STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION
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San Luis Obispo, Ca 93402-7906

PUBLIC COMMENTS AND STAFF RESPONSE

Public comments were received from the City of San Luis Obispo in a letter dated July 28, 2005. No other written comments were received.

Comments and Responses-City of San Luis Obispo.

The following are staff's response to comments made by the City of San Luis Obispo (City). The City raised recurring issues that were used as a basis to make requests. Staff organized the issues brought forward by the City into the comments and responses presented below.

Comment-1: The City of San Luis Obispo (City) states: "The City's primary comment is that this TMDL is inappropriate in that the impairment upon which it is based can not exist since the actual use, does not exist." The City further requests that "....analysis...be conducted to evaluate the potential municipal use impairment before developing the TMDL." And finally "...if it is determined the MUN designation is not appropriate then the TMDL is not necessary and steps should be taken to dedesignate the MUN use for San Luis Obispo Creek."

Staff response to Comment-1: Staff appreciates the City's comments. Staff also appreciates the implications that the MUN designation carries to the citizens of San Luis Obispo City and county, and the rate payers of the City's Water Reclamation Facility service. The following summarizes the background and basis of the comments and requests made by the City.

The City refers to the MUN beneficial use. The Water Quality Control Plan (Basin Plan) defines the MUN beneficial use as "Municipal and Domestic Supply," which includes "uses of water for community, military, and individual water supply systems including, but not limited to, drinking water supply."

Staff is aware of, and has discussed, the City's opposition to the MUN beneficial use designation of San Luis Obispo Creek. The City objects to the basis of the TMDL because the "impairment upon which it is based can not exist since the actual use, does not exist." The City has argued that the MUN beneficial use cannot exist because Title 22, California Code of Regulations regulating uses of recycled water, does not define municipal water use as an acceptable use of recycled wastewater. The City's Water Reclamation Facility (WRF) discharges tertiary treated effluent to San Luis Obispo Creek

(Creek). The water in the Creek is, in part, recycled wastewater, and therefore cannot be used for municipal water supply, according to regulations (Title-22) established by the State Department of Health Services (DHS).

The City requests that the Central Coast Water Board conduct an analysis to investigate whether the Creek can support the MUN beneficial use, based at least in part, on the DHS regulations regulating waters that are wholly or in part recycled wastewater. Finally, the City requests that if the Central Coast Water Board determines that the Creek cannot support the MUN beneficial use, again, in consideration of the DHS regulations, that the MUN use be removed (de-designated) from the Creek.

Removal of the MUN beneficial use from San Luis Obispo Creek requires de-designation, which requires a use attainability analysis and an amendment to the Basin Plan. De-designation of a beneficial use ultimately requires approval from the Environmental Protection Agency (40 CFR 131.5). Federal regulation 40 CFR 131.3 states, "Designated uses are those uses specified in water quality standards for each water body or segment whether or not they are being attained." 40 CFR 131.10(g) goes on to list the conditions where a state may remove a beneficial use designation when the use is *not* an existing use. The City's stance that DHS regulations do not allow municipal water usage of recycled water, is not a condition of 40 CFR 131.10(g), and can therefore not be used to de-designate. Existing uses must be protected under the Clean Water Act, whether or not those uses are legal.

Staff contends that the City's belief that the MUN beneficial use does not, and cannot exist, is debatable. San Miguelito Mutual Water Company operates two ground water wells in the lower reaches of the Creek. The wells provide municipal drinking water to some residents in Avila Valley. The Creek provides groundwater recharge to the aquifer under the wells and therefore may be impacting nitrate-N concentration of the aquifer used for municipal supply. However, this could be considered groundwater recharge (GWR) use rather than MUN, depending on the hydrologic connection between the creek and the groundwater being withdrawn. Secondly, according to the Basin Plan, the MUN use is "not limited to, drinking water supply." Specifically, the MUN beneficial use includes domestic water supply, e.g. for non-drinking purposes, which includes water withdrawals from the Creek for municipal or domestic use. Water withdrawals are currently made from the Creek, and the potential exists for future withdrawals for domestic use. De-designation might also require a site-specific exception to the State Water Resources Control Board's Sources of Drinking Water Policy (Resolution 88-63). (See, *Petition of City of Vacaville*, State Water Board Order WQO 2002-0015.)

