Response to Written Comments
Draft Waste Discharge Requirements
Order No. R1-2020-0012
National Pollutant Discharge Elimination System (NPDES)
for the
Santa Rosa Regional Water Reuse System, Laguna Treatment Plant
Regional Water Quality Control Board, North Coast Region
August 20, 2020

Comment Letters Received

The deadline for submittal of public comments regarding draft Waste Discharge Requirements for Order No. R1-2020-0012, National Pollutant Discharge Elimination System Permit (Draft Permit) for the City of Santa Rosa (Permittee or City) Regional Water Reuse System, Laguna Treatment Plant (Facility) was originally March 30, 2020, but was extended to April 29, 2020 due to the Covid-19 shelter in place order. Timely comments were received from four commenters. This Response to Comments document includes the comments and responses to each of the four commenters and describes several staff-initiated changes divided into the following five sections:

Regional Water Board staff (Staff) met with the City of Santa Rosa (Permittee) on May 13, June 2, 15, and 24, July 2, 6, and 30, 2020 to discuss the Permittee's comments. Staff had discussions with Russian River Watershed Protection Committee and Coast Action Group regarding their comments. Staff reached out to Russian Riverkeeper to invite them to discuss their comments regarding the Draft Permit but did not meet with them. Responses to comments contained in this document are consistent with these discussions and meetings.

In this document, comments are summarized using paraphrasing as well as incorporation of specific text in quotes from commenter's comments, followed by the Staff response. Text added to the Proposed Permit is identified by <u>underline</u> and text to be deleted from the Proposed Permit is identified by ~~strike-through~~ in this document. The term "Draft Permit" refers to the version of the permit that was sent out for public comment. The term "Proposed Permit" refers to the version of the permit that has been modified in response to comments and is being presented to the North Coast Regional Water Quality Control Board (Regional Water Board) for consideration. Page numbers identified in each bolded comment heading refer to page numbers in the Draft Permit.

A. City of Santa Rosa (Permittee or City) Comments

Santa Rosa Comment 1: The Permittee requests removal of all provisions related to regulating water recycling from the Draft Permit, including the Monitoring and Reporting Program and the Fact Sheet.

Permit Sections Identified in Comment: Recycled Water Distribution Locations 001 and 002, Draft Permit Table 3, Water Recycling Specifications and Requirements, Draft Permit sections IV.C. and D., Groundwater Limitations, Draft Permit section V.B., Special Provisions, Draft Permit sections VI.C.1.g. and h. and VI.C.2.c. and related MRP (e.g., sections IX.E.5. and X.E.4. of the MRP) and Fact Sheet sections, pages 11-16, 19, and 21-22 of Draft Permit

The Permittee's basis for this request is that the Permittee is enrolling all recycled water use under State Water Resources Control Board Order WQ 2016-0068-DDW, Water Reclamation Requirements for Recycled Water Use (Recycled Water General Order or General Order) and "expects the General Order to contain all the production and use specifications applicable to recycled water use" and "wants to avoid duplicative requirements." The Permittee is concerned that if the language in the Draft Permit isn't modified, the adopted permit will be confusing to the public and City staff who are charged with implementing the permit. The Permittee included four main points/requests in this comment.

First, the Permittee states that inclusion of recycled water provisions unassociated with the discharge of pollutants to waters of the United States in an NPDES Permit exceeds the Regional Water Board's jurisdictional authority under the Clean Water Act (33 U.S.C. §§1311 and 1342). For example, the Permittee contends that incorporation of the Division of Drinking Water's Title 22 report, in Section IV.C.1.h. is duplicative, as Water Code section 13523 and General Recycled Water Order already impose and implement the requirements related thereto, and these requirements are entirely unrelated to a discharge of pollutants to surface waters. For this reason, the City requests that all water recycling provisions be eliminated from the Draft Permit. The Permittee further suggests that if these water recycling requirements are retained because the NOA has not yet been issued under the General Recycled Water Order at the time the Draft Permit is being considered for adoption, that the Draft Permit could include a provision that all of the recycled water-related provisions sunset once the NOA is effective.

Second, the Permittee asserts that the General Recycled Water Order contains all of the provisions necessary to regulate the production, distribution, and use of recycled water. With respect to production, the Permittee asserts the General Recycled Water Order already requires that the recycled water meet all the quality specifications set forth in Title 22 and the Division of Drinking Water's Title 22 report (which includes the conventional, filtration and disinfection requirements that are the cornerstone of the Draft Permit's proposed requirements), comply with applicable Salt & Nutrient Management Plan provisions, and ensure groundwater protections, which mirror the

requirements contained in the Draft Permit. Based on these assertions, the Permittee believes that inclusion of dual requirements in the Draft Permit is not required.

Third, the Permittee requests that all references to Distribution Locations (sometimes inappropriately referred to in the Draft Permit as Discharge Locations) 001 and 002 be removed from the Draft Permit, except if noted simply to explain in the Fact Sheet where water is diverted for reclamation purposes regulated by the State Water Board's General Recycled Water Order. The Permittee further requests that if the Distribution Locations are retained, that Table E-1 in the MRP specify the very significant difference between Distribution Points and Discharge Points, rather than listing them together, to avoid Discharge Point related provisions applying to non-discharge Distribution Points.

Fourth, the Permittee requests removal of requirements related to reporting of spills and unauthorized discharges of recycled water in or on any waters of the State as this requirement is already addressed by the General Recycled Water Order.

Response to Santa Rosa Comment 1:

The Permittee's comment expresses concern over the establishment of dual requirements related to water recycling and requests removal of all water recycling provisions from the Draft Permit.

The Proposed Permit does not establish dual requirements for recycled water. Requirements related to the production and storage of recycled water are to be regulated by the NPDES permit and requirements related to the distribution and use of recycled water are to be regulated through enrollment of the Permittee's recycled water program through the Recycled Water General Order.

In regard to the Permittee's first point, Staff wish to point out that the NPDES permit also serves as waste discharge requirements. The Permittee's NPDES permit has historically regulated both discharges to waters of the U.S. and recycled water distribution and use as allowed by both state and federal regulations. Since the Permittee has requested separate coverage of its recycled water system under the Recycled Water General Order, Staff made a focused effort to draft the NPDES permit to recognize that recycled water distribution and use will be separately permitted, but have identified several changes that can be made to the Proposed Permit to further clarify this distinction, as discussed below.

In regard to the Permittee's second point, the Recycled Water General Order is clear that it applies to the distribution and use of recycled water and not to the production of recycled water (See Recycled Water General Order Finding 31.e, Specifications B.1.f, B.2). The Permittee has misinterpreted Recycled Water General Order Discharge Specifications A.1 and B1 to mean that the Recycled Water General Order applies to the production of recycled water.

These recycled water regulations are implemented through permits (WDRs and NPDES permits) adopted by the Regional Water Board as spelled out in the 1996 Memorandum of Understanding between the State Water Board and the California Department of

Public Health (CDPH). The State Water Board Division of Drinking Water (DDW) now has regulatory authority over Title 22 recycled water regulations and the MOA is still utilized to ensure that Title 22 recycled water regulations are properly administered. DDW staff reviews Title 22 Recycled Water Engineering Reports (Title 22 Reports) and issues an acceptance letter for each Title 22 Report that is found to be complete.

The references to the Title 22 Report that are included in the Draft and Proposed Permits are necessary as the Title 22 Report addresses the production, distribution and use of recycled water. The Draft and Proposed versions of the NPDES permit repeatedly state that the water recycling requirements in the NPDES permit apply to the production of recycled water and also states that the Permittee, as well as the City of Rohnert Park, have separate coverage under the Recycled Water General Order to regulate recycled water distribution and use (see for example Effluent Limitations and Discharge Specifications section IV.C.2 of the Draft Permit). As part of its response to this comment, Staff have modified each reference to the Permittee's enrollment under the Recycled Water General Order to state "recycled water distribution and use."

Permit sections IV.C (including Table 8) and IV.D establish the production requirements for recycled water. Table 5 applies to discharges of effluent to surface waters, while Table 8 applies to recycled water, thus it is necessary to include both tables in the Proposed Permit.

Staff have identified some areas of the Draft Permit that could appear to create duplication of requirements that are addressed in the Recycled Water General Order. Staff propose the following changes to the Proposed Permit to remove the appearance of duplicative requirements:

- Order section IV.C.2.a. has been modified to read: "This Order includes water recycling requirements that apply to the production and storage of recycled water. The Permittee and the City of Rohnert Park ~~shall obtain~~ have each separately obtained coverage ~~separately~~ under State Water Board Order No. WQ 2016 0068 DDW, Water Reclamation Requirements for Recycled Water Use (Recycled Water General Order) to regulate recycled water distribution and use."
- Order section VI.C.1.h modified to read: "Title 22 Engineering Report. This Order implements title 22 requirements to protect public health. If the Permittee's title 22 engineering report requires modifications to this Order to adequately implement title 22 requirements applicable to the production of recycled water, this Order may be reopened and modified as necessary."
- Fact Sheet section III.E.5 has been modified to read: "The Permittee and the City of Rohnert Park ~~are required~~ have each~~to~~ separately obtained coverage under the Recycled Water General Order ~~prior~~ to regulate recycled water distribution and use.
- Fact Sheet section IV.A.4 has been modified to read: "The term "reclamation" has been replaced with the term "recycling" and detailed reclamation specifications have been removed, as recycled water distribution and use requirements are now covered under the Permittee's enrollment under the Recycled Water General Permit."

In regard to the Permittee's third point, Staff agree that it is appropriate to remove language that addresses the recycled water distribution locations from regulatory sections of the Draft Permit and MRP, as follows:

- Table 3, Recycled Water Distribution Locations, has been removed from the Proposed Permit
- Table E-1 has been modified to distinguish between distribution and discharge points and to include the following table note: "2. Use of Discharge Point 001/Monitoring Location EFF-001 for transfer of effluent to recycled water storage and direct discharges to surface waters is regulated under this Order. References to Distribution Locations 001 and 002 are for information purposes only." Staff opted not to remove the Distribution Locations from Table E-1 entirely, as Monitoring Location EFF-001 serves as both a Distribution Monitoring Location and Effluent Monitoring Location (when effluent is directed to recycled water storage where it could be discharged to surface waters or sent into the recycled water distribution system for irrigation or Geysers reuse.

In regard to the Permittee's fourth point, Staff agree that it is most appropriate to address reporting of spills and unauthorized discharges of recycled water in or on any waters of the State through the Recycled Water General Order enrollment. As such, section X.E.4 has been removed from the MRP in the Proposed Permit.

- MRP section X.D, Table E-11 has been modified to remove the recycled water spill reporting requirements.
- MRP section X.E.4 of the Draft Permit regarding reporting of recycled water spills has been removed from the Proposed Permit and included in both Santa Rosa's and Rohnert Park's enrollments under the Recycled Water General Order.
- Fact Sheet section VII.F.8 has been modified to reflect the removal of recycled water spill reporting requirements and reads: "**Spill Notification (MRP section X.E).** The MRP that is part of this Order establishes requirements for reporting spills and unauthorized discharges, with the exception of SSOs, which must be reported in accordance with the requirements of State Water Board Order No. 2006-0003-DWQ and WQ-2013-0058-EXEC and any future revisions. ~~The MRP also requires reporting of recycled water spills and the preparation and submittal of a Public Spill Notification Plan.~~

Santa Rosa Comment 2: ***The Permittee requests modification of provisions and requirements implementing State Law (Draft Permit Section II.C., page 6)***

The Permittee states that section II.C of the Draft Permit does not include a complete list of all requirements that are based solely on state law and requests that the list be expanded to include Draft Permit sections III.B-D, III.K-L, IV.B-D, V.A (state law receiving water limitations), V.B (Groundwater Limitations), VI.A.2 (Regional Water Board Standard Provisions), VI.C.1.g, VI.C.2.c (recycled water storage pond requirements), VI.C.2.f, VI.C.2.g, VI.C.3.a, VI.C.5.d, VI.C.5.h, and VI.C.6, as well as corresponding sections of the MRP and Fact Sheet.

Response to Santa Rosa Comment 2:

Staff reviewed the Draft Permit sections identified in the Permittee's comment and determined that several sections should be added to the provisions and requirements implementing State Law, including Permit sections III.L, IV.B, IV.D, VI.C.1.g, VI.C.2.c, VI.C.2.f, VI.C.2.g, VI.C.5.d, VI.C.5.h, VI.C.6.a, and VI.C.6.b and MRP sections VIII.C, X.E.2 (previously section X.E.3), and X.E.3 (previously section X.E.5). These references have been added to Section II.C of the Proposed Permit. Note that the Permittee requested to have Order section V.B added to section II.C of the Proposed Permit, but that section was already included in the Draft Permit and has been retained in the list in section II.C of the Proposed Permit.

Santa Rosa Comment 3: ***The Permittee requests modification of septage discharge prohibition (Draft Permit Section III.L, Page 8)***

The Permittee's comment explains that there are times when septage needs to be directed to other locations within the Facility that ultimately discharge back to the same location as the regular septage station and that the prescribed proposed language in the Draft Permit would prohibit that safe practice. The Permittee requests that the new prohibition for discharges of septage in Section III.L. of the Draft Permit be modified as follows: "The discharge of septage to a location other than an approved septage receiving station, or equivalent location within the Facility, is prohibited."

Response to Santa Rosa Comment 3:

This is a reasonable request that is consistent with the intent of the Draft Permit language. The Proposed Permit has been modified to include the language proposed by the Permittee.

Santa Rosa Comment 4: ***The Permittee* requests *removal of section III.M from the Draft Permit and exclude recycled water storage ponds from Special Provision VI.C.2.c (Draft Permit sections III.M., VI.C.2.c., and VI.C.4.a, pages 8, 22, and 24)***

The Permittee included three main points in this comment.

The Permittee's first point is that Section III.M. of the Draft Permit states that the "discharge of waste from Discharge Points 012A(1) and 012A(2) is prohibited until the Permittee has demonstrated that these discharge points are operationally functional in accordance with Special Provision VI.C.2.c and are being properly operated and maintained in accordance with Special Provision VI.C.4.a." The Permittee states that reference to Special Provision VI.C.4.a. is a duplicative re-statement of Attachment D, Standard Provision I.D., which places the City under the obligation to "properly operate and maintain" all facilities and that tying the length of a discharge prohibition set forth in proposed Discharge Prohibition III.M. to such a vague standard is not reasonable or supported. The Permittee also states that reference to Special Provision IV.C.2.c

(Permittee erroneously cited Special Provision IV.C.4.a). is even more problematic, though, as pursuant to that provision, use of the specified infrastructure could be delayed well past the point at which it is determined suitable to use.

The Permittee's second point is that the discharge prohibition in Section III.M. is unreasonable, as it requires the City to not utilize the specified infrastructure until some point after July 31, 2024, when the engineering evaluation report is due under Special Provision VI.C.2.c. The Permittee further states that given that Discharge Points 012A(1) and 012A(2) would be utilized during heavier wet seasons, it is important that the City be able to implement discharge at these locations at an earlier date provided the discharge locations are operationally sound. As such, the Permittee requests that the Regional Water Board not preclude use of the infrastructure until after July 1, 2024, but rather, allow use at any point during the Draft Permit's term should the City demonstrate that the discharge locations are operationally functional (to the extent there are documented issues now). For this reason, the Permittee requests the Regional Water Board remove Section III.M. from the Draft Permit, and instead build in "anytime" reporting to the Regional Water Board with respect to the operational functionality of these two discharge locations so there is flexibility regarding their use.

The Permittee's third point re-iterates the position from Comment 1 above, that the recycled water storage ponds should be excluded from Special Provision VI.C.2.c., as storage pond management should be handled pursuant to the General Recycled Water Order.

