CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

RESPONSE TO WRITTEN COMMENTS
ON THE REISSUANCE OF WASTE DISCHARGE REQUIREMENTS FOR:

Sanitary District No. 5 of Marin County
Paradise Cove Treatment Plant
Marin County
NPDES Permit No. CA0037427

The following submitted timely written comments on a tentative order distributed for public review on February 10, 2011.

I. Sanitary District No. 5 of Marin County – March 14, 2011
II. San Francisco Baykeeper – March 14, 2011

The format of this response to comments begins with a brief description of the party's comments in *italics*, followed with Regional Water Board staff's response. Interested persons should refer to the original letters to ascertain the full substance and context of each comment.

I. Sanitary District No. 5 of Marin County (District) – March 14, 2011

District Comment 1
The District requests that a monitoring frequency of 4/year for total suspended solids (TSS) be retained from the current permit. The District indicates that the increase to a monitoring frequency of once per week for TSS would more than double the cost of water quality analysis for its small facility.

Specifically, the District points out that the total annual budget for water quality analysis for the Paradise Cove Treatment Plant is approximately $3,000. The increased monitoring frequency for TSS would require 96 additional samples per year at cost of $32 per sample, resulting in a total cost increase of $3,072. These cost estimates include laboratory analysis of samples collected by District staff, but do not include labor costs associated with collecting, transporting, and reporting on samples collected.

In addition, the annual operating budget for the entire Paradise Cove Treatment Plant is approximately $82,500. Sampling weekly for TSS would increase this amount by a minimum of $6,750 by requiring additional staff time for transportation, sample collection, and reporting. The total increase in costs related to TSS sampling is therefore nearly $10,000 per year, or a 12% of the total operating costs for the facility.

The District's request that TSS monitoring frequencies remain unchanged is supported by an excellent history of plant performance. The Paradise Cove Treatment Plant is a new

facility, having been completed in 2009. Plant effluent has never exceeded the average monthly TSS effluent limitation of 30 mg/L even before the new plant was installed, and TSS removal has always exceeded the requirement of 85% removal. There is no evidence for a need for weekly TSS sampling. The District believes that a quarterly sampling frequency for TSS is reasonable, is sufficient for determining compliance, and is consistent with the Clean Water Act.

Response 1

We modified the influent and effluent sampling frequency for TSS from once per week to once per month. This is in recognition of the District's excellent compliance record, the small size of the discharge, and the fact that its treatment plant was newly constructed in 2009. We do not believe that the quarterly monitoring frequency proposed by the District is adequate for evaluating compliance with effluent limits for TSS especially since influent flow to the plant is expected to double in the future. In short, this is because TSS is an excellent indicator of overall treatment performance and the amount of toxic pollutants (most are highly bound to solids) that will be discharged from the Paradise Cove Treatment Plant to San Francisco Bay.

District Comment 2

The District requests that the Water Board correct a number of typographical errors. Specifically, the District indicates that the Paradise Cove Facility should be referred to as the Paradise Cove Treatment Plant. The District also points out that the outfall is located 400 feet offshore, not 100 feet offshore. Finally, the District notes minor modifications to the monitoring location description, and an inappropriately referenced section to the Basin Plan.

Response 2

We modified the tentative order to make these corrections.

II. San Francisco Baykeeper (Baykeeper) – March 14, 2011

Baykeeper Comment 1

Baykeeper indicates that the Draft Permit's ammonia standards are insufficient. The Draft Permit's amended ammonium standards violate the CWA's anti-backsliding policy. The Permittee's 2006 permit includes a numeric receiving water limitation for ammonium. Under the 2006 permit, the Permittee's discharge must not cause receiving water (Central San Francisco Bay) to exceed 0.025 mg/L as N (annual median) or 0.16 mg/L as N (maximum). Order R2-2006-0037, page 10.

The Draft Permit, under its receiving water limitations section, does not contain a numeric ammonium standard. In its place is a narrative standard for "nutrients." The new standard states that "waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses." This standard is not equivalent to the 2006

permit's ammonium limitations. The narrative standard violates the anti-backsliding policy because the Board has not demonstrated that it is at least as stringent as the 2006 permit. The Board must amend the Draft Permit to include the previous ammonium standards. Even though the Board has added an effluent limitation for ammonia (Table 7), that limitation is a much higher concentration than in the 2006 permit, and the Board has not demonstrated that it will be equivalent protection as the 2006 permit's receiving water standard. In addition, the Permittee's Reasonable Potential Analysis revealed the potential for violations of ammonia water quality standards. Table F-10, page F-20.

The narrative standard for "nutrients" should also be amended because it is not clear and leaves room for interpretation. The Draft Permit does not specify what consists of a "nuisance." One way to revise the standard would be to include numeric criteria for specific nutrients. This would be more clear and not subject to interpretation.

Response 1

We have not made changes in response to this comment. The tentative order does not include a receiving water limitation for ammonia because it includes effluent limits that are more stringent. These effluent limitations are based on the water quality objectives for un-ionized ammonia that were included in the previous permit as receiving water limits. The un-ionized ammonia objectives were conservatively transferred to total ammonia objectives based on the pH, salinity, and temperature of the receiving water. To develop effluent limits, we conservatively used a worst-case scenario for initial dilution. Because of these conservative assumptions, the effluent limits for total ammonia are much more stringent than the receiving water limits included in the previous permit.