Staff contends that it is debatable whether the conditions for de-designation, as set forth in Federal regulation 40 CFR 131.10(g) can be met. The Central Coast Water Board, therefore, will not grant the City's request to perform an analysis of the MUN beneficial use in the Creek, with the intent of de-designation of MUN. However, the Central Coast Water Board invites the City to undertake a use attainability analysis of the Creek for the Water Board's consideration, if the City so desires. To that end, staff has added language

to the implementation plan of the TMDL providing a re-consideration of allocations based on a successful de-designation of the MUN beneficial use in San Luis Obispo Creek and corresponding changes to the nitrate water quality objective.

Staff note, however, that the Cease and Desist Order and time schedule, as described in the implementation Plan of the TMDL, will in effect give the City the life of their permit (five years beginning at or about March 2006) to achieve the nitrate allocation to the WRF, unless the Basin Plan is amended to de-designate the MUN use before that. Failure to achieve one of the former will result in penalties resulting from violations of the nitrate effluent limit.

Comment-2: The City requests optional implementation strategies, stating: "The TMDL should contain a provision allowing the TMDL and its allocations to be reconsidered and revised. There are ongoing efforts to investigate whether the MUN beneficial use, on which this entire TMDL is based, is appropriate."

Staff Response: The Staff responses to Comment-1 states that the Central Coast Water Board will not pursue de-designation of the MUN beneficial use. However, as the City has the option to pursue the de-designation course, staff has added a provision to the implementation plan of the TMDL for the re-consideration of the TMDL allocations, based on amended applicable changes to water quality objectives that occur within three years of approval of the TMDL.

Comment-3: The City requests optional implementation strategies in the form of interim limits, stating: "The Regional Board should specify interim nitrate limits for the WRF in the TMDL instead of issuing a Cease and Desist Order (CDO)....Initiating this TMDL at this time, with a CDO will leave the City open to third party lawsuits and mandatory minimum penalties until it is able to comply with the 10 mg/L effluent limit..." The City cites TMDLs approved at the Los Angeles Regional Water Quality Control Board (LA Water Board), where interim limits were used to begin TMDL implementation.

Staff Response: The Basin Plan of the LA Water Board contains language in the Enforcement section discussing Time Schedule Orders, that states: "The time schedule order may also include interim limits with which the discharger must comply during the time schedule until full compliance is achieved." The Basin Plan of the Central Coast Water Board does not contain this language. The Central Coast Water Board cannot offer an interim limit for the WRF nitrate allocation, unless it amends such language to the Basin Plan. However, staff is aware that the City will require time to meet the nitrate allocation and therefore proposes to issue a CDO and accompanying time schedule to allow the City to comply with the allocation.

Contrary to the City's concern, the City will not be subject to mandatory minimum penalties for effluent nitrate-N concentration exceeding 10 mg/L, as long as the City complies with the time schedule. Although Central Coast Water Board cannot shield the City from third-party lawsuits and the City remains subject to potential non-mandatory

penalties, the CDO and time-schedule does furnish the City with evidence that compliance with the TMDL allocation is moving forward.

Comment-4: The City requests optional implementation strategies in the form of provisions allowing for the consideration of revised water quality objectives, stating: "A reconsideration is possible and has been used by the Los Angeles Regional Board (Region 4)."

Staff Response: The City refers to three TMDLs adopted by the LA Water Board. Provisions were included in these TMDLs allowing for the consideration of revised water quality objectives and potential site-specific objectives. Staff first notes that, at the City's request, a provision has been added to the implementation section, as noted in the response to Comment-1. The added provision addresses the core concern of the City, pertaining to the MUN beneficial use and the water quality objectives protecting this use. Secondly, staff notes that the provisions included in the LA Water Board TMDLs, regarding revision of existing water quality objectives, refer to ammonia objectives, as confirmed through discussions with LA Water Board staff. In addition, any potential revisions (at Region 4) to water quality objectives for nitrate would NOT result in objectives greater than the proposed target of 10 mg/L-N for the San Luis Obispo Creek TMDL; any revisions to nitrate-N objectives would be lower than 10 mg/L-N, aimed at reducing the effects of biostimulation.

Comment-5: The City requests that their waste load allocation be expressed as a receiving water concentration, and not an effluent limit, during months when upstream flow provides dilution. The City states: "Receiving water concentrations are the focus of this TMDL, not concentration at the end of the pipe. During months when the creek is completely dry, an effluent limit equal to the in-stream target may be appropriate, but such an effluent limit is not necessary or reasonable when there is upstream flow providing dilution."

Staff Response: 40 CFR 122.44(d)(1)(iii) states: "When the permitting authority determines, using the procedures in paragraph (d)(1)(ii) of this section, that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the allowable ambient concentration of a State numeric criteria within a State water quality standard for an individual pollutant, the permit must contain effluent limits for that pollutant." Note the paragraph (d)(1)(ii) refers to a "reasonable potential to cause...excursion above narrative or numeric criteria..."