Response to Santa Rosa Comment 4:

Part 1 of the Permittee's comment expresses concern that Discharge Prohibition III.M duplicates requirements to properly operate and maintain the Facility that are included elsewhere in the Draft Permit. The permit requirement to properly operate and maintain the Facility does not preclude including specific permit requirements that focus on an area of the Facility that needs focused attention. During an inspection in 2018, Staff learned that the Permittee's staff have concerns about the operational condition of these discharge structures and indicated that focused maintenance/repair would be needed to ensure that these can be operated without risk of failure. In addition, in early 2017, several discharge valves that were utilized for discharge after a long period of non-use did not close properly, causing leaks and unauthorized discharges. These valves required repairs and replacement to ensure that they would function properly. Accordingly, the requirements in the Draft Permit are reasonable and within the Regional Water Board's authority to establish requirements in a permit to ensure proper operation and maintenance of critical Facility infrastructure.

No changes were made to the Proposed Permit in response to Part 1 of this comment.

Part 2 of the Permittee's comment expresses concern that section III.M of the Draft Permit would preclude the Permittee's use of the Discharge Points 012A(1) and 012A(2) until after July 1, 2024 (the date by which the Draft Permit requires submittal of an engineering study). The Permittee may opt to provide an engineering demonstration

that the infrastructure associated with these discharge points is functional at any time. Discharge Prohibition III.M of the Proposed Permit has been modified to remove reference to section VI.C.2.c to clarify that the Permittee does not need to wait until submittal of the engineering report required by section VI.C.2.c before it can utilize Discharge Points 012A(1) and 012A(2) if the Permittee wishes to provide an engineering evaluation of functionality separately from the engineering report requirement or to submit the engineering report in advance of the permit deadline. The Permittee must, however, be able to demonstrate proper operation and maintenance as required by section VI.C.4.a. Discharge Prohibition III.M of the Proposed Permit has been modified to read: "The discharge of waste from Discharge Points 012A(1) and 012A(2) is prohibited until the Permittee has demonstrated that these discharge points are operationally functional ~~in accordance with Special Provision VI.C.2.c~~. and are being properly operated and maintained in accordance with Special Provision VI.C.4.a."

Part 3 of the Permittee's comment states the Permittee's position that recycled water storage ponds should be addressed through the City's enrollment in the Recycled Water General Order. This approach might be appropriate if the Permittee utilized the storage ponds strictly for recycled water; however, this is not the case. The storage ponds are utilized as part of the Permittee's discharge management plan. While much of the Permittee's effluent is distributed from these storage ponds for recycled water use, effluent is also released from some of the ponds for surface water discharge. As such, Staff believe that it is necessary and appropriate to regulate the storage ponds through the Proposed Permit. Storage ponds used strictly for recycled water distribution (and not for discharge) are addressed in the City's Recycled Water General Order enrollment.

No changes were made to the Proposed Permit in response to Part 3 of this comment.

Santa Rosa Comment 5: ***The Permittee requests removal of WQBELs for ammonia in Table 6 of the Draft Permit and associated discussion in the Fact Sheet. (Draft Permit at Section IV.B.3., Table 6, page 10, and associated Fact Sheet sections)***

The Permittee's comment states (1) that the water quality based effluent limitations ("WQBELs") for ammonia established in the Draft Permit for Discharge Point 012A(1) are based on effluent quality measurements collected after treatment (prior to storage or distribution), but where no discharge occurred; thus, the data are not representative of effluent quality during discharge to receiving waters; (2) that only two effluent results (measured more than 5 years ago) out of 45 samples collected exceeded the Regional Water Board's interpretation of the applicable water quality criterion; (3) that since no discharge to receiving waters occurred from Discharge Point 012A(1) during the current permit term, effluent data collected since early 2014 were all below the criterion, and all receiving water data were non-detect, Reasonable Potential based on Trigger 1 or Trigger 2 cannot be determined and WQBELs are not required or appropriate for ammonia; and (4) that the City will conduct monitoring during discharge events to inform an RPA during the next NPDES permit reissuance.

Response to Santa Rosa Comment 5:

This is a situation where the Regional Water Board has discretion to establish effluent limitations or not. Ammonia is not a priority pollutant, and as such, is not subject to protocol established in the State Implementation Policy for Toxics Control. Staff must consider the data set that represents what could have been discharged as being representative of the effluent quality that could occur during a discharge to surface waters. Monitoring data at Discharge Point 012(1) demonstrates that two ammonia results that resulted in the finding of reasonable potential occurred in April and May 2014 (more than 5 years ago) and ammonia concentrations have been below the applicable water quality objectives for ammonia during the periods of the year when the Permittee would potentially discharge. Therefore, Staff believe that the Permittee's request for removal of ammonia effluent limitations is reasonable, thus, the Proposed Permit has been revised to remove ammonia effluent limitations at Discharge Point 012A(1) and associated sections of the MRP and Fact Sheet. Effluent and receiving water monitoring for ammonia has been retained for all Discharge Points as this monitoring is essential to continue to assess ammonia in the Permittee's effluent. The Proposed Permit has been modified in response to this comment as follows:

- Table 5 of the Proposed Permit (Table 6 of the Draft Permit) has been modified to remove the ammonia impact ratio (AIR) effluent limitation and remove Table Note 3 that described how the AIR was to be calculated.
- Order section VI.C.1.f and Fact Sheet section VI.C.1.f, (Reopener Provision for Nutrients) of the Proposed Permit have been revised to remove ammonia from the list of pollutants for which effluent limitations have been established in the Proposed Permit.
- Order Section VI.C.2.a and Fact Sheet section VI.C.2.a of the Draft Permit (requirement to submit an ammonia study) have been removed from the Proposed Permit.
- MRP section IV.A.2, Table E-4 has been modified to remove the requirement to calculate and report an AIR and Table Note 10 which noted that this calculation was required only for Discharge Point 012A(1).
- MRP section X.D, Table E-11, Reporting Requirements for Special Provisions Reports has been modified to remove the requirement to submit an ammonia study work plan and final report.
- Fact Sheet section IV.C.3.a.ii (a) has been modified to acknowledge the finding of no reasonable potential for ammonia and to restructure this lengthy section to remove duplicative language that was used to describe the ammonia reasonable potential analysis for each set of discharge points.
- Fact Sheet section IV.C.3.c, Table F-9 and Attachment F-1 have been revised to change the RPA results determination for ammonia at Discharge Point 012A(1) from "Yes" to "No".
- Fact Sheet section IV.C.4 has been revised to remove all language related to the reasonable potential analysis for ammonia.
- Fact Sheet section IV.D.3, Stringency of Requirements for Individual Pollutants has been revised to remove ammonia from the list of pollutants for which effluent

limitations are more stringent than the minimum federal technology-based requirements.

Santa Rosa Comment 6: ***The Permittee requests removal of WQBELs for chlorodibromomethane, copper, dichlorobromomethane, pentachlorophenol, and 4,4-DDD from Draft Permit section IV.B.3, Table 6 of the Draft Permit and removal of associated findings of reasonable potential and WQBEL calculations for chlorodibromomethane, copper, dichlorobromomethane, pentachlorophenol, and 4,4-DDD from the Fact Sheet (pages F-49 – F-58 of the Fact Sheet)***

The Permittee's comment further describes the basis for this request for removal of effluent limitations for the specified pollutants as follows: "As defined in the State Water Board's Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California Implementation Plan (SIP), the Reasonable Potential Analysis ("RPA") (and subsequent WQBEL determination) must be conducted with "available, valid, relevant, and representative data and information." The WQBELs for CTR constituents established in the Draft Permit at Discharge Points 006A(1), 012A(1), and 015 were based on effluent quality measurements collected after treatment (but prior to storage or distribution), but where discharge did not occur during the current permit term; thus, the Permittee contends, they are not representative of effluent quality during discharge to receiving waters. Furthermore, all receiving water measurements were below applicable water quality criteria. As a result, a finding of reasonable potential based on Trigger 1 or Trigger 2 cannot be determined and WQBELs are not required for these CTR constituents. The City will conduct monitoring during discharge events to inform an RPA during the next NPDES permit reissuance."

Response to Santa Rosa Comment 6:

Staff re-analyzed effluent data at Monitoring Location EFF-001 (which represents the Permittee's effluent quality following all treatment and disinfection processes) for the reasonable potential analysis. Monitoring Location EFF-001 is typically used to monitor the quality of the Permittee's effluent prior to storage or distribution to the recycled water system. Monitoring Location EFF-001 also represents the quality of effluent that is or could be discharged directly to the Laguna de Santa Rosa at Discharge Points 006A(1) or 015 or to Santa Rosa Creek at Discharge Point 012A(1). Staff must consider the data set that represents what could have been discharged as being representative of the effluent quality that could occur during a discharge to surface waters. A summary of Staffs' reanalysis of the data for each of the pollutants identified in the Permittee's comment is as follows:

<u>DCBM and CDBM.</u> Staff find that the effluent quality for DCBM and CDBM at Monitoring Location EFF-001 is representative of what could be discharged to surface water because the Permittee has been using chlorine in the UV disinfection system. DCBM and CDBM are two chlorine disinfection by-products that may result from the use of chlorine. The Permittee is required to develop a standard operating procedure (SOP) for this use of chlorine in the UV disinfection system to ensure that such use does not result in a discharge of chlorine. Staff anticipate that the Permittee will improve its SOPs

for chlorine use to ensure that chlorine, DCBM, and CDBM are not discharged. However, Staff determined that the finding of reasonable potential for DCBM and CDBM were made correctly, and inclusion of effluent limitations for DCBM and CDBM is necessary to verify that the Permittee's improved SOPs are successful in removing the discharge of these pollutants.

No changes were made to the Proposed Permit in relation to effluent limitations for DCBM and CDBM.

Copper. Staff find that it is reasonable to retain the finding of reasonable potential and effluent limitations for copper because there were detections of copper at concentrations that exceed the applicable water quality criteria for copper during months that the Permittee could have discharged to surface waters.

No changes were made to the Proposed Permit in relation to effluent limitations for copper.

Pentachlorophenol. Staff find that it is reasonable to retain the finding of reasonable potential and effluent limitations for pentachlorophenol because there were detections (qualified by the analytical laboratory as detected but not quantified – DNQ) at concentrations that exceed the applicable water quality criteria for pentachlorophenol during months when the Permittee could have discharged to surface waters.

No changes were made to the Proposed Permit in relation to effluent limitations for pentachlorophenol.

4,4-DDD. Staff find that it is reasonable to remove the finding of reasonable potential and effluent limitations for pentachlorophenol because the low detection (qualified by the analytical laboratory as detected but not quantified – DNQ) occurred in in 2014 (more than 5 years ago) and during the month of October when the Permittee would not have any reason to discharge directly to surface waters. In addition, these data points are older and might not be representative considering that data that is less than 5 years old does not show reasonable potential for 4,4-DDD.

The following sections of the Proposed Permit were changed in response to this comment:

- Table 5 of the Proposed Permit (Table 6 of the Draft Permit) has been modified to remove the effluent limitation for 4,4-DDD.
- Table E-4 of the MRP has been modified to remove the monthly monitoring requirement for 4,4-DDD. 4,4-DDD monitoring is still required by the MRP through the twice per year CTR priority pollutant monitoring requirement.
- Fact Sheet section IV.C.3.c, Reasonable Potential Determination has been modified to remove 4,4-DDD from the list of pollutants that were found to have reasonable potential.
- Fact Sheet section IV.C.3.c, Table F-11 has been modified to remove 4,4-DDD and Attachment F-1 has been modified to change the RPA determination result

for 4,4-DDD from "Yes" to "No" and to remove the reasonable potential analysis (last paragraphs of section IV.C.3.c of the Draft Permit).
- Fact Sheet section IV.C.4 has been revised to remove all language related to the reasonable potential analysis for 4,4-DDD.
- Fact Sheet section IV.D.3, Stringency of Requirements for Individual Pollutants has been revised to remove 4,4-DDD from the list of pollutants for which effluent limitations are more stringent than the minimum federal technology-based requirements.
- Fact Sheet section VII.B.2.d has been revised to remove 4,4-DDD from the list of pollutants to be monitored monthly in the effluent.

Santa Rosa Comment 7: ***The Permittee requests removal of the proposed WQBEL for TDS from Section VI.C.4.c, Table 6 (page 23) of the Draft Permit and modification of the associated findings in the Fact Sheet.***

The Permittee's comment further explains the basis for this request as follows: "Reasonable potential for total dissolved solids (TDS) at Discharge Points 006A(1), 012A(1), and 015 is identified in Fact Sheet Section IV.C.3.a.iii and a final WQBEL of 500 mg/L based thereon is included for aforementioned discharge points at Table 6 of the Draft Permit. The reasonable potential determination is based on the finding that some of the 46 reported values collected between the months of October and mid-May in 2014 through 2019 exceed the secondary maximum contaminant level (SMCL) of 500 mg/L. The City objects to imposition of a WQBEL for TDS.

The SMCL for TDS was developed by the USEPA as consumer acceptance levels to protect treated domestic drinking water supplies served by community water providers from adverse aesthetic qualities (i.e., taste). The SMCL is divided into three levels—a Recommended Level (< 500 mg/L), an Upper Level (1,000 mg/L), and a Short Term Level (1,500 mg/L)—and the Recommended Level was utilized as the threshold for the RPA. The Regional Water Board possesses discretion in which value is used during the RPA process, and the Regional Water Board selected the most stringent value, even though drinking water supplies are not actually within the sphere of the City's limited discharge, and downstream users do not appear to have elevated TDS (the City realizes the MUN beneficial use is being used to impose this objective, but given the range of values, these circumstances are relevant).

More importantly, consideration of all 46 data points in this analysis is inappropriate since those values are derived almost exclusively from when the facility is not discharging to surface waters. In fact, when the City was actually discharging during several high rainfall periods, discharge being an infrequent occurrence given the significant water recycling by the City, TDS values fell below the Recommended Level used for RPA. [The Permittee included a figure that shows the relationship of TDS in recycled water to plant flow, rainfall and discharge showing that TDS was, and can be expected to be less than the SMCL during periods of discharge.] As such, no reasonable potential exists for TDS, even using the lowest Recommended Level (which

the Regional Water Board could modify), and the WQBEL for TDS should be removed from the Draft Permit."

Response to Santa Rosa Comment 7:

Staff conduct TDS RPAs using the secondary drinking water quality objective of 500 mg/L for all discharges to the Russian River and its tributaries because the Russian River and its tributaries, including the Laguna Hydrologic Subarea that the Laguna de Santa Rosa is in, are listed in the Basin Plan as supporting the MUN beneficial use. Staff conducted a second review of the Permittee's TDS monitoring data and find that there is a clear pattern that TDS drops below 500 mg/L during periods of high rainfall that would reflect the conditions under which the Permittee is more likely to discharge. The Permittee's Discharge Management Plan commits to maximizing reclamation and minimizing discharges to surface waters. The Permittee only discharges during periods of sustained rainfall when plant effluent and stored effluent are diluted by rainwater, therefore Staff find that it is appropriate to remove the finding of reasonable potential and effluent limitations for TDS. The following sections of the Proposed Permit have been changed in response to this comment:

- Table 5 of the Proposed Permit (Table 6 of the Draft Permit) has been modified to remove the effluent limitation for TDS.
- Fact Sheet section IV.C.3.c.iii, Reasonable Potential Determination has been modified to remove the reasonable potential analysis for TDS.
- Fact Sheet section IV.C.3.c, Tables F-8 and F-9 and Attachment F-1 have been modified to change the RPA determination result for TDS from "Yes" to "No" and to remove the reasonable potential analysis (last paragraphs of this section).
- Fact Sheet section IV.C.4 has been revised to remove all language related to the reasonable potential analysis for TDS.
- Fact Sheet section IV.D.3, Stringency of Requirements for Individual Pollutants has been revised to remove TDS from the list of pollutants for which effluent limitations are more stringent than the minimum federal technology-based requirements.

