Storm drain inlet type full trash capture devices in Low or Medium trash generation areas shall be maintained a minimum of once per year.
 - b. Storm drain inlet type full trash capture devices in High trash generation areas shall be maintained a minimum of twice per year.
 - c. Storm drain inlet type full trash capture devices in Very High trash generation areas will be maintained a minimum of 3 times per year.

If any such device is found plugged or full of trash when maintained, the maintenance frequency shall be doubled at a minimum, and subsequently adjusted so that it is maintained frequently enough that it neither plugs nor is full before being maintained;

- iii) Permittees shall map and document the catchment area controlled by full trash capture devices;
- iv) Permittees shall retain device specific maintenance records, including, at a minimum: the date(s) of maintenance, the capacity condition of the device at the time of maintenance (full and overflowing or with storage capacity remaining), any special problems such as flooding, screen blinding or plugging from leaves, plastic bags, or other debris causing overflow, damage reducing function, or other negative conditions;
- v) Other information obtainable from the trash captured, such as brand name litter pointing to a particular source, leading to source control efforts, should be noted. A summary of this information shall be reported in each annual report which will be limited to the number of full capture devices maintained that exhibited a plugged or overflowing condition upon maintenance; and
- vi) Permittees shall certify annually that each of their full trash capture systems is operated and maintained to meet full trash capture system requirements.

4) TRASH HOT SPOT SELECTION AND CLEANUP

Trash Hot Spots in receiving waters shall be cleaned annually to achieve the multiple benefits of abatement of impacts as mitigation and to learn more about the sources and transport routes of trash loading.

- a) Hot Spot Cleanup and Definition – The Permittees shall clean selected Trash Hot Spots to a level of “no visual impact” at least one time per year for the term of the permit. Trash Hot Spots shall be at least 100 yards of creek length or 200 yards of shoreline length.
- b) Hot Spot Selection – Permittees shall maintain the number of trash hot spots identified in the current (2009) permit. Permittees may select new trash hot spot locations if past locations are no longer trash hotspots or if other locations may better align with trash management areas.
- c) Hot Spot Assessments – The Permittees shall quantify the volume of material removed from each Trash Hot Spot cleanup and attempt to identify sources to the extent readily feasible. Documentation of the cleanup activity to be retained shall include the trash condition before and after cleanup of the entire hot spot using photo documentation with a minimum of one photo per 100 feet of hot spot length and the total volume of trash and litter removed from the hot spot. Permittees shall report the volume removed for the most recent five years of hot spot cleanup in each annual report, or if a new trash hot spot location is selected, Permittees shall report the volume removed for the years of cleanup

of that hotspot. Trends in removal rates may be considered when accounting for progress toward or attainment of C.10.a. Trash Reduction Requirements.

5) TRASH LOAD REDUCTION PLANS

Permittees shall maintain, and provide for inspection and review upon request, a Trash Load Reduction Plan, including an implementation schedule to meet the C.10.a. Trash Reduction Requirements. A summary of any new revisions to the Trash Load Reduction Plan shall be included in the Annual Report. The Trash Load Reduction Plan shall describe trash load reduction control actions being implemented or planned and the trash generation areas or trash management areas where the actions are or will be implemented, including jurisdiction-wide actions, such as source control ordinances and homeless camp cleanups.

The Trash Load Reduction Plan should also include actions to control sources outside the Permittee's jurisdiction that are causing or contributing to adverse trash impacts in the receiving water(s). Such control actions may account towards meeting the C.10.a. Trash Reduction Requirements as long as Permittees can demonstrate that the controls will be sustained and can quantify the sustained load reduction benefit relative to control actions in the trash generation areas or trash management areas in its jurisdiction that drained to the affected receiving water.

6) REPORTING

Permittees shall provide the following in each Annual Report, due to the Regional Board on July 1 of each year from 2016 to 2022:

- a) A summary of trash control actions within each trash management area, including the types of actions, levels of implementation, areal extent of implementation, and whether the actions are ongoing or new, including initiation date;
- b) End-of-pipe loads from each monitoring location, as measured in the previous wet-weather season, including a trend analysis compared to baseline (2015/16) levels;
- c) Volume and characteristics of trash removed from each of the thirty-two (32) hot spots, including a trend analysis compared to baseline (2015/16) levels;
- d) Updated Trash Generation Area map or maps and associated trash management areas including the locations and associated drainage areas of full trash capture systems and non-full trash capture system trash control actions, and the location of Trash Hot Spots, with highlight or other indication of any revisions or changes from the previous year map(s);
- e) Certification that each of its full trash capture systems is operated and maintained to meet full trash capture system requirements, and a description of any systems that did not meet full trash capture system requirements, for example due to plugging or overflowing, and corrective actions taken;

- f) An accounting of its non-full trash capture system trash management actions, including locations and descriptions of each class of capture system (*e.g.*, watershed cleanups, intensive sweeping, non-full trash capture devices); and
- g) An accounting of progress toward or attainment of C.10.a. Trash Reduction Requirements, as assessed through end-of-pipe loading assessments (Section 2). If Permittees cannot demonstrate attainment of a required milestone, it shall submit a detailed Action Plan with the Annual Report, or in advance of the Annual Report, that describes actions designed to achieve compliance with the required milestone, as established in Section 1, Schedule. The plan shall consider the results of full-trash capture monitoring and assessment outcomes to better target additional management actions and inform placement of additional full trash capture systems to attain the milestones. The Action Plan shall be made available for review and comment by Regional Board staff.