As stated by the City, during dry weather, the Creek does not provide dilution from upstream flow of the WRF discharge. As such, there is a reasonable potential for excursion of the nitrate water quality objective during dry weather. Staff reviewed weather data for the period of 1950 to 1990. Staff concludes that rain totals from year to year, and month to month, are highly variable during the rain season. Rainfall, and therefore consistent and adequate stream flow for dilution, cannot be relied upon. Therefore, each month provides a reasonable potential to exceed the nitrate water quality

objective. Finally, note that 40 CFR 122.44(d)(1)(iii) states "has the reasonable potential to cause, or contributes to an in-stream excursion above the allowable..." Staff points out that three data points, downstream of the WRF discharge, from November 2001, January 2002, and March 2002 were collected; each data point exceeded the water quality objective for nitrate. Since the WRF "contributes" to the excursion of the water quality objective during these rainy months, the wasteload allocation must be in the form of an effluent limit.

Comment-6: The City requests clarification on how the wasteload allocation for stormwater is developed. The City further comments that the wasteload allocation for stormwater must be in error because the TMDL Project Report states that the current loading of stormwater is unknown.

Staff response: The allocation to stormwater is a receiving water allocation, which states that the discharge cannot cause receiving water nitrate-N concentration to increase by more than 0.7 mg/L-N. This number is derived using the estimate of stormwater nitrate-N contribution to the Creek, which is derived from nitrate-N data gathered from monitoring site SLOCK10.0 (mean value of 1.07 mg/L-N), after subtracting other identified sources of nitrate-N at this site (0.395 mg/L-N). Therefore: 1.07 – 0.395 = 0.7 mg/L-N.

The City's comment that the stormwater loading is unknown is not correct. Section 6.1.1 of the TMDL Project Report states that the *residential source category is allocated as a stormwater* allocation. Table 4.1 of the Project Report identifies the annual residential mass loading.

Section 3.4.2.6.2 of the TMDL Project Report concludes that the urban/commercial nitrate-N sources are negligible. Section 3.4.3 restates this conclusion, but refers to the source as "residential commercial/urban." The latter is a typographical error; Section 3.4.3 should have read (as does Section 3.4.2.6.2), "commercial/urban." Staff has corrected the typographical error.

Comment-7: The City states that the mass balance equations used to estimate nitrate-N loading from residential areas potentially leads to an inaccurate estimate of the residential nitrate-N load. The City suggests that the nitrate-N load from the residential source to the Creek could be underestimated. The City also suggests that the estimated nitrate-N loading from commercial/urban areas could be in error, as the City believes that this load was based on the residential load estimate.

Staff response: Staff would like to clarify for the City that the commercial/urban load estimate was not based on the residential load, but on water quality data; average nitrate-N concentration in the Creek decreases after flowing through commercial/urban areas. However, staff agrees with the City that assumptions are inherent in the analysis leading

to the estimation of the nitrate-N contribution from residential areas. Staff also agrees that during some years, the proposed estimate of nitrate-N contributions from residential areas could be underestimated, while other years over-estimated. It is clear, however, that maximum in-stream nitrate-N concentration is 1.7 mg/L-N for the data period from April 2000 to January 2002 at a monitoring site that receives the combined loading of residential, urban/commercial, and background. Therefore, at the apparent request of the City, staff is able to propose an amended waste load allocation for residential sources (allocated to stormwater) in the form of a narrative allocation. The revised allocation states that loading from stormwater shall not be greater then current loading.

The estimated mass loading from residential areas is a reasonable estimate, based on similar research and observed water quality data. Staff estimated that the mass loading from residential sources is 0.316 lb/ac/year. The California legislature mandated through Assembly Bill 1429 that estimates be derived of pollutant loadings to coastal watersheds, bays, estuaries, and coastal waters.[1] In response to AB 1429, a team of scientists used water quality data and modeling techniques to determine that nitrate-N contributions from stormwater range from 0.267 lb/ac/yr to 2.85 lb/ac/yr. The estimate made by Central Coast Water Board staff of 0.316 lb/ac/yr is at the low end of this range, but within the estimated range. Again, staff has made a revision to the allocation for stormwater as noted in the paragraph above.

Comment-8: The City states that estimated nitrate-N loading from future development, including development of croplands, cannot be accurate because the residential and urban/commercial nitrate-N contribution is considered negligible.

Staff response: Please see Staff Response to Comment-6; a typo was identified in Section 3.4.3, and the residential source is not considered negligible.