Weekly monitoring requirements for TDS in Tables E-4, E-5, and E-6 have been retained to ensure that sufficient data is available to assess reasonable potential in the future.

Santa Rosa Comment 8: ***The Permittee requests that the method of using the geometric mean to determine compliance with total coliform bacteria limitations from the 2013 permit be retained or that the Permit include a 5-year compliance schedule, along with interim effluent limitations, for total coliform requirements set forth in Section IV.A.1.d. of the Draft Permit, consistent with the April 16, 2020 Request for Compliance Schedule/Infeasibility Analysis. (Draft Permit Section IV.A.1.d.(a), page 9)***

This comment is divided here into three parts with a description of the comment and the response following immediately after each comment of three comment parts.

Santa Rosa Comment 8, Part 1. The Permittee notes that the Draft Permit changes the method of assessing compliance with the 7-day median effluent limitation for total coliform in section IV.A.1.c.i.(a). based on State Water Board's Division of Drinking Water ("DDW") staff recommendations following DDW staff's review of the Laguna Treatment Plant UV disinfection system in July 2018. The Permittee's existing NPDES permit requires compliance to be determined using the geometric mean of three daily samples (one collected each day from each of the UV channels) to determine compliance with the 30-day maximum limit of 23 MPN/100 mL such that no more than one of the daily geometric mean values may exceed this limit in a 30-day period (see footnote 1 on page 8). Based on DDW recommendations, the Draft Permit at Section IV.A.1.c.i.(a), Footnote 2 (note that the Permittee's comment incorrectly cites section IV.A.1.d.(a)) requires all values (one value for each channel on each day of channel operation) to be used in the 30-day limit compliance calculation and eliminates the use of a geometric mean to generate a single value to represent coliform density each day.

"DDW's recommendation is expressed in its November 5, 2018 letter to Cathy Goodwin, Regional Water Board staff, and states that use of geometric means "is not appropriate for analyzing bacteria concentrations immediately downstream of a properly operating filtration and disinfection system, where the expected effluent quality is relatively consistent non-detection of total coliform bacteria at each channel producing disinfected tertiary recycled water. … The current method of reporting daily coliform based on geometric means of all operating channels can leave very high daily coliform readings on a single channel unaddressed for days . . . "

DDW's conclusion that a single high value would be unaddressed is incorrect, and this incorrect conclusion is no basis to require the use of each individual value collected each day in each operational channel to calculate compliance with the 30-day limit. The City does not ignore the individual coliform results from each channel. In fact, when high values are found, operational measures to address the cause(s) are implemented. DDW's conclusion that the individual values should be used to evaluate compliance ignores the fact that flow in each of the three disinfection channels is equal and combines into one fully mixed pipeline prior to reuse and discharge. One sample from one channel is not representative of the quality of combined effluent downstream of the channels, which is why samples from all three channels are collected and should not be used as a basis for compliance with the 30-day limit. (No suitable sampling location currently exists in the combined effluent pipeline downstream of the channels).

Use of a geometric mean was included in the current permit (Order No. R1-2013-0001) because it was the judgement of Regional Water Board and DDW (then the Drinking Water Program in the Department of Health Services) staff that combining the values in that manner provided a value representative of the quality of effluent. DDW's explanation as to why a geometric mean is inappropriate is conclusory (DDW's sole citation of "Calculating Geometric Means" by Costa does not address its use in a treatment plant setting) and fails to consider alternative statistical methods of combining the values from each channel to represent combined effluent quality. In fact, a simple arithmetic mean of the values from each active channel each day would be representative since flow in each channel is equal. While the City does not agree that

use of the geometric mean is inappropriate, use of an arithmetic mean does not "dampen the effect of very high or very low values," a characteristic ascribed to geometric means by DDW and Costa, and would be an acceptable basis for determining compliance with the 30-day limit."

The City requests (1) that use of the geometric mean be continued as specified in the current permit as the basis for evaluating compliance with the 30-day limit; and (2) if a compelling argument against the use of a geometric mean is provided by DDW, the City requests the arithmetic mean be used instead as basis to evaluate compliance with the 30-day limit.

Response to Santa Rosa Comment 8, Part 1. DDW's February 12, 2020 letter states, "Daily result of total coliform bacteria sampling must be reported as individual reported value for each operational UV channel or a maximum reported value of all operational UV channels. *Reporting geometric mean of operating channels as a daily value is not an acceptable method for compliance with Title 22 regulations*." (emphasis added) On May 21, 2020, Regional Water Board discussed with Division of Drinking Water staff the City's requests for reconsideration of allowing compliance with the total coliform effluent limitation to be determined using the geometric mean, or alternatively the arithmetic mean. DDW staff confirmed that the requirement to assess compliance with total coliform effluent limits using maximum reported value of all operational channels is necessary for protection of public health at recycled water use sites.

Staff also wish to address the erroneous statements in the Permittee's comments regarding the Permittee's understanding of how compliance with the total coliform effluent limitation is to be determined.

The Permittees comment states, "compliance with the 7-day limit is currently calculated consistent with Section VII.C.2, which states that the median is calculated based on measurements from all operational channels during a rolling 7-day period (e.g. 21 values if all three channels are in operation during the entire 7-day period). Footnote 1 on page 8 of the existing permit is inconsistent with Section VII.C.2 in the existing permit and use of the Section VII.C.2 for determination of compliance with the 7-day limit is by agreement with Regional Water Board staff."

Staff wish to clarify that section VII.C.2 of the existing order doesn't state that the 7-day median is to utilize all channel results, rather states that compliance with the 7-day median limit is to be assessed as a rolling median. This statement is to be implemented in conjunction with Footnote 1 of section IV.A.1.c.i.(a) to mean that compliance is to be assessed by calculating the 7-day median of each calculated daily geometric mean result. Therefore Footnote 1 is consistent with Section VII.C.2. The Permittee has come to this same conclusion subsequent to submittal of this comment.

No changes were made to the Proposed Permit in response to this comment.

Santa Rosa Comment 8, Part 2. The Permittee's comment further requests consideration of an in-permit compliance schedule and interim effluent limitations for total coliform in the event that the Permit is adopted with language requiring individual samples from each channel (without aggregation into a daily geometric mean) as a basis for compliance with the total coliform effluent limitations, as the City would be unable to consistently comply with the newly imposed method of assessing compliance with the total coliform effluent limitations. On April 16, 2020, the Permittee submitted to the Regional Water Board a formal request for an in-permit compliance schedule and interim limitations in accordance with the State Water Board's Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits (State Water Board Resolution No. 2008-0025, Compliance Schedule Policy). A copy of that request was included with the Permittee's comment letter. The Permittee stated that the requested compliance schedule will provide the City time to upgrade its UV disinfection system and achieve compliance with the final effluent limits for total coliform in the Draft Permit.

The Permittee also noted what it thought was a typographical error in the Draft Permit regarding the numbering of section "IV.A.1.i.".

Response to Santa Rosa Comment 8, Part 2. On May 21, 2020, Staff also discussed with DDW staff the Permittee's request for a five-year compliance schedule for meeting total coliform effluent limitations. DDW staff is not supportive of any action by the Regional Water Board that would give the Permittee relief from potential violations and enforcement (i.e., no interim limits). DDW has determined that the Permittee has delayed the UV upgrade project and should not be given any provision that would excuse that. DDW staff strongly favor a schedule of no more than five years that holds the Permittee to completing the UV disinfection project in the shortest possible reasonable time frame. This is also the time frame proposed in the compliance schedule included in the Permittee's request for a compliance schedule. Staff agree that the UV disinfection system upgrade should be completed in the shortest time frame possible.

Staff recommend including a compliance schedule in the Proposed Permit that requires the City to complete the UV disinfection system upgrade project by the end of the permit term (a period of 5 years).

A compliance schedule for completion of the UV disinfection upgrade has been added to section VI.C.7 of the Proposed Permit. Based on DDW's input, Staff have not modified the Proposed permit to include interim effluent limitations.

Santa Rosa Comment 8, Part 3. The Permittee notes that flow monitoring through each individual channel is not possible due to construction constraints; however, equal flow through each channel under various flows and combinations of on-line channels has been demonstrated through bioassay testing as reported in "Laguna Water Reclamation Facility UV Checkpoint Bioassay, Final Rev.1, July 2012," submitted to DDW. The Permittee requests that the requirement to measure flow per channel be removed from the Proposed Permit.

Response to Santa Rosa Comment 8, Part 3: The operational requirements for the UV disinfection system in section IV.D.4 of the Draft Permit were recommended by DDW staff who are knowledgeable about the current constraints of the Permittee's UV disinfection system. Currently, flow through each UV channel must be estimated based on the results of the UV Checkpoint Bioassay. In addition, the word "least" must remain in section IV.D.4.d of the Order as this is how the requirement is specified by DDW in their February 12, 2020 Title 22 Report acceptance letter.

In addition, the Permittee identified a potential typographical error regarding the number of Order section IV.Ai.c.i. However, this section was properly numbered in the Draft Permit and will remain as such in the Proposed Permit.

No changes were made in response to this comment.

Santa Rosa Comment 9: ***The Permittee requests (1) removal of the "no net loading" WQBEL for total phosphorus and reference to the WQT Framework, and instead imposition of TMDL and performance-concentration-based effluent limitations for total phosphorus provided reasonable potential can be established. (2) As an alternative, the Permittee requests modification of the WQT Framework in the Draft Permit as specifically indicated in the Permittee's detailed comments (described in detail, below), and further that the modified WQT Framework be adopted in a quasi-legislative proceeding (separate from adoption of the Proposed Permit), and (3) modification of the alternate compliance option (ACO) as described in more detail, below). (Effluent Limitations and Discharge Specifications, Draft Permit Sections IV.A.2.a.i. and VII.O, pages 9 and 34-35)***

The Permittee provided 9 pages of written material for this comment. This comment contains three major sections. First, the Permittee provides background information regarding the Permittee's efforts and challenges to comply with the "no net loading" requirement through implementation of the Nutrient Offset Program (NOP), its efforts to develop an alternate compliance approach by convening a Blue Ribbon Panel in 2018, and the Permittee's objections to the Water Quality Trading Framework (WQTF) adopted by the Regional Water adopted by the Regional Water Board in July 2018. Second, the Permittee proposes specific changes to the WQTF included in Attachment K of the Draft Permit and requests that it be adopted in a quasi-legislative rather than a quasi-judicative proceeding. Third, the Permittee expresses its optimism regarding the Alternate Compliance Option (ACO) for phosphorus and proposes changes to the ACO included in the Draft Permit. This comment will be divided into three parts with a description of the comment and the response to follow immediately after the comment.

Santa Rosa Comment 9, Part 1. The Permittee states its view that the WQTF does not improve upon the NOP, rather represents steps backward from various program elements. "Further, the WQTF did not support the type of longer-range restoration projects that many of the Blue Ribbon stakeholders, including the City, believe are the most effective method to truly improve water quality and the watershed's beneficial uses. The City submitted extensive written comments to the Regional Water Board regarding the WQTF and provided testimony at the adoption hearing on July 11, 2018.

After adoption, the City timely filed a Petition for Review of the Regional Water Board's action in adopting the Resolution/ WQT Framework, and that Petition for Review remains in abeyance. …. The City raises here the same objections to the WQTF and incorporates by reference the assertions in the Petition for Review, as well as the underlying comments made by the City in anticipation of the July 2018 adoption of the WQT Framework." The Permittee presents arguments (1) that the WQTF fails to demonstrate a nexus between the "no net loading" requirement and abatement of water quality impairment, (2) that the Permittee's discharge constitutes a de minimis load to the Laguna, and (3) that the "no net loading" requirement places a disproportionate burden on the Permittee.

Response to Santa Rosa Comment 9, Part 1. Staff has discussed the "no net loading" requirement at length with the Permittee during development of the current as well as the previous two permits. No net loading is a foundational permit requirement until the Regional Water Board adopts a TMDL for the Laguna de Santa Rosa. The Regional Water Board has provided several options by which the City can meet this requirement, thus Staff do not recommend removal of the "no net loading" requirement from the Proposed Permit. The analysis supporting the "no net loading" limit is included in Fact Sheet section IVC.3.a.iv of the Draft and Proposed Permits and is based in part on data and information presented in an October 22, 2013 memorandum from Rebecca Fitzgerald, supervisor of the Regional Water Board's TMDL Unit, to Charles Reed et al. (included as an attachment to this Response to Comments document), and is based on works referenced therein. Staff anticipate the delivery of several work products from the Regional Water Board's contractor, TetraTech, in late July and early August of 2020. These products include: (1) a draft memorandum documenting proposed loading capacity and numeric targets for sediment and nutrients and proposed wasteload allocations and load allocations; (2) a draft memorandum describing potential surrogate measures to represent the four impairments (sediment, phosphorous, temperature, and dissolved oxygen) in the Laguna de Santa Rosa; and (3) other draft written work products (up to five) to be incorporated into the Laguna TMDL Action Plan or equivalent. These draft work products provide an updated scientific basis to inform the Regional Water Board's for future regulatory actions, such as future renewals of the NPDES permit.

The Permittee made a similar request in regard to its NPDES permit adopted by the Regional Water Board in November 2013. Staff's response to Comment 1E in the *Response to Written Comments In Consideration of Waste Discharge Requirements Order No. R1-2013-0001, Renewal of National Pollutant Discharge Elimination System (NPDES) Permit for the Santa Rosa Subregional Water Reclamation System* dated November 21, 2013 states, "…the Proposed Order relies on a robust analysis contained in the Revised Fitzgerald Memo (October 22, 2013) and the Fact Sheet to support its finding of no assimilative capacity for phosphorus." Second, the City requests interim performance based limits citing: *In the Matter of the Review on its Own Motion of the Waste Discharge Requirements for the Avon Refinery, State Water Board Order No. 2001-06; Communities for a Better Environment v. State Water Board/Tesoro, 109 Cal.App.4th 1089* as support for establishing interim limits until a TMDL is developed. Rather than establish interim performance based limits, the Regional Water Board has

determined that given the impairment of the Laguna de Santa Rosa, it is more appropriate to maintain the existing no net loading limitation until a TMDL is developed, and provide the City with a number of options to comply with the limit. Third, [as noted above,] "the City has several compliance options, including participating in an offset program, which makes it feasible to comply with the no net loading limitation for phosphorus. … City and Regional Water Board staff have worked diligently over the past several years to implement the offset program and ensure its success. … The Regional Water Board has established a scientific and regulatory basis for imposing the no net loading limitation. The scientific and regulatory basis for the "no net loading" requirement in the Draft Permit remains valid.

Note that the Draft and Proposed Permits no longer include the Nutrient Offset Program, rather replace it with a modified version of the Water Quality Trading Framework (WQTF) that Staff believe is more robust and flexible than the Nutrient Offset Program. The Laguna WQTF is a revised and expanded version of the Santa Rosa Nutrient Offset Program, which in the long term is intended to provide greater reliability, efficiency, and transparency than the Nutrient Offset Program. The provisions of the Laguna WQTF are based on USEPA policy, guidance from national experts, and Local Stakeholder Recommendations. The Laguna WQTF has been designed to replace the existing Santa Rosa Nutrient Offset Program and to be available to both the City of Santa Rosa and the Town of Windsor as an approved method for complying with the "no net loading" effluent limitation for total phosphorus established in each of their NPDES permits.

No changes were made to the Proposed Permit in response to this comment.