On the narrative standard for "nuisance", the tentative order specifies what constitutes a nuisance by referencing the California Water Code. Specifically, Attachment G (page G-6) states: "Neither the treatment nor the discharge of pollutants shall create pollution, contamination, or nuisance as defined by California Water Code Section 13050." On including numeric criteria for specific nutrients, we agree that this would be more clear and less subject to interpretation. However, there is too much uncertainty in factors (e.g., turbidity, light penetration, and nutrient levels) that would lead to nuisance conditions from excessive algal growth in San Francisco Bay for us to calculate reasonable numeric limits for this small discharge. Moreover, nutrient discharges from wastewater have not been identified as causing a problem in the Bay, but there is an effort currently being considered as part of the Regional Monitoring Program to assess if Bay conditions have changed to the point where such discharges could cause a problem. We will re-evaluate the need for nutrient limits periodically as that effort unfolds.

Baykeeper Comment 2

The Draft Permit should include an effluent limit for chronic toxicity. Although the Draft Permit includes effluent limitations for acute toxicity, it inappropriately omits a chronic toxicity limit. EPA regulations mandate the inclusion of whole effluent toxicity limits in NPDES permits whenever a discharge "causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative criterion within an applicable State water quality standard." 40 C.F.R. § 122.44(d)(1)(v). The Permittee's discharge

has such reasonable potential to cause or contribute to the exceedances of a water quality standard. It has been EPA policy for over a decade that whole effluent toxicity includes both acute toxicity and chronic toxicity and that the latter be measured using EPA-identified protocols that employ appropriately sensitive species from a suite of three or more tested species.

Another reason that the Draft Permit should include chronic toxicity limits is that the Permittee has not complied with the acute toxicity requirements. The Draft Permit's compliance summary states that the Permittee conducted acute toxicity tests in May of 2007, February of 2009, and July of 2009. Fact Sheet II.D at page F-6. The minimum survival rate only occurred during the February 2009 discharge event. Thus, the Permittee failed the acute test two out of three times. This failure is an indication of a water quality problem. Therefore, the Regional Board should require both acute and chronic limits to adequately protect water quality.

Response 2

We have not made changes in response to this comment. Please note that under 40 CFR 122.21(j)(5)(ii)(A) and (B), applicants must submit the results of valid whole effluent toxicity tests for acute and chronic toxicity if the design flow is greater than or equal to one million gallons per day (mgd), the facility has an approved pretreatment program, or it is required to develop a pretreatment program. In the case of the District, the design flow is only 0.04 mgd, it does not have an approved pretreatment program, and it is not required to develop one. As such, the Water Board considers the factors under 40 CFR 122.21(j)(5)(ii)(C), such as variability of pollutants in effluent, amount of dilution, and history of compliance problems, to determine if whole effluent toxicity data is needed. In the case of chronic toxicity, we determined that there is no reasonable potential for the discharge (see Fact Sheet, page F-29) to contribute to an exceedance of water quality objectives for chronic toxicity due to the minor discharge volume and domestic wastewater makeup (no industrial-type discharges). Because we did not find reasonable potential for chronic toxicity, the tentative order does not include an effluent limit.

In case of acute toxicity, consistent with the Basin Plan, the tentative order assumes reasonable potential exists, and requires that the District comply with acute toxicity limitations from Table 4-3 of our Basin Plan. We want to point out that the District has always complied with its effluent limits for acute toxicity. The minimum survival rate of 95% noted in February 2009 means that in the other tests the survival rate was 95% or better. To clarify, we revised the Fact Sheet (page F-6) as follows:

> The Discharger conducted acute toxicity tests during May 2007, February 2009, and July 2009 discharge events. The ~~minimum~~ lowest survival rate ~~of~~ was 95% ~~occurred during~~ in February 2009 ~~event~~. In May 2007 and July 2009, the survival rate was 100%.

Baykeeper Comment 3

The Draft Permit must require receiving water monitoring. The Draft Permit inappropriately excuses the Permittee from conducting receiving water monitoring. Actual monitoring of the discharge receiving waters is necessary to determine whether

the discharge is violating the permit's receiving water limits and causing or contributing to a violation of the Basin Plan. Participation in the Regional Monitoring Program or the Bay Area Clean Water Agencies' receiving water studies does not exempt the Permittee from conducting its own receiving water studies. Fact Sheet VI.D at page F-32. The Draft Permit fails to provide evidence that RMP monitoring—including frequency and duration—is sufficiently representative of the discharge that it can be used to demonstrate compliance with receiving water limitations. The Draft Permit must be amended to require regular monitoring of the receiving waters near its discharge for all parameters for which the permit contains receiving water limitations.

Response 3

We have not made changes in response to this comment. The effluent monitoring requirements in the tentative order, along with the District's dilution study and background information obtained from the Regional Monitoring Program, are sufficient to evaluate if the District is causing an exceedance of the receiving water limits for dissolved oxygen, dissolved sulfide (only present in anoxic or anaerobic environments), pH, or nutrients. This is because the tentative order already requires the District to monitor effluent for dissolved oxygen, ammonia, and pH. If the District complies with its effluent limits for these parameters, it will not cause a violation of these receiving water limitations. In the event the District exceeds its effluent limits, it can use background information from the Regional Monitoring Program along with its dilution study to evaluate its potential impact on San Francisco Bay. Finally, given the high costs of conducting site-specific receiving water monitoring, we do not view this as a reasonable allocation of resources for this small discharge.

Baykeeper Comment 4

In the "discharge description" on page 4 of the Draft Permit, it states that the Permittee's discharge occurs through an outfall located approximately 100 feet offshore. However, on pages F-4 and F-5, the Draft Permit states that the outfall is located approximately 400 feet offshore. Which of these is correct?

Response 4

We corrected page 4 of the tentative order to indicate that discharge occurs through an outfall located approximately 400 feet offshore.