Comment-9: The City requests flows from monitoring site 10.0 (upstream of the WRF discharge) be included in the analysis, as this upstream water will provide dilution. The City requests "If loadings from site 10.0 are included in the loading analysis, then the flows must be included as well."

Staff response: Stream flow from site 10.0 flows subterranean under bedrock for about a half of a mile. Flow resumes upstream of the WRF discharge. It is unclear how much of the flow upstream of the WRF discharge is from the WRF discharge due to backwater, and how much of the flow from 10.0 re-emerges. The TMDL Project Report states that this amount cannot be "precisely" quantified. However, since an estimation of loading is needed, staff assumed that all the flow from site 10.0 re-emerges, and not just the loading, as suggested by the City. Table 5.1 of the Project Report shows that 2.2 ft^3/second is included from site 10.0. As such, the City's request is fulfilled.

[1] Davis, J.A, McKee, J.E. *et al.* 2000. Contaminant loads from stormwater to coastal waters in the San Francisco Bay Region. San Francisco Estuary Institute, San Francisco CA.

Comment-10: The City requests that owners of a confined animal facility be required to monitor nitrogen loadings because the site (located upstream of the WRF) could send a large pulse of nitrogen during a rain event. A pulse of released nitrogen could result in increased nitrate-N concentration for which the downstream WRF could be implicated.

Staff response: Staff appreciate the City's concern. The City refers to a confined animal unit in the upper Brizziolara watershed operated by Cal Poly State University. Animals are allowed in the confined space adjacent to Brizziolara Creek during the dry season only. Animals are removed from the unit in October, upon which time the area is seeded with grass. Animals are brought into the unit again in May. Therefore, a large pulse of nitrogen during the wet season from this unit is not probable. In addition, nitrate-N concentrations from monitoring site BRIZ1.0, which is immediately downstream from the unit, indicate the concentration range from 0.3 to 1.3 mg/L-N (four data points from January 14 to April 6, 2001). The maximum concentration of 1.3 mg/L-N followed a rain event. This relatively low level of nitrate does not justify requiring Cal Poly to monitor nitrate-N downstream of this animal unit. Finally, that animal unit is currently in the process of being located several miles away, in the Chorro Creek Watershed.

Comment-11: The City states: "During the critical flow period, nitrate concentrations in Prefumo Creek are up to 50 mg/L and much greater than the WRF effluent concentrations." "...the City calculates that even if effluent nitrate concentrations [from the WRF] of 10 mg/L are achieved, concentrations in San Luis Obispo Creek downstream of Prefumo Creek will be greater than 12 mg/L." "To remove the nitrate impairment, the TMDL must address nonpoint source loadings and agricultural loading in particular."

Staff response: Staff agrees with the City's analysis that the agriculture source in Prefumo Creek must reduce loading in order to achieve the proposed target. The agricultural source is regulated through the Conditional Waiver, which requires that agricultural discharges not cause nitrate-N concentrations in receiving water to rise above 10 mg/L. The growers and owners in Prefumo Creek watershed, as well as others, are regulated and subject to the conditions set forth in the Conditional Waiver.

Comment-12: The City would like clarification regarding how the margin of safety is determined. The City states: "There is a 20% safety factor, but the target equals the objective."

Staff response: The Margin of Safety section of the TMDL Project Report states: "The allocations will result in an in-stream nitrate-N concentration of 7.8 mg/L-N." Since the allocations, once met, will result in an in-stream nitrate-N concentration of 7.8 mg/L, and the numeric target TMDL is 10 mg/L-N, the difference is 2.2 mg/L-N. Staff considers the 2.2 mg/L-N difference as a safety factor (TMDL = WLA + LA + MOS).

Comment-13: The City objects to the Costs Estimate to implement the TMDL. The City states: "...the Regional Board assumes that the City will install N/DN [nitrification/de-nitrification] processes to meet the year-round effluent limit of 10 m/L in the cost estimate. It is our belief that the Regional Board staff has made decisions throughout the TMDL based on this assumption...including developing one allocation... for the entire year..."

Staff response: Staff believes, as stated in the response to Comment-5, the wasteload allocation to the WRF must be in the form of an effluent limit. It is, therefore, a reasonable possibility that the City will need to install a N/DN process in order to meet the allocation. Staff has provided a cost estimate based on this possibility. Staff notes that the City is not required, by the cost estimate, to pursue a N/DN process. It is the sincere desire of Regional Board staff that the allocation can be met with the minimal expenditure possible on the part of the WRF and its ratepayers, and welcome discussion with WRF staff regarding potential methods of meeting the proposed allocation.