Santa Rosa Comment 9, Part 2 ((a) WQT Framework on page 12 of the Permittee's comment letter). The Permittee expresses first its preference that proposed changes to the WQTF be modified in a quasi-legislative rather than a quasi-adjudicative proceeding and second, that many of the modifications to the WQTF included in the Draft Permit improve on the July 2018 version. The Permittee requested the following additional changes to the WQTF in Attachment I[1] of the Proposed Permit:

- "Section 3.2.1 (Avoiding Localized Impacts). This section of the WQTF requires that actions taken to generate credits must "provide water quality benefits that are equal to or greater than the pollutant discharges they are meant to offset in place, in kind, and in time." The Permittee requests clarification on what Regional Water Board staff intend with the "in place, in kind, and in time" reference, especially here given the additional "equal to or greater than" requirement. Offset credit projects may be located in different parts of the Laguna de Santa Rosa watershed, they may consist of different "types" of discharges than those requiring offset, and, given the specific nature of credit banking and expiration, may not always coincide with the same "time" as when the discharge to be offset occurred. If interpreted narrowly, such restriction could obviate any

[1] Note that modifications to the Draft Permit resulted in the removal of two attachments, thus Attachment K of the Draft Permit is Attachment I in the Proposed Permit.

progress under the Framework. Further, multiple projects may be needed to offset the City's seasonal discharges (because each offset project may not on its own generate enough credits to fully offset the City's predicted discharge of phosphorus); thus, each offset project may not provide benefit "equal to or greater than" the pollutant discharges they are intended to offset. The Permittee seeks confirmation from Regional Water Board staff that projects can acceptably partially offset discharges."

- "Section 5 (Trading Ratios). The default trading ratio of 2.5:1 is too restrictive and may detrimentally impact the ability of the City to successfully offset its discharges. The City acknowledges that Regional Water Board staff has updated this section in relation to the 2018 adopted version and that the proposed WQT Framework revisions reduce the default trading ratio to 1.5 for projects that are (1) multi-benefit restorations, (2) on permanently protected lands, (3) where direct measurement of pollutant reductions are directly measured. This is still less favorable when compared to the City's existing NOP, which has a 1:1 phosphorus credit ratio. While the City spent $2.5 million dollars on phosphorus compliance for four discharge events over the past six years, this would translate into costs for phosphorus control from $4.0 to $6.25 million per five-year permit term. The Permittee contends this estimated cost is likely to increase because the previous credits were generated at the average cost of $37/credit and the latest credits cost $50/credit. Furthermore, the discount ratio for permanently protected lands is not well defined. The City requests clarification to understand whether publicly owned property qualifies and the factors that would be necessary to meet this requirement. Given that the project would have a life and credits have a life expectancy, a property should have the burden of an easement or deed restriction beyond the life of the project/credits. The City requests the default trading ratio be more akin to that provided in the Nutrient Offset Program. This could be accomplished by setting the uncertainty ratio at 1.5 and removing the discount factor for "permanently protected lands," which would result in trading ratios from 1.1 to 2.1."

- "Section 6.3 (Banking Credits for Later Use). Of most concern to the City is the proposed minimum credit banking period of three (3) years prescribed in Section 6.3. Further aggravating the concern is the proposed WQT Framework's language that indicates "a water quality credit generated in 2017 may be used to offset a discharge in the 2017, 2018, or 2019 discharge season," which seems to further limit the use of credits, in that the year they are generated "counts" towards the three years for which they can be used. Creating a WQT Framework with such perishable credits will increase risk and cost, and unnecessarily reduce the marketability of phosphorus on an open market. Credit sellers would not want to develop projects that would expire without guarantee of being able to sell the credits. While the City is not the largest discharger of phosphorus into the watershed, it is the largest potential customer for credits in the watershed. The City's discharge conditions are exceptionally unique. The well-established and successful recycled water program re-uses most, and sometimes all, of the

recycled water that the City produces, resulting in years where the City has no discharge. The City's discharges are episodic and unpredictable, which explains why offset credit expiration is a significant concern and a potential liability to the phosphorus credit generator. In circumstances where the most influential factor for discharge is unpredictable weather patterns, the City is in the unenviable position of having to ensure sufficient credits exist to offset what may only be a potential discharge. With credit expiration periods, the City is faced with having to invest in projects to earn and verify a statistically derived number of credits every year and many will expire before they're needed or used. This is not sound public policy, especially given all the demands on limited public resources.

The City requests that its unique discharge situation be considered further within the WQT Framework, especially given the City's history and the Regional Water Board staff's experience under the NOP. The City does not need short-term offset credits each year to attain compliance as much as the City needs certainty regarding the use of accrued offset credits over a longer term. The City requests that the Regional Water Board incorporate the concept that earned credits be allowed to accumulate, extend, and not expire. While the City appreciates the effort made to extend the life of credits for certain types of projects, that any given project or project type will continue to have longer timeframes is not guaranteed. Expiration of credits is of growing concern due to climate change where storms in our region are predicted to be less frequent, but more intense. This could lead to years of drought and no discharges, followed by record setting rain years where the City would need to control tens of thousands of pounds of phosphorus in one year. The water quality benefits resulting from the City's projects don't expire and neither should the credits."

- "Section 7.2 (Credit Project Plan Approval Process). While some elements of the project plan approval process mirror the process developed and previously implemented under the NOP, the NOP includes important provisions that were not carried over to the WQT Framework regarding the timing of approval of proposed projects. For example, under the NOP, the Executive Officer of the Regional Water Board has sixty (60) days to accept or reject a nutrient offset project or the project is deemed approved. See Nutrient Offset Program at Step 3. This element is crucial to providing project proponents with certainty regarding the viability and timing of a project; as the City and Regional Water Board staff are aware, bringing an offset project to fruition can be a time-consuming and difficult task, which may involve other agency approvals. In order for the City to have some certainty that it can implement sufficient projects to offset its predicted discharge, so as to maintain compliance with the imposed effluent limitation, bounds must be placed on how long a project can be under review at the Regional Water Board before action is taken. For this reason, the City requests that the WQT Framework be amended to provide a similar sixty (60) day "accept or reject, or deemed approved," process."

Response to Santa Rosa Comment 9, Part 2. For this permit renewal, Staff modified the July 2018-adopted Water Quality Trading Framework to be responsive to some of the concerns that the City has raised regarding the July 2018 WQTF and has made only the necessary changes to best implement these adopted policies under the Draft Permit. The Regional Water Board recognizes that the City has submitted a Petition for Review for the Regional Water Board's adoption of the WQTF, and as such, the Draft and Proposed Permits also provide an Alternative Compliance Option (ACO) (section VII.O.2) that the City may elect to use rather than the WQTF.

The City objects to the use of the NPDES permit (a quasi-adjudicative proceeding where the Regional Water Board applies facts and evidence to inform permit conditions that apply to specific parties) as the mechanism for adopting the proposed changes to the WQTF and requests that the changes be adopted as part of a quasi-legislative process (a rule making process where the Regional Water Board adopts regulations that have the force of law, such as the Regional Water Board's adoption of Basin Plan amendments.) The WQTF has been designed to replace the existing Santa Rosa Nutrient Offset Program and to be available to both the City of Santa Rosa and the Town of Windsor as an approved method for complying with the "no net loading" effluent limitation for total phosphorus established in each of their NPDES permits. The WQTF was initially adopted separately from the permit renewals in order to have the WQTF in place in time for the permit renewals. It is perfectly appropriate that the revised WQTF be adopted in a quasi-adjudicative action as part of the Santa Rosa and Windsor permit renewals, as the WQTF is a compliance option provided for both NPDES permittees to meet the no net loading effluent limitation. Regional Water Board intends to expand the use of trading programs in the region and ultimately adopt a TMDL (a quasi-legislative action) that will include water quality trading programs as a component of a program of implementation.

The City indicates that a narrow interpretation of the WQTF's requirement that water quality benefits "are meant to offset in place, in kind, and in time" is unclear and would provide restriction or could obviate any progress under the Framework. The Regional Water Board will address this comment as it was previously addressed during the public comment period for when the WQTF was first adopted and maintains that these provisions are not intended to be interpreted narrowly. The WQTF adequately defines these terms while leaving appropriate flexibility for interpretation. Specifically, "in place" has been provided in that the proposed credit generating projects must be within the Laguna de Santa Rosa watershed in Sonoma County. The purpose of the WQTF provides the scope for "in kind", as it is a phosphorus loading offset program. "In time" is ultimately addressed in the credit banking period by ensuring credits are used within three years, or a project's agreed upon life span.

The City has reiterated their previous concerns that the proposed trading ratios within the WQTF are too restrictive and may detrimentally impact the City's ability to offset its discharges (first presented during the public comment period for the WQTF in 2017). As previously explained by the Regional Water Board, and based on information presented by the City's consultant (Keiser & Associates), credit quantification methods used for projects implemented under the Santa Rosa Nutrient Offset Program have incorporated

margins of safety resulting in trading ratios between 1.5:1 and 2.67:1. Staff maintains that the trading ratios within the WQTF, and the revisions included in the Proposed Permit, are reasonable.

Regarding a publicly owned project's qualification for a reduced trading ratio if determined to be a permanently protected land, the Regional Water Board will leave the burden to demonstrate that this qualification is met on the credit generator (i.e., the developer of a project for which phosphorus load reductions can be used by credit buyers. The Regional Water Board will, at the discretion of the Executive Officer, reasonably accommodate the proposed determination on a case by case basis.

The City remains concerned with the available banking period for credits generated within the WQTF. The Regional Water Board has expanded the maximum allowable banking period for credits from five years to the life of the specific project that generated the credits in the proposed revisions to the WQTF incorporated in the Draft Permit. As the development and implementation of credit generating projects is at the discretion of the credit generator, this policy is anticipated to promote longer term projects and result in longer banking periods for their respective credits. The City, as potentially the largest credit buyer under this program, retains the ability to selectively generate or purchase credits that will be most beneficial for their needs.

The City also requests that the WQTF include a 60-day response period for the Regional Water Board to either accept or reject a proposed project, or the project will be deemed approved if no response is provided. The 60-day response period was included in the 2018-adopted version of the WQTF and has been retained in the modified version that is part of the Draft and Proposed permits. Staff believe that allowing projects to be approved through inaction is a poor implementation policy and should be avoided. The City may at its discretion, when it believes that a proposed project has been overlooked and that the approval period may soon lapse without a response, provide communication with the Regional Water Board to express the project's urgency.

No changes were made to the Proposed Permit in response to this comment.

Santa Rosa Comment 9, Part 3 ((b) Alternate Compliance Option). The Permittee provides comments regarding the Alternate Compliance Option, including:

(1) A request to be given the option to use phosphorus credits generated to date to meet the compliance number in the ACO, in particular the credits generated from the Sonoma Water Nutrient Offset Project Proposal, Laguna de Santa Rosa Reaches 1 and 2. These credits should be converted into total pounds preserved and not suffer the trading ratios, since the uncertainty factors have been already added into the total pounds of phosphorus controlled.

(2) The City believes that the condition that the restoration project occur on the mainstem of the Laguna de Santa Rosa is unnecessarily prescriptive. The City requests flexibility to implement restoration projects located in tributaries near the confluence of the mainstem be allowed.

(3) The City believes that the ACO is less desirable as compared to the NOP because of the dramatically increased pounds of phosphorus required to be offset, more than doubling the cost of phosphorous compliance. The City considers the proposed 44,876-pound requirement to be excessive and unacceptable and proposes 24,040 lbs.

Response to Santa Rosa Comment 9, Part 3:

The Alternative Compliance Option (ACO) was developed in consultation with the Permittee and has been provided as a separate option for the offset of phosphorus discharged from the City of Santa Rosa Laguna Treatment Plant. Nonetheless, Staff acknowledge that the Permittee has some concerns with the ACO as outlined above. The ACO incorporates the development and implementation of one or more restoration projects to offset 44,876 pounds of phosphorus to provide compliance with the no net loading requirement for phosphorus for the duration of the permit term. This option is intended as an alternative to the WQTF, and credits generated through the WQTF and NOP are not available to supplement this requirement. Credits existing in the WQTF Accounting Ledger, including credits brought in from the NOP, shall have their respective banking periods and expiration dates placed on hold for the period that the ACO is utilized to retain the value of the credits during this time. The Regional Water Board does not intend to mix programs by allowing available credits to offset the ACO compliance requirements.

Staff have determined that impairments in the Laguna de Santa Rosa are in part driven by ongoing external loads of nutrients, sediments, and oxygen-demanding materials. However, there is also a significant role played by internal recycling of past inputs, including regeneration of nutrients from legacy sediment deposits and creation of biomass (and associated oxygen demand) by aquatic plant growth and decay. As such, the Regional Water Board has designated that the ACO be implemented in the mainstem Laguna de Santa Rosa in order to achieve a restorative outcome within the Laguna de Santa Rosa that may not be realized if implementation was to occur exclusively in tributaries or creeks.

The Regional Water Board recognizes that the calculation of phosphorus mass required for removal under the ACO is affected by the high phosphorus discharge that occurred in the 2016-2017 discharge season. However, staff determined that it is most appropriate to calculate the anticipated phosphorus load based on the most recent permit term rather than choose a larger sample period to lower the influence of this data. Compliance with the “no net loading” effluent limitation through participation in either the WQTF or ACO, must provide a reasonable certainty that an environmental benefit will be realized over the next permit term. The process used to determine the required mass of phosphorus removed by the ACO is provided in Attachment F of the Draft Permit, Section IV.I.2, and has been determined to be appropriate.

No changes were made to the Proposed Permit in response to this comment.

Santa Rosa Comment 10: ***The Permittee requests modification of the effluent limitation for Chlorodibromomethane in Effluent Limitations and Discharge Specifications Section IV.B.3, Table 6, and associated Fact Sheet sections on pages F-51 to F-52 and in Tables F-8 through F-11. (Table 6, Page 10)***

The Permittee's comment explains that the average monthly effluent limit and the most stringent water quality objective for chlorodibromomethane are mistakenly indicated as 0.401 µg/L in the Draft Permit. The original publication of 40 CFR Part 131 Publication (5/18/00) included an incorrect objective of 0.401 µg/L for chlorodibromomethane, which was corrected to 0.41 µg/L in Federal Register Vol. 66, No. 30 (2/13/01).

Response to Santa Rosa Comment 10:

The Permittee is correct that the AMEL for chlorodibromomethane was listed incorrectly within the original publication of 40 CFR part 131. Staff have updated section IV.B.3, Table 5 of the Proposed Permit to reflect this correction. Section IV.D.1 of the Fact Sheet has been updated to justify this modification by citing Clean Water Act section 402(o)(2)(B)(ii) which provides that "technical mistakes or mistaken interpretation of the law were used". In this case 40 CFR part 131 has been corrected to include the correct water quality objective of 0.41 ug/L for chlorodibromomethane.

Santa Rosa Comment 11: ***The Permittee requests removal of the acute toxicity effluent limitation from Section IV.A.2.iii. of the Draft Permit; modification of section VII.I. to not reference "limitations" and to remove the first paragraph; modification of the discussion of Acute Aquatic Toxicity section on Page F-58 to contain a conclusion similar to that for chronic toxicity, such as the following: "Based on the 100% survival seen in all acute toxicity tests in the last permit cycle, the Regional Water Board concludes that the discharge has no reasonable potential to cause or contribute to an exceedance of the Basin Plan's narrative toxicity objective. Therefore, this Order removes the effluent limitation for acute toxicity." (Acute Toxicity Effluent Water Limitation, Draft Permit at Section IV.A.2.a.iii, page 9)***

"Section IV.A.2.a.iii prescribes a final water-quality based effluent limitation for Acute Toxicity that is not required and should be removed. Tables E-4, E-5, and E-6 in the Draft Permit require acute toxicity effluent limits to be monitored using "% Survival, Pass or Fail, and % Effect," which is determined using the Test of Significant Toxicity ("TST"). The North Coast Basin Plan states the following within the water quality objective for Toxicity: "In addition, effluent limits based upon bioassays of effluents will be prescribed, where appropriate." In this case, an effluent limitation for acute toxicity is not appropriate because no reasonable potential exists for acute toxicity. Although acute toxicity was not included in the reasonable potential tables in the Fact Sheet (see Tables F-8, F-9, F-10, and F-11), the data demonstrates that no reasonable potential exists.

Tables F-3 and F-4 demonstrate that the City never approached the effluent limits of 70% minimum and 90% median survival as the minimum observed percent survival was

100%, such that no reasonable potential exists for acute toxicity. Under federal rules, effluent limitations are only required where there is reasonable potential. 40 CFR §122.44(d)(1)(i). Additionally, where chemical-specific limits for the effluent are sufficient to attain and maintain the applicable numeric and narrative State water quality standards, limits on whole effluent toxicity are not necessary. 40 CFR §122.44(d)(1)(v). Since the Basin Plan requires that "compliance with this objective shall be evaluated with a 96-hour bioassay," and the City's effluent showed 100% survival in 96-hour bioassays, there is no reasonable potential to exceed the toxicity objective and the remaining chemical specific permit limits are sufficient to attain and maintain the narrative Toxicity objective. The Regional Water Board appropriately determined a lack of reasonable potential for chronic toxicity (see Fact Sheet, pg. F-60), but did not conclude the same for acute toxicity."

Response to Santa Rosa Comment 11:

Staff recognize that the Permittee complied with the Basin Plan acute toxicity effluent limitation during the previous permit term. However, acute toxicity limits are necessary to ensure continued protection of water quality because municipal wastewater effluent may contain pollutants that result in acute toxicity. Staff believe that the annual frequency for acute toxicity monitoring is reasonable to ensure continued documentation that acute toxicity is controlled.

The acute toxicity effluent limitation has been retained in section IV.A.2.a.iii of the Proposed Permit and annual monitoring has been retained in the MRP. Section IV.C.5.a of the Fact Sheet of the Proposed Order has been modified to provide additional clarity to read: "<u>During the term of the previous permit, the Permittee monitored for acute toxicity three times. All samples had 100% survival. However, this Order retains the acute toxicity effluent limitation in section IV.A.2.a.iii as a standard permit requirement and annual monitoring during periods of discharge has been retained in recognition of the fact that municipal wastewater effluent may contain pollutants that could result in acute toxicity, thus continued data collection is needed to assess reasonable potential during this permit term.</u>"

Santa Rosa Comment 12: ***The Permittee requests removal of the word "daily" as it relates to average dry weather flow and modification of the UV flow requirements to reflect the UV flows demonstrated through the Permittee's 2012 UV Disinfection System Check Point Bioassay (Discharge Prohibitions III.H., VII.L., and VII.M., and MRP Section IX.B.1.b, pages 7, 33 and E-26)***

Response to Santa Rosa Comment 12:

Staff find it is reasonable to remove the word "daily" in Discharge Prohibition III.H so that this prohibition reads: "The average ~~daily~~ dry weather flow of waste through the Facility in excess of 21.34 mgd is prohibited until such time as additional treatment, storage, and/or total water recycled capacity has been added to accommodate a higher average dry weather flow, not to exceed 25.9 mgd." As noted in the Permittee's

comment, this change conforms the provision to the Compliance Determination provisions in Section VII.K. of the Draft Permit (defining Average Dry Weather Flow).

Staff acknowledge that the *Laguna Water Reclamation Facility UV Checkpoint Bioassay Results Final* dated July 2012 confirmed that the UV disinfection system is designed for flows of up to 67.0 mgd (not to exceed 22.3 mgd per channel). As such, it is appropriate to include this UV design flow in MRP section IX.B.1.b, rather than the permitted facility flows which are based on longer term averages than the UV disinfection system design flows. Section IX.B.1.b of the Proposed Permit MRP has been revised to read: ": "…Flow through the UV disinfection system shall not exceed ~~21.34 mgd as a daily average and 47.3 mgd as a monthly maximum,~~ 22.3 mgd per channel in operation, or 67.0 mgd with three channels in operation, at any time, unless otherwise approved by DDW." This will conform the provision to the DDW-approved City Emergency Operations, Redundancy, and Response Plan.

Santa Rosa Comment 13: ***The Permittee requests modification of Section IV.C.1.a. of the Draft Permit to properly reflect how recycled water is delivered to the recycled water system. (Effluent Limitations and Discharge Specification Section IV.C.1.a., page 11)***

"The Draft Permit refers to all treated water delivered to the recycled water system as being from on-site recycled water storage ponds. Recycled water that is delivered to Recycled Water Distribution Points 001 and 002 can come directly from the treatment facility and from on-site recycled water storage ponds. Also, occasionally, recycled water produced at Sonoma Water's Airport Larkfield Wikiup Sanitation Zone (ALWSZ) WWTF is transferred to the City's recycled water system as well. Recycled water produced at the ALWSZ WWTF is monitored to meet requirements prescribed in Regional Water Board Order No. R1-2019-0007. The ALSWZ WWTF recycled water enters the City's recycled water distribution system directly and is not stored in the City's recycled water ponds."

Response to Santa Rosa Comment 13:

The Regional Water Board has determined that this is a reasonable request. Section IV.C.1.a of the Draft Permit has been modified to reflect the Permittee's proposed language as follows: "All treated effluent produced at the Facility and delivered to the recycled water system is either from on-site recycled water storage ponds or directly from the Facility, therefore…"

Santa Rosa Comment 14: ***The Permittee requests modification of Section IV.D.1.c. of the Draft Permit to reflect current practices for managing recycled water not meeting turbidity requirements (Section IV.D.1.c., page 13)***

"On those infrequent occasions when recycled water does not meet disinfected tertiary recycled water standards, the City's practice, based on prior agreement with Regional Water Board staff, is to divert the water to a storage pond so that it can be held for re-treatment to meet tertiary requirements or irrigated consistent with Title 22 requirements

(i.e., authorized recycled water uses corresponding to lower quality recycled water). The storage ponds and conveyance used by the City to manage recycled water that does not meet disinfected tertiary recycled water standards are managed to maintain such water separate and distinct from fully disinfected water; the two waters are isolated from one another and are not co-mingled. However, Section IV.D.1.c. of the Draft Permit proposes language that may conflict with these practices. That section states that recycled water not meeting the turbidity standard "shall not enter the recycled water distribution system;" however, the Section also states that the "Permittee shall have the capability to automatically activate chemical addition or divert the wastewater to an upstream treatment process unit or to emergency storage should the filter effluent exceed turbidity specifications." The City understands the definition of its "recycled water distribution system" to be all of the conveyance and storage facilities downstream of Distribution Point 002 (see Draft Permit at Table 3), which would include the ponds to which this water would typically be sent. The infrastructure available to the City is not an "upstream treatment process unit" or "upstream emergency storage;" thus, the proposed language in the Draft Permit presents a significant management issue. For this reason, and consistent with existing practices, the City requests the following modification to Section IV.D.1.c. of the Draft Permit:"

"~~Filtered effluent in excess of the turbidity specifications shall not enter the recycled water distribution system.~~ Pursuant to title 22 sections 60304 and 60307, the Permittee shall have the capability and shall manage filtered effluent in excess of the turbidity specifications to automatically activate chemical addition or divert the wastewater to an upstream treatment process unit or to emergency storage ~~should the filter effluent exceed turbidity specifications~~. The Permittee may also divert the filtered effluent to appropriate isolated locations within the recycled water distribution system so that the filtered effluent can be utilized for authorized recycled water uses that don't require disinfected tertiary recycled water quality, or can be contained and sent back to the treatment process units. The Permittee shall provide notification of non-compliance with the filtration process requirements as required in section IX.A.2.c of the MRP (Attachment E)."

Response to Santa Rosa Comment 14:

Staff finds the Permittee's request to be reasonable and has modified Section IV.D.1.c of the draft permit to reflect the Permittee's requested change.

Santa Rosa Comment 15: ***The Permittee requests removal or modification of the sentence in section IV.B of the Draft Permit regarding land disposal requirements. (Section IV.B. page 11, MRP section VI page E-21 and Fact Sheet Section IV.F, page F-65)***

"Although the language in the title of this section specifically states that land discharge requirements are "Not Applicable," the text states that "This Order does not authorize waste discharges to land." This sentence is unnecessary, is not found in other NPDES permits, and should be removed or at the very least clarified to add at the end of the sentence "for the purposes of disposal," so that the phrasing is not interpreted as a

prohibition of placing “recycled water” (referred to by the Regional Water Board in the Draft Permit as “waste”) in storage ponds or for recycled water application.”

Response to Santa Rosa Comment 15:

Staff agree that the change proposed by the Permittee is appropriate. Order Section IV.B and Fact Sheet section IV.F of the Proposed Permit have been modified to remove the words, “This Order does not authorize discharges to land.” and to indicate that this section of the permit is “Not Applicable”.

Santa Rosa Comment 16: ***The Permittee requests removal of Draft Permit requirements relating to the construction of any new recycled water storage ponds. (Section IV.D.5., page 16)***

“The Draft Permit states that the Permittee “shall construct ponds used for the storage for recycled water in a manner that protects groundwater …. prior to construction or use of any new recycled water storage ponds or repurposing of existing ponds for recycled water storage.” The Regional Water Board is requiring the City to “submit to the Regional Water Board’s Executive Officer for review and approval a technical report that includes design proposals and a technical evaluation that demonstrates that the pond design complies with the Water Code and title 27 of the California Code of Regulations.” Id. Further, this section is duplicative of the requirements set forth in Special Provision Section VI.C.2.c. (requiring the City to submit a work plan describing a plan to evaluate all storage ponds and discharge outfall infrastructure to assess the condition of each discharge outfall and it associated infrastructure).

Further, the Regional Water Board’s position is problematic because Title 27 of the California Code of Regulations and connected Water Code provisions apply to the placement of solid waste to land that may be adverse to ground waters of the State; Title 27 is inapplicable to the storage and management of recycled water, which the Water Code clearly states is not even “waste. ” See, e.g., Water Code §13050(n) (defining “Recycled water” as “water which, as a result of treatment of waste, is suitable for a direct beneficial use or a controlled use that would not otherwise occur and is therefore considered a valuable resource”); and 27 Cal. Code Regs. §20080(a) (the introductory authorizing regulation in Title 27, which states, “Scope -The regulations in this subdivision that are promulgated by the State Water Resources Control Board (SWRCB) pertain to water quality aspects of discharges of solid waste to land for treatment, storage, or disposal. The SWRCB-promulgated regulations in this subdivision establish waste and site classifications and waste management requirements for solid waste treatment, storage, or disposal in landfills, surface impoundments, waste piles, and land treatment units.”). Here, the City’s storage ponds collect recycled water for reuse at the Geysers Project, for agricultural and municipal reuse, and for discharge during wetter years when the amount of water in storage increases and recycled water demand decreases. By its own clear definition, Title 27, a regulatory structure by which the environment is protected from solid waste operations, does not apply.

Even if the Regional Water Board were to consider the City's high quality recycled water as "treated effluent," it is still expressly exempt from Title 27's regulatory scheme. 27 Cal. Code Regs. section 20090 sets forth exemptions from Title 27, which include:

> (a) Sewage – Discharges of domestic sewage or treated effluent which are regulated by WDRs issued pursuant to Chapter 9, Division 3, Title 23 of this code, or for which WDRs have been waived, and which are consistent with applicable water quality objectives; treatment or storage facilities associated with municipal wastewater treatment plants, provided that residual sludge or solid waste from wastewater treatment facilities shall be discharged only in accordance with the applicable provisions of the CWC.

27 Cal. Code Regs. §20090(a). For all of these reasons, Finding 26 of the Recycled Water General Order concludes that the "uses of recycled water described in this General Order [including the storage thereof] are exempt from the requirements of Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste in California Code of Regulations, title 27, division 2, subdivision 1, section 20005, et seq." See Finding 26, General Recycled Water Order.

Based on the foregoing, the City's recycled water storage ponds are not subject to Title 27, and storage pond design or operational plans need not comply with design or operational requirements set forth in Title 27 applicable to a solid waste disposal facility, such as a landfill or hazardous waste facility (which can lead to double-liner leachate collection systems and the like). Instead, the Regional Water Board should remove Section IV.D.5. of the Draft Permit and rely on separately proposed provisions related to the management of the City's recycled water storage ponds to ensure protection of underlying ground waters of the State (see, e.g., Section VI.C.2.g. of the Draft Permit)."

Response to Santa Rosa Comment 16:

Section IV.D.5 of the Proposed Permit is applicable to any future addition of storage ponds, whether newly constructed or newly purposed for recycled water storage to ensure proper construction for the purpose of protecting groundwater while section VI.C.2.g, Storage Pond Leak Monitoring Program applies to assessing potential impacts from existing storage ponds. The language in section IV.D.5 is necessary to require and ensure that future ponds are constructed in a manner that protects groundwater. Staff consulted with legal counsel and determined that the reference to Title 27 is misplaced. Section IV.D.5 has been retained in the Proposed Permit, with this modification to read: "Storage Ponds. The Permittee shall construct ponds used for the storage of recycled water in a manner that protects groundwater. Prior to construction or use of any new recycled water storage ponds, or repurposing of existing ponds for recycled water storage, the Permittee shall submit to the Regional Water Board Executive Officer for review and approval, a technical report that includes design proposals and a technical evaluation that demonstrates that the pond design complies with the Water Code ~~and title 27 of the California Code of Regulations~~. Pond design and operation plans must include features and best management practices (BMPs) to protect groundwater and prevent exceedances of groundwater quality objectives."

Santa Rosa Comment 17: ***The Permittee requests removal of sampling for E. coli from Tables E-5 and E-6 of the Draft Permit's MRP; alternatively, add provision to MRP allowing use of the median value of results in the event that less than five samples for a six-week rolling geometric mean are available. (Section VI.C.2. and MRP Tables E-5 and E-6, pages 22 and E-10 and E-12)***

"Section VI.C.2.B of the Draft Permit proposes a Pathogen Special Study to determine if stored recycled water is a source of *E. coli* that could cause or contribute to an exceedance of the instream water quality objective. The proposed MRP at Attachment E, Tables E-5 and E-6, already proposes weekly monitoring when discharging from Meadow Lane Pond (EFF-006A(2) and EFF-006B) and Delta Pond (EFF-012A(2) and EFF-012B). Imposition of a monitoring frequency and method prior to development and approval of the Pathogen Special Study presupposes study plan details and could increase cost with no benefit. The City requests that the *E. coli* monitoring requirement be removed from the MRP, and that the Regional Water Board evaluate the City's proposed Pathogen Special Study to assure that discharge monitoring is consistent with the overall study approach.

If *E. coli* monitoring is not deleted as requested, the City requests clarification of the geometric mean calculation requirement. Section V.A.18 describes the receiving water limit for *E. coli* as a six-week rolling geometric mean. Section VII.H.2 states that the "rolling geometric mean shall be calculated using at least 5 sample results over a six-week period." The City's discharge is intermittent and, since sample collection would occur only when discharge is occurring, the number of samples may not meet the five sample over six-week basis for geometric mean calculation. The City requests that a provision be added to the Draft Permit specifying that the median value be used in the event that less than five samples are available during a period of discharge."

Response to Santa Rosa Comment 17:

Staff believe that water quality objectives for bacteria should not be dismissed during the development and implementation of the required Pathogen Special Study. Regular monitoring for *E.coli* is appropriate under the Proposed Permit, although the *E. coli* monitoring required by Tables E-5 and E-6, with approval by the Executive Officer, can be replaced by the monitoring plan presented in the approved Pathogen Special Study. Tables E-5 and E-6 have been modified to include the following new Table Note 4: "<u>With approval by the Executive Officer, the minimum sampling frequency may be modified or superseded to conform to the monitoring frequency within the approved Pathogen Special Study Work Plan required by section VI.C.2.b of this Order.</u>"

The six-week running geometric mean is established by the State Water Board Bacteria Provisions that were adopted into the *Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California* adopted in February 2019, thus it is reasonable to determine compliance with this bacteria water quality objective. A median would not account for the magnitude of outlying sample results. In addition, the geometric mean requires a statistically sufficient number of samples that is generally not less than five samples distributed over a six-week period but a minimum of three

samples can be used. Section VII.H.2 of the Proposed Permit has been modified to include Footnote 11 to read: "A minimum of three samples over a six-week period is necessary to calculate the geometric mean. When less than three samples are taken in a six-week period, compliance with the *E. coli* receiving water objective shall be determined using the Statistical Threshold Value (STV). If the Permittee samples less than three times during a six-week period, the compliance shall be assessed by comparing the single sample results to the STV." In addition, the following table note has been added to Tables E-5 (Table Note 14) and E-6 (Table Note 16): "A minimum of three samples over a six-week period is necessary to calculate the geometric mean. See also Order section VII.H.2, Footnote 11."

It should also be noted that Section V of the Proposed Permit states that receiving water conditions not in conformance with the receiving water limitations are not necessarily a violation of the Order and that the Regional Water Board may require an investigation to determine cause and culpability prior to asserting that a violation occurred.

Santa Rosa Comment 18: ***The Permittee requests modification of UV disinfection system requirements (Sections IV.D.4.i.i, ii & iv, page 15)***

The Permittee states that Sections IV.D.4.i.i, ii & iv of the Draft Permit refer to low flow and power alarms, in addition to calibration of meters for power and that successful and reliable operation of the UV system does not require alarm for these conditions. The Permittee specifically requests that these references low flow and power alarms be removed.

Response to Santa Rosa Comment 18:

The alarm set points for low flow and power are specified in an August 29, 2012 letter from the California Department of Health Services (CDPH) (now Division of Drinking Water) regarding acceptance of the Permittee's UV Checkpoint Bioassay assessment of the UV disinfection system. The purpose of the alarms is to ensure successful and reliable operation of the UV system. Since there is no water quality monitoring at the effluent end of the UV disinfection system that can confirm the required virus log inactivation, reliance on the performance of the UV disinfection system is necessary to gauge its treatment effectiveness. The alarm setpoints identified in section IV.D.4 of the Draft Permit are required conditions for diversion to waste as identified in Item 10 of the aforementioned CDPH acceptance letter.

No changes were made in response to this comment.

Santa Rosa Comment 19: ***The Permittee requests modification of septage monitoring requirements (Section VI.C,g,ii, page 29)***

"Special Provision for Municipal Facilities – Septage Handling Requirements, Section VI.C.5.g.ii. requires the City to maintain a waste hauler manifest that identifies the names of the hauler, county identification number, the date and time the waste load was transferred, and the volume and source of the waste. The City implements a rigorous tracking system for wastes that are trucked into the facility, including septic waste. This

electronic tracking system mirrors the City's permitting process for the haulers to ensure only approved waste types can be disposed by each specific hauler. The volume of the waste is tracked by tank size and is pre-documented in the software system. Furthermore, the exact time, type of waste, and volume of waste is recorded. Per the City's Trucked Waste Management Plan, periodic sampling and analytical testing is conducted on the received waste streams. The City determined that detailed manifesting of septage source was unnecessary as it provided little information for treatment plant staff when addressing a problematic septage load and many haulers utilize a central depository where loads are combined into a large trailer prior to disposal at the facility.

Furthermore, the City does not believe it is within its responsibility to track County identification numbers. Sonoma County Environmental Health and Safety, or other associated County agencies as applicable, issue permits for pumper trucks, just as the City's Environmental Compliance Section issues waste hauler permits for disposal of trucked wastes at the facility. These two permitting mechanisms are mutually exclusive from each other as they are permitting separate items of concern for each agency. For these reasons, the City requests the following modification to Section VI.C.5.g.ii. of the Draft Permit: "The Permittee shall maintain a waste hauler manifest that identifies the names of the hauler, ~~county identification number,~~ the date and time the waste load was transferred and the volume ~~and source~~ of the waste.""

Response to Santa Rosa Comment 19:

Staff acknowledge that the Permittee has a well-developed Truck Waste Program that includes a rigorous tracking system for wastes that are trucked into the facility, including septic waste. Staff have confirmed that waste haulers are required to log each pumper truck's daily activities and submit the logs to Sonoma County Environmental Health on a monthly basis, thus find it appropriate to remove the requirement regarding the county identification number and the source of waste in order to remove unnecessary duplication of requirements on the Permittee. This change has been made to section VI.C.g.ii of the Proposed Permit.

Santa Rosa Comment 20: ***The Permittee requests modification of permit language related to the Permittee's Storage Pond Program and Groundwater Monitoring requirements (Special Provision VI.C.2.g., page 23 and MRP section VIII.C, page E-24)***

"Section VI.C.2.g. of the Draft Permit requires the City to implement the Storage Pond Integrity Program Work Plan as modified in Addendum No. 1, dated July 10, 2015 (Pond Work Plan) as described in Table F-17, and report results as described in MRP Section X.D.2. Table F-17 lists how the Pond Work Plan recommendations are addressed in the section VIII.C of the Draft Permit, with the primary item being implementation of the Salt and Nutrient Management Plan (SNMP) per an SNMP Monitoring Plan that must be submitted by September 21, 2021. MRP Section VIII.C states that the SNMP Monitoring Plan "must include the specific components" identified

in the Regional Water Board's written response to the City's SNMP dated September 1, 2015, which is included in the draft permit as Attachment L.

The City met with Staff on December 15, 2017 to review the document that comprises Attachment L and provided additional basis for preparation of a SNMP Monitoring and Reporting Plan. In light of information presented at the 2017 meeting, Staff revised the written input, including that related to monitoring frequency, well location, and water quality constituents to be monitored. The City revised the SNMP MRP to reflect this revised Regional Water Board input and submitted it to the Regional Water Board on April 24, 2020, which fulfills the SNMP Groundwater Monitoring Work Plan requirement in the Draft Permit. Because Attachment L was superseded by subsequent direction from Staff and because the SNMP MRP has been submitted consistent with such direction, the City requests the Regional Water Board delete Attachment L from the Draft Permit; and modify MRP Section VIII.C as follows:

> "By August 1, 2021, the Permittee shall submit a Salt and Nutrient Management Plan ~~(SNMP)~~ Groundwater Monitoring and Reporting ~~Work~~ Plan to the Regional Water Board for Executive Officer approval that describes the Permittee's plan and schedule for developing a monitoring and reporting program to assess the impact of storage ponds and recycled water use on the underlying groundwater basin. ~~The Work Plan must include specific components identified in the September 1, 2015 Regional Water Board letter to the Permitee (Subject line: Santa Rosa Plain Salt and Nutrient Management Plan) describing the necessary components of a basin-specific Monitoring and Reporting Program, including the following components: . . . Quality Assurance Project Plan, and Reporting. This letter is included as Attachment L to this Order.~~""

Response to Santa Rosa Comment 20:

Staff acknowledge that the Permittee submitted a Santa Rosa Subbasin [Groundwater] Monitoring and Reporting Plan on April 24, 2020. Staff are reviewing the submitted Plan and will determine if the Plan meets the requirements specified in MRP section VIII.C. Staff will provide comments on the Plan to the Permittee upon completion of that review. Staff do not see the need to delete the last sentence of MRP section VIII.C as that sentence describes important information that Staff are looking for in the SNMP Groundwater Monitoring and Reporting Plan. All issues raised in the 2015 are still applicable and were not modified following the December 2017 meeting mentioned in the Permittee's comment.

MRP section VIII.C has been modified to read as follows:

"By August 1, 2021, the Permittee shall submit a Salt and Nutrient Management Plan (SNMP) Groundwater Monitoring and Reporting ~~Work~~ Plan to the Regional Water Board for Executive Officer approval that describes the Permittee's plan and schedule for developing a monitoring and reporting program to assess the impacts of storage ponds and recycled water use on the water quality of the underlying groundwater basin. The Plan must include specific components identified in the September 1, 2015 Regional

Water Board letter to the Permittee (Subject line: Santa Rosa Plain Salt and Nutrient Management Plan) describing the necessary components of a basin-specific Monitoring and Reporting Program, including the following components: . . . Quality Assurance Project Plan, and Reporting. This letter is included as Attachment L to this Order.

Upon approval of the SNMP Groundwater Monitoring and Reporting Plan by the Regional Water Board Executive Officer, the Permittee shall implement the Plan for the Permittee's effluent/recycled water storage ponds and recycled water use."

Santa Rosa Comment 21: ***The Permittee requests modification of requirements regarding UV Flow Per Channel (Effluent Limitations and Discharge Specification Section IV.D.4.b., page 14)***

The Permittee requests modification of UV flow monitoring requirements to remove the requirement to monitor UV flow per channel, as the Permittee currently can only measure the combined flow of the UV channels. The Permittee explains that replacing this system and installing flow meters into each channel is seen as a technically challenging and unnecessary expense given that results from an analysis by the design engineer shows that the flow is equal through the channels, so the final effluent flow meter divided by the number of online UV channels should be sufficient to measure the flow volume per channel. Further, the City monitors "output," not "power."

Response to Santa Rosa Comment 21:

The language that the City is requesting to be removed has been retained from the previous permit and is identified in the February 12, 2020 Title 22 Engineering Report acceptance letter from DDW. Staff understand that the City currently cannot monitor flow per channel, but given that this is a DDW requirement, the City must estimate the flow per channel based on the results of the 2012 Checkpoint Bioassay demonstrating that flow through the channels is essentially equal.

No changes were made to the Proposed Permit in response to this comment.

Santa Rosa Comment 22: ***The Permittee requests modifications to Groundwater Limitations to remove references to recycled water and to remove Section V.B.1 (Section V.B., page 19)***

The Permittee asserts that the Groundwater Limitations set forth in Section V.B. of the Draft Permit should be modified to reflect several issues as described herein.

"First, inclusion of provisions solely for the protection of groundwater in an NPDES Permit exceeds the scope and authority of the federal Clean Water Act and the NPDES permitting program, which applies to the discharge of pollutants to waters of the United States. See 33 U.S.C. §§ 1311, 1342. Groundwater underlying the collection, treatment, and storage facilities is not considered waters of the U.S. See 85 Fed. Reg. 22250 (April 21, 2020). To the extent these provisions are being imposed solely based on State law (Porter-Cologne Water Quality Control Act), the Regional Water Board should include express language in this section to avoid administrative or third party

enforcement of these provisions under the Clean Water Act. Further, the reference to recycled water throughout the entirety of Section V.B. should be removed altogether, as the State Water Board, in the General Recycled Water Order, previously concluded that use of recycled water in the manner the City is engaged is protective of groundwater quality objectives and expressly finds that it also meets the State's anti-degradation policy (Resolution 68-16). See General Recycled Water Order at Findings 27-31.

Of most concern to the City is the Regional Water Board's inclusion of Section V.B.1. in the Draft Permit, which states "The collection, treatment, storage, and disposal of wastewater or use of recycled water shall not cause degradation of groundwater quality unless a technical evaluation is performed that demonstrates that any degradation that could reasonably be expected to occur, after implementation of all regulatory requirements (e.g., Basin Plan) and reasonable best management practices (BMPs), will not violate groundwater quality objectives or cause impacts to beneficial uses of groundwater." With respect to recycled water, as noted above, this provision is over-reaching and unnecessary, because the State has already performed the anti-degradation analysis needed to determine that the use of recycled water in the manner employed by the City is consistent with State requirements. See General Recycled Water Order at Findings 27-31. The City does not need to submit any further technical reports on this point.

Most importantly, Section V.B.1. appears to stray from the terms of Resolution 68-16 by imposing a new standard, not otherwise authorized by state policy or the Basin Plan, as to what an anti-degradation technical report is supposed to demonstrate. The Draft Permit requires that for any degradation of groundwater (not just high-quality groundwater, as required by Resolution 68-16), the technical report "demonstrates that any degradation that could reasonably be expected to occur, after implementation of all regulatory requirements (e.g., Basin Plan) and reasonable best management practices (BMPs), will not violate groundwater quality objectives or cause impacts to beneficial uses of groundwater." However, Resolution 68-16, the State's anti-degradation policy, differs from this standard, and instead requires a technical report to demonstrate that "high quality waters" will be maintained unless it has been demonstrated that any change to such high quality waters from a discharge will be "consistent with the maximum benefit to the people of the State," will not "unreasonably affect present and anticipated beneficial uses" by not resulting in water quality less than that prescribed in applicable policies. See State Water Board Resolution 68-16; see accord Basin Plan at 3-2. Further, Resolution 68-16 states that "any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained." Id. The Draft Permit's proposed provision at Section V.B.1 appears to create new requirements regarding the implementation of "BMPs" (that term is not defined in this context, nor included in Resolution 68-16), and veers from the requirement to not "unreasonably" affect beneficial uses by not exceeding water quality objectives to instead using the term "will not … cause impacts to beneficial uses of

groundwater" (another undefined term, as the line of where an "impact" begins is unclear, unlike the State policy, that specifies an exceedance of adopted requirement in an applicable policy). Further, the City is already implementing best practicable treatment or control via other provisions of the Draft Permit, and the General Recycled Water Order (see Findings 29 and 31). See, also, Basin Plan at pg. 3-2.

For these reasons, the City requests that the Regional Water Board remove reference to "recycled water" in Section V.B. of the Draft Permit, and further remove Section V.B.1. as unnecessary, unsupported, and inconsistent with applicable law and regulations. The City has already complied with the State's anti-degradation requirements, and technical reports related thereto, and the remainder of the provisions in Section V.B. adequately protect ground water resources from the discharge of "waste.""

Response to Santa Rosa Comment 22:

The Proposed Permit serves as an NPDES permit and waste discharge requirements (WDRs,) therefore it is appropriate to retain groundwater requirements. The groundwater limitations in section V.B of the Proposed Permit are standard permit requirements and are necessary to ensure that best management practices are implemented during the collection, treatment, storage, and disposal of wastewater to ensure protection of groundwater in accordance with state requirements identified in the Basin Plan and Title 22.

Each of the five Groundwater Limitations has been modified to remove the words "or use of recycled water". In addition, the language in V.B.1 has been modified further to read:

The collection, treatment, storage, and disposal of wastewater ~~or use of recycled water~~ shall not cause degradation of groundwater quality unless a technical evaluation is performed that demonstrates that any degradation that could reasonably be expected to occur, after implementation of ~~all regulatory requirements (e.g., Basin Plan) and~~ reasonable best management practice (BMP) measures will be consistent with Basin Plan requirements and will not violate groundwater quality objectives or cause impacts to beneficial uses of groundwater."

Santa Rosa Comment 23: ***The Permittee requests modification of the Draft Permit to include a compliance schedule and interim limitations for the dissolved oxygen receiving water limitation and to modify the final DO receiving water limit (Section V.A.1., page 17)***

"The Regional Water Board adopted a range of dissolved oxygen ("DO") receiving water objectives in June 2015 (based on designated beneficial uses), which were incorporated into the Basin Plan after U.S. EPA approval in April 2017. The receiving water objectives are implemented in permits as applicable to protect the designated beneficial uses in the receiving waters. The DO receiving water objective related to discharges from the Laguna Treatment Plant is based on protecting the SPWN (Spawning,

Reproduction, and/or Early Development) beneficial use in the Laguna de Santa Rosa and its tributaries. To comply with the new receiving water limit, discharges from the Laguna Treatment Plant must not cause the DO concentration in the receiving water to be less than 9.0 mg/L. If compliance with the 9.0 mg/L minimum is not possible due to conditions not related to human activities, alternate receiving water limits (based on percent saturation) can be approved by the Executive Officer. However, the City believes the language in the Draft Permit that describes the alternate approach is missing intended and important details on how the site-specific requirements would be implemented.

The difference between the current (DO receiving water limit of 7.0 mg/L (minimum)) and proposed receiving water limits is substantial, and imposition of the new limit will restrict the City's options for discharge of excess recycled water based on volume and duration of allowable discharge, which will implicate non-compliance with other Draft Permit provisions and prior agreements with Staff regarding the manner in which the City manages its recycled water storage ponds. The modifications to the DO receiving water objective represent a "new, revised, or newly interpreted water quality objective or criterion in a water quality standard that results in a permit limitation more stringent than the limitation previously imposed" under the State Water Board's Compliance Schedule Policy, and creates eligibility for an in-permit compliance schedule. The City will need time to conduct studies, evaluate alternatives, and select the most appropriate, cost effective approach to achieve compliance with the new receiving water limit.

On April 24, 2020, the City submitted to the Regional Water Board a formal request for an in-permit compliance schedule and interim limitations in accordance with the Compliance Schedule Policy. A copy of that request is enclosed and is incorporated by reference herein. The analysis contained therein provides information to support findings of non-compliance, issue the requested compliance schedule, and implement an interim DO receiving water limit based on 8.0 mg/L (minimum)."

The Permittee requests the following specific changes:

Surface Water Limitations V.A.

1. The discharge shall not cause the dissolved oxygen (DO) concentration of the receiving water to be depressed below 9.0 mg/L.

   In those waterbodies for which the aquatic life-based DO requirements are unachievable due to natural conditions[8], <u>the lesser of the 9.0 mg/L value</u> and a site-specific background DO requirements can be applied[9] as water quality objectives by calculating the daily minimum DO necessary to maintain 85% DO saturation during the dry season and 90% DO saturation during the wet season under site salinity, site atmospheric pressure, and natural receiving water temperature10. In no event may controllable factors reduce the daily minimum DO below 6.0 mg/L.

Response to Santa Rosa Comment 23: Staff discussed this comment in detail with the Permittee and understand the Permittee's concern with the new dissolved oxygen

receiving water limitation and the Permittee's desire to clarify that evaluation of a site specific objective would not result in an increase in the DO limit above 9.0 mg/L. This response addresses four main points related to the Permittee's comment.

First, the DO receiving water limitation is included in the Draft Permit as stated in the Basin Plan, except that, during review of the Permittee's comment, Staff realized that the Basin Plan also establishes a 7-day rolling average limit that must be added to the Proposed Permit.

Specifically, Section 3.3.5 of the Basin Plan establishes the daily minimum objective of 9.0 mg/L dissolved oxygen for the spawning, reproduction, and/or early development (SPWN) beneficial use. This section also includes a 7-day moving average objective of 11.0 mg/L that was not included in the Draft Permit. To ensure that the 7-day moving average of 11.0 mg/L is maintained, Section V.A.1. of the Proposed Permit has been modified to read: "The discharge shall not cause the dissolved oxygen (DO) concentration of the receiving water to be depressed below 9.0 mg/L daily and 11.0 mg/L as a 7-day rolling average."

Second, in the case that it is determined that the dissolved oxygen limitations are unachievable due to natural conditions, , the Fact Sheet section V.A (4th paragraph) has been modified to include the following sentence: "The dissolved oxygen receiving water limitation provides for consideration of a modified limit for waterbodies for which the aquatic life-based dissolved oxygen requirements are unachievable due to natural conditions. The intent of this language is to provide a means to adjust the dissolved oxygen limit to a concentration less than the 9.0 mg/L daily limit and 11.0 mg/L 7-day moving average limit established in section V.A of the Order and not to increase the limits." This language is intended to address the Permittee's concern that the receiving water limitation language could be used to increase the limit.

Third, it is not typical for the Regional Water Board to establish compliance schedules and interim limits for receiving water objectives, therefore Staff recommend that a compliance schedule not be used in this instance.

Fourth, there are many factors that must be considered when there is an excursion or apparent excursion of a receiving water limitation. In addition, violations of receiving water limitations are subject to discretionary enforcement and not to mandatory minimum penalties. Section V. of the Draft and Proposed Permits states, "Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order. Receiving water conditions not in conformance with the limitations are not necessarily a violation of this Order. Compliance with receiving water limitations shall be measured at monitoring locations described in the MRP (Attachment E). The Regional Water Board may require an investigation to determine cause and culpability prior to asserting that a violation occurred." In the event there are excursions above the water quality objective Staff would request additional information from the City and would consider other applicable factors before determining that there has been a violation(s). The Proposed Permit has been modified as requested by the Permittee but has been modified to expand the description of how an excursion of a receiving

water limitation would be further evaluated, as follows: " … The Regional Water Board may require an investigation and/or may consider other available information to determine cause and culpability prior to asserting that a violation has occurred."

Santa Rosa Comment 24: ***The Permittee requests modification section VI.C.2.g of the Draft Permit to use the proper name for the Permittee's Storage Pond Monitoring Program, (Section VI.C.2.g., page 23)***

The Permittee requests that the Regional Water Board refer to this program as the "Storage Pond Integrity Leak Monitoring Program."

Response to Santa Rosa Comment 24:

Staff acknowledge this comment and have updated the program name in section VI.C.2.f of the Proposed Permit as requested by the Permittee.

Santa Rosa Comment 25: ***The Permittee requests a minor modification to Sludge Disposal and Handling Requirements (Section VI.C.5.c.iii, page 27)***

The Permittee requests that the Regional Water Board modify Section VI.C.5.c.iii. to state "The use and disposal of biosolids shall separately comply with…" (new language in underline). The City believes this will make the provision clearer.

Response to Santa Rosa Comment 25:

Staff acknowledge this comment and have updated the permit language as requested in the Proposed Permit.

Santa Rosa Comment 26: ***The Permittee requests modification of the language in the Mixing Zone Study Reopener Provision (Special Provisions VI.C.1.j. page 21 and associated Fact Sheet sections)***

"The mixing zone study permit reopener provision is currently limited to compliance with human health-based effluent limitations for chlorine disinfection byproducts. The City requests options to conduct a mixing zone study for other CTR human health-based effluent limitations if imposed or desired for compliance purposes. For this reason, the City requests the following modifications to Section VI.C.1.j. and associated Fact Sheet provisions: remove the phrase "for chlorine disinfection byproducts" from each provision."

Response to Santa Rosa Comment 26:

The Proposed Permit has been modified to read: "This Order may be reopened to modify effluent limitations and receiving water monitoring locations if the Permittee demonstrates to the satisfaction of the Regional Water Board Executive Officer that it has evaluated all reasonable alternatives for compliance with human health-based effluent limitations ~~for chlorine disinfection byproducts~~, and conducts a mixing zone study that provides a basis for determining that permit conditions should be modified."

Santa Rosa Comment 27: ***The Permittee requests modification of MRP Table E-1 to provide clarification regarding how the Permittee determines filter flow rate (MRP Table E-1, page E-4)***

The Permittee requests that Table E-1 be modified to add details regarding Monitoring Location INT-001A:

Discharge/Distribution Point Name	Monitoring Location Name	Associated Receiving Water Monitoring Location	Monitoring Location Description
--	INT-001A	--	Location for reporting the surface loading rate of the advanced wastewater (AWT) filtration process. The flow rate through the effluent filters is measured at Monitoring Location EFF-001. Filter flow rate is the sum of meters EFF-001 and backwash supply flow.

Response to Santa Rosa Comment 27:

Staff have modified the MRP as requested by the Permittee.

Santa Rosa Comment 28: ***The Permittee requests corrections to Accelerated Monitoring Requirements (MRP Section IV, Tables E-4, E-5, and E-6, pages E-8 – E-13)***

The Permittee requests removal of Table Note 9 from Table E-4 for the parameter Nitrate Nitrogen in Table E-4; removal of Table Note 5 from Table E-5 for the parameters Total Chlorine Residual and Ammonia Nitrogen in Table E-5; and removal of Table Note 7 from Table E-6 for the parameter Ammonia Nitrogen because accelerated monitoring is only required if there is an exceedance of an effluent limit, and there are no effluent limitations for these parameters.

Response to Santa Rosa Comment 28:

Staff have reviewed the MRP tables and have removed the Table Notes from Tables E-5, E-6, and E-7 identified by the Permittee in this comment. Each referenced table note was also deleted from the three tables because there are no parameters with weekly monitoring that have effluent limitations, therefore there is no need for an accelerated monitoring requirement that applies to any of the parameters with a weekly monitoring frequency.

Santa Rosa Comment 29: ***The Permittee requests removal of Public Spill Notification Plan requirements, (MRP sections X.E.2. and X.E.3., page E-37).***

"Section X.E.2. of the Draft Permit's Monitoring and Reporting Program (Attachment E to the Draft Permit) requires the City to submit, by December 1, 2020, a public spill notification plan to the Regional Water Board describing the City's plans and procedures for timely notification of community members that are or may be impacted by spills and unauthorized discharges within the City's jurisdiction. The City requests that the Regional Water Board remove this provision, as it is entirely redundant of existing law and regulatory requirements applicable to spill notification that are already memorialized in City operations; a lack of clear messaging and public confusion may also result. Further, the scope of the plan (notification to "any downstream community members that may be affected by spills that reach surface waters" (emphasis added)) is overly broad, which risks sending notifications that are unnecessary for the protection of public health, denuding the effect of public health notifications, and unnecessarily exposing the City to claims of insufficient notification. A further difficulty is that additional structure for the reasonable dissemination of the public noticing being contemplated here outside of the already established notification practices is lacking. The Regional Water Board is acting outside the scope of its authority if it intends to force the City to create a new notification infrastructure or use infrastructure to which the instant subject matter does not apply.

As noted above, existing law and regulatory requirements applicable to spill notification already require the City to notify the public of spills or unauthorized discharges; thus, the City believes this field is occupied and no further additional plan in needed. Specifically, the City is subject to the existing statutory scheme set forth in Water Code sections 13271, et seq., which requires notification to the California Office of Emergency Services (Cal OES) and the Regional Water Board, for unauthorized discharges, including sanitary sewer overflows of 1,000 gallons or more, via the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, WQ Order No. 2006-0003 (SSS WDRs) and its amended MRP (State Water Board Order No. WQ 2013-0058-EXEC). See General SSS WDR at Section B. When notified of a sanitary sewer overflow that reaches a drainage channel or surface water, Cal OES, pursuant to Water Code section 13271(a)(3), forwards the notification information to local government agencies and first responders, including local public health officials and the applicable Regional Water Board.

This notification procedure adequately addresses reporting any spill or unauthorized discharge that may endanger health or the environment, and place public health protection decisions upon the state and local agencies with jurisdiction, authority, and training to assess the need for further public notification and protections. Any proposed Public Spill Notification Plan would unnecessarily overlap and interfere with the established processes of public health agencies and could lead to inconsistent messaging and public confusion. Over messaging would unnecessarily alarm the public and surrounding community but would also eventually lead to the public becoming immune to legitimate messaging due to message fatigue. The City does not believe

that is in the public's interest, and for that reason, requests that Section X.E.2. be removed from the Draft Permit.

While the Draft Permit, at Section X.E.3. initially properly excludes notification and reporting of sanitary sewer overflows under the separate SSS WDR from incorporation into the Draft Permit, the Draft Permit pulls back into the Draft Permit the same requirements via the exception stated at the end of Section X.E.3. for the proposed public spill notification plan. The City requests that Section X.E.2 be removed from the Draft Permit, and that the exception in X.E.3. be removed as well."

Response to Santa Rosa Comment 29:

Staff have considered the Permittee's comment carefully and have determined that it is appropriate to remove the public spill notification plan requirement from the permit at this time. Staff recognize that this is a region wide issue and that additional examination of the regulatory authority to impose these requirements is needed. Staff are committed to continued work toward developing a mechanism to ensure adequate notification of the public in the event of a sewage spill or other unauthorized discharge that could impact public health. Staff agree that public spill notification related to sanitary sewer overflows is addressed through the SSS WDRs referred to in the Permittee's comment. This would allow the public spill notification requirement to be consistently applied to all collection systems enrolled under the SSS WDRs. The State Water Board is in the process of revising the SSS WDRs for future State Water Board adoption. Staff have requested that the revision of the SSS WDRs address the need for public notification of spills more explicitly than it currently does. If this requirement is not included in the State Water Board's current effort to revise the SSS WDRs, a Region 1 specific mechanism may need to be developed.

The current SSS WDR requires each enrolled collection system to have a Sewer System Management Plan (SSMP). The SSS WDR requires the SSMPs to include specific elements including an Overflow Emergency Response Plan (OERR) which has as one of its primary objectives the protection of public health and the environment. Even if the State Board does not include a specific requirement for a public notification plan in the revision to the SSS WDRs, Staff will review SSMPs to determine if each enrollee has an adequate public notification plan. If the public notification plan is inadequate, Staff will request that the SSMP be revised to include such a plan or include the public notification plan as a requirement in the NPDES permit.

Staff reviewed the City of Santa Rosa SSMP plan that was last updated in April 2019. The OERR includes public advisory procedures that includes the use of temporary signage, front door hangers, and notices for media publication. Staff have determined that the City's current SSMP addresses the public notification procedures that were addressed in the MRP section X.E.2 of the Draft Permit.

In addition, Staff plan to continue working with the City and local health agencies on enhanced public notification procedures to better inform the public in the event of wastewater spills and unauthorized discharges.

The following changes have been made to the Proposed Permit reflect the removal of the public spill notification plan requirement:

- Section X.E.2 of the Draft Permit has been removed from the Proposed Permit.
- Section X.D, Table E-11 of the MRP has been revised to remove the public spill notification plant requirement.
- Section X.E.3 of the Proposed Permit (now section X.E.2 of the Proposed Permit) has been modified to remove the reference to the Public Spill Notification Plan and reads: "Sanitary Sewer Overflows. Notification and reporting of sanitary sewer overflows are conducted in accordance with the requirements of Order No. 2006-0003-DWQ (Statewide General WDRs for Sanitary Sewer Systems), which is not incorporated by reference herein ~~except as provided for in an approved Public Spill Notification Plan~~.
- Section VII.F.8 of the Fact Sheet has been modified to read: "The MRP that is part of this Order establishes requirements for reporting spills and unauthorized discharges, with the exception of SSOs, which must be reported in accordance with the requirements of State Water Board Order No. 2006-0003-DWQ and WQ-2013-0058-EXEC and any future revisions. ~~The MRP also requires reporting of recycled water spills and the preparation and submittal of a Public Spill Notification Plan.~~

Santa Rosa Comment 30: The Permittee requests modification of the pentachlorophenol and 4,4-DDD minimum sampling frequency (MRP Section IV.A., Table E-4, page E-8)

The Permittee requests a reduced monitoring frequency to quarterly for pentachlorophenol and 4,4-DDD while discharging. The Permittee states that monthly monitoring requirements for these constituents is costly and unnecessary and quarterly analyses will provide sufficient data to evaluate compliance with effluent limitations and complete an RPA during the next NPDES permit reissuance. The Permittee presented the following additional information to support this request for reduced monitoring requirements for these two constituents. "Pentachlorophenol was analyzed in effluent and pond samples 31 times during the current permit term, and 29 of the sample results were non-detect, and results were DNQ for the other two samples. Thus, reasonable potential and effluent limitations for pentachlorophenol were based on two DNQ effluent sample results. 4,4-DDD was analyzed in effluent and pond samples 27 times during the current permit term and 26 of the sample results were non-detect, and the result was DNQ for the single other sample. Thus, reasonable potential and effluent limitations for 4,4-DDD were based on one DNQ result measured in 2014. Pentachlorophenol and 4,4-DDD may not be present in effluent at levels of concern and future monitoring results are expected to be non-detect."

Response to Santa Rosa Comment 30:

The Regional Water Board agrees with the Permittee that reasonable potential for the above listed analytes was determined based on DNQ results mixed with many non-detect results in the effluent. In addition, these pollutants are not being detected in the

influent. The monitoring frequency for pentachlorophenol and 4,4-DDD has been reduced from monthly to twice per year in Table E-4. Note that in response to Comment 6, effluent limitations and explicit monitoring requirements for 4,4-DDD were removed from the Proposed Permit. Monitoring for 4,4-DDD and pentachlorophenol will be picked up in the twice per year CTR priority pollutant monitoring established in Table E-4. In addition, Table Note 8 has been revised to apply to both monthly and twice per year monitoring frequencies. Table Note 8 has been added to CTR Priority Pollutants and revised to state that the twice per year accelerated monitoring requirement applies to pentachlorophenol. Note that the monitoring frequency for CTR priority pollutants was changed from quarterly to twice per year as further discussed in the Staff Initiated Changes section of this Response to Comments document (section E).

The Permittee should also be aware that section VI.C.3.a of the Proposed Permit requires the development of a pollutant minimization program should future sample results be detected at DNQ levels.

Santa Rosa Comment 31: ***The Permittee requests corrections to chronic toxicity monitoring requirements (MRP Sections IV.B, and IV.C., Tables E-5 and E-6, pages E-10 and E-11)***

The Permittee requests that the minimum sampling requirements for chronic toxicity, described in Table Note 12 of Table E-6, also be applied to chronic toxicity monitoring requirements specified in Table E-5.

Response to Santa Rosa Comment 31:

The Regional Water Board concurs with this comment and has added Table Note 12 to Table E-5 to read: "For chronic toxicity testing, quarterly routine monitoring shall be for any quarter having at least 15 days of continuous discharge." As noted by the Permittee in its comment, the specification for 15-days of continuous discharge is from the State Water Board's revised draft toxicity provisions related to the *Water Quality Control Plan for Inland Surface Water, Enclosed Bays, and Estuaries,* last released on July 25, 2019, thus it is appropriate to include this requirement consistently in the MRP tables.

Santa Rosa Comment 32: ***The Permittee requests a correction to the minimum sampling frequency for TSS and pH in Table E-7 (MRP Sections IV.A. and VII.A.1., Table E-7, pages E-7 and E-21)***

The Permittee requests that the Regional Water Board modify the Draft Permit's MRP to specify the minimum sampling frequency of twice per week for TSS and pH in Table E-7.

The Permittee's comment provides additional explanation for this request as follows: "The MRP at Sections IV.A and VII.A.1, Tables E-3 and E-7, both contain monitoring requirements for Total Suspended Solids (TSS) and pH at Monitoring Location EFF-001. Table E-3 (Effluent Monitoring) requires twice per week TSS and pH monitoring while Table E-7 (Recycled Water Monitoring) retains the previous permit requirement of

daily TSS and pH monitoring. As stated in the City's letter to the Regional Water Board, dated November 15, 2018, effluent TSS and pH limits were not exceeded in any of the 1,579 and 1,547 results, respectively, during the previous permit term and 99.87% of the TSS concentrations were non-detect. A reduced sampling frequency to twice per week for these constituents is sufficient to describe recycled water quality."

Response to Santa Rosa Comment 32:

Staff believe it is reasonable to require twice per week monitoring of TSS and pH for both effluent monitoring and recycled water monitoring. Table E-7 in the Proposed Permit has been revised to be consistent with the twice per week monitoring required in Table E-3.

Santa Rosa Comment 33: ***The Permittee requests modifications to the volumetric reporting requirements to align with State Water Board mandated requirements (MRP Section X.D.1, Table E-11 and Section X.D.5., pages E-29 and E-35)***

The Permittee specifically requests that the volumetric reporting requirements in section X.D.1 and X.D.5 of the Proposed Permit be to be consistent with State Water Board volumetric reporting requirements that are identified in State Water Board Order No. WQ 2019-0037 EXEC ("2019 Order"). The Permittee's comment properly identifies the requirements of the 2019 Order as being applicable to all dischargers with a facility design flow of more than 20,000 gallons and requires annual volumetric reporting to be submitted to GeoTracker by April 30th of each calendar year. MRP Section X.D.1. (Table E-11) and MRP Section X.D.5 of the Draft Permit requires this reporting on March 1, annually. Additionally, Attachment I of the 2019 Order requires monthly reporting of Influent, Production, Discharge, and Reuse; however, the Reuse Categories are only required to be reported as an annual aggregate.

Response to Santa Rosa Comment 33:

The Permittee's request to align the reporting requirements in the Draft Permit with State Board requirements for volumetric reporting is reasonable and appropriate. The Proposed Permit has been revised as per the Permittee's request as follows:

- MRP Section X.D.1

  Table E-11. Reporting Requirements for Special Provision Reports

Order Section	Special provision Requirement	Reporting Requirements
MRP Reporting Requirement X.D.5	Annual Volumetric Reporting to GeoTracker	~~March 1~~ April 30, annually

- MRP Section X.D.5. Annual Volumetric Reporting. The permittee shall electronically certify and submit an annual volumetric report, containing monthly data in electronic format, to State Water Board's GeoTracker system by ~~March 1~~

April 30 of the following year. Required data shall be submitted to the GeoTracker database under a site-specific global identification number. The Permittee shall report in accordance with each of the items in Section 3 of the Recycled Water Policy as described below:

- Influent. Monthly volume of wastewater collected and treated by the Facility.
- Production. Monthly volume of wastewater treated, specifying level of treatment.
- Discharge. Monthly volume of treated wastewater discharged to each of the following, specifying level of treatment:
  i. Inland, surface waters, specifying volume required to maintain minimum instream flow, if any: and
  ii. Land, where beneficial use is not taking place, including evaporation or percolating ponds, overland flow, or spray irrigation disposal, excluding pasture or fields with harvested crops.
- Reuse.
  i. Monthly Volume of treated wastewater distributed. ~~for beneficial use in compliance California code of Regulations, title 22 in each of the use categories listed below~~
  ii. Annual volume of treated wastewater distributed for beneficial use in compliance with California Code of Regulations, title 22 in each of the use categories listed below:
  (a) Agricultural irrigation: pasture or crop irrigation. …"

Santa Rosa Comment 34: ***The Permittee requests modifications to toxicity resampling and retesting Requirements, (MRP Sections VA.6. and V.B.6., pages E-14 – E-17)***

"Section V of the Draft Permit requires re-sampling and re-testing within 7 days (for acute toxicity) and 14 days (for chronic toxicity) if minimum Test Acceptability Criteria ("TAC") are not met. The City's toxicity laboratory typically provides notification as soon as possible if TAC are not achieved, but there have been incidents when the City identified testing problems after review of the analytical reports. The City requests a minimum required turnaround time based on notification (similar to the existing permit), which could be a call from the laboratory or receipt of a lab report with TAC-related issues."

Response to Santa Rosa Comment 34:

The Permittee's request to further clarify the timeline to re-sample and re-test is reasonable. The language in MRP sections V.A.6 and V.B.6 has been revised to include the language proposed by the Permittee to read as follows:

Acute Toxicity Testing, Provision V.A.6.

b. If the effluent toxicity test does not meet the minimum effluent test acceptability criteria (TAC) specified in the referenced test method, then the Permittee shall re-sample and re-test ~~within 7 days~~ as soon as possible, but not later than 7 days following notification of test failure.

Chronic Toxicity Testing, Provision V.B.6.

b. If the effluent toxicity test does not meet the minimum effluent or reference toxicant TAC specified in the referenced test method, then the Permittee shall re-sample and re-test ~~within 14 days~~ as soon as possible, but not later than 14 days following notification of test failure.

Santa Rosa Comment 35: ***The Permittee requests modification of Chronic Toxicity Sample Type for Stored Effluent Discharges to allow use of grab samples when discharging to the Laguna de Santa Rosa from Meadow Lane Storage Pond at Discharge Points 006A(2) and 006B (MRP Section IV.B., Table E-5, page E-10)***

The Permittee states, "The Draft Permit includes conflicting sample types for chronic toxicity testing of stored effluent. Grab samples are required for discharges from Delta Pond (Table E-6), but 24-hour composite samples are required for discharges from Meadow Lane Pond D (Table E-5). The current NPDES permit allows use of grab samples for chronic toxicity testing of effluent discharged from the storage ponds. As stated in Order No. R1-2013-0001, Attachment E, Provision V.B.2. "storage ponds are presumed to be completely mixed, so effluent samples shall be grab samples" (i.e., grab samples are representative of stored effluent). The City requests grab sampling be allowed for chronic toxicity testing of all effluent discharged from storage ponds."

The Permittee requests the following modification:

Table E-5. Effluent Monitoring – Monitoring Locations EFF-006A(2) and EFF-006B

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test
Chronic Toxicity[9]	Pass or Fail, and % Effect	~~24-hr Composite~~ Grab	Twice per Year	See Section V.B Below

Response to Santa Rosa Comment 35:

Staff agrees that grab samples would be representative of the treated wastewater held in the storage ponds because the storage ponds essentially composite the wastewater before sampling. Table E-5 of the Proposed Permit has been revised as requested to change the sample type from "24-hour Composite" to "Grab".

Santa Rosa Comment 36: ***The Permittee requests removal of all references to the TST from the Draft Permit (MRP Table E-4, Table E-5, Table E-6, Section V.A.6.a., Section V.A.9.b. and e., footnote 3, Section V.B.6.a, and Section V.B.7., 8., and 9.a.i.(f)(4), pages E.-9, E-11-12, E-14-18, F-58 to F-63.)***

The Permittee asserts that the use of the TST and Pass/Fail endpoints is not appropriate or authorized by 40 CFR, part 136 and the incorporated 2002 Methods manual (Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to Freshwater Organisms, EPA-821-R-02-013, October 2002), that the TST cannot be legally included in the Permit because the TST is not authorized under 40 CFR part 136 and that testing must be conducted using methods approved under this regulation. The comment includes a lengthy discussion regarding the Permittee's interpretation of the regulatory and guidance documents that Regional Water Board and State Water Board staff use to support use of the TST and Pass/Fail endpoints.

Response to Santa Rosa Comment 36:

The TST approach is supported by the U.S. EPA in the published guidance document titled, National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R-10-003, June 2010), in which they recommend that "Permitting authorities should consider adding the TST approach to their implementation procedures for analyzing valid WET data for their current NPDES WET Program." Within this document, the EPA clearly indicates in Section 1.0 that "use of the TST approach does not result in any changes to EPA's WET test methods, nor does it preclude the use of EPA's TSD approaches for analyzing valid WET data…" As such, the method of data analysis, being scientifically defensible, does not invalidate the prescribed WET test methods under 40 CFR part 136.

The TST statistical approach does not replace the WET method. The U.S EPA provides for multiple methods of data analysis within their Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (U.S. EPA Report No. EPA-821-R-02-012), and states that the methods selected "are not the only possible methods of analysis of toxicity data". The same statement is also included in section 9.4.1.2 of the EPA's Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (U.S. EPA Report No. EPA-821-R-02-013). U.S. EPA's determination that the TST statistical approach was reasonable and defensible wholly includes the TST approach as a viable WET determination method.

Furthermore, the selection of the statistical approach is based on the question being asked. The compliance question is: is the permitted instream waste concentration of the effluent toxic; i.e. is the percent effect greater than the level of acceptable toxicity? The IWC is determined by the permitting authority and is set at a level not to impair the aquatic life beneficial uses of the receiving water body. It is that permitted concentration that is being tested.

The TST approach not only provides clear pass/fail results that are easy to interpret and use to make a transparent determination of toxicity, but also provides high confidence in the test results as the TST approach incorporates both a false positive rate and false negative rate. All toxicity tests required by the permit must be conducted in accordance with the U.S. EPA methods manuals and conducted with the full dilution series.

The Proposed Permit retains the requirement for the Permittee to use the TST approach for analyzing toxicity data.

No changes were made to the Proposed Permit in response to this comment.

Santa Rosa Comment 37: ***The Permittee requests modification of the Draft Permit to explicitly and clearly specify use of the 2002 Methods, including a multi-concentration test design with full evaluation of the concentration-response, for any compliance determination related to whole effluent toxicity (MRP Section V.B.2., footnote 3, page E-16)***

The Permittee requests removal of the requirement in MRP section V.B.2, Footnote 3 that states that chronic toxicity compliance determinations will be based on use of the 100% effluent sample. The Permittee's comment provides an argument to describe why the Permittee believes that the test method requires a multi-concentration test and does not allow use of the TST.

Response to Santa Rosa Comment 37:

The Regional Water Board would like to emphasize that the test method for WET analysis remains the same, and that this method allows for alternative methods of data analysis. The TST approach is considered more rigorous than the No Observed Effect Concentration (NOEC) hypothesis test because it: (1) provides a definitive value on whether a sample is toxic or not at the concentration of effluent in the receiving water after mixing, referred to as the in-stream waste concentration (IWC), rather than an interpreted value as determined by the NOEC approach, and (2) is simpler to use than traditional hypothesis methods and point estimate techniques.

The TST language in the Proposed Permit currently requires the five-concentration test because 40 CFR part 136 currently requires use of the five-concentration test design for toxicity testing. There is no requirement in the prescribed analytical method to use all the data generated for the five-concentration test, and the test method specifically calls out that "some states require tests consisting of a control and a single concentration of effluent with a pass/fail endpoint…" (Section 11.1.2), thus the use of a two point data analysis is not outside of acceptable practices.

No changes were made to the Proposed Permit in response to this comment.

B. Russian Riverkeeper Comments

RRK Comment 1: Page 7, Section III.J.2, Draft Permit Section III.J, Discharge Prohibitions

RRK proposes to modify the allowable discharge flow of treated wastewater from 5 percent to 1 percent of the flow of the Russian River to bring the proposed permit into accord with the current Basin Plan.

RRK also suggests that a monitoring location closer to the point of discharge be used to improve efficacy of discharge limits. The Hacienda Bridge site is a considerable way downstream of the Laguna and is counter to effective discharge compliance.

Response to RRK Comment 1:

RRK is correct that the Basin Plan limits the waste discharge flow to one percent or less of the receiving stream's flow, but the Basin Plan further states that the Regional Water Board may consider exceptions to the rate limitation. The City of Santa Rosa has shown that they meet the criteria for this exception and were granted this exception. This exception was granted in 2000 in State Water Board Order No. 2000-03, Waste Discharge Requirements for the City of Santa Rosa Subregional Wastewater Collection, Treatment, Conveyance, Reuse, and Disposal Facilities Long Range Permit after completion of the Santa Rosa Subregional Long-Term Wastewater Project Final EIR. Additionally, the Permittee is required to maximize reclamation and minimize discharges to surface water by operating its Facility in accordance with the Santa Rosa Water Reuse System Discharge Management Plan (Section VI.C.6.a of the Draft Permit).

While the Hacienda Bridge is a notable distance downstream of where the Permittee's discharge would enter the Russian River, it is the nearest USGS hydraulic monitoring station to the discharge location and is representative of the Russian River's flow in this area and was approved as part of the Permittee's exception request.

No changes are proposed in response to this comment.

RRK Comment 2: Page 8, Section IV.A.1, Table 5, Effluent Limitations and Discharge Specifications

RRK states that technology-based effluent limitations, water quality-based effluent limitations, and recycling discharge requirements should all have the same pH range, 6.5–8.5 as required by the North Coast Basin Plan. The North Coast Basin Plan states: "The pH shall conform to those limits listed in Table 3-1. For waters not listed in Table 3-1 and where pH objectives are not prescribed, the pH shall not be depressed below 6.5 nor raised above 8.5…." RRK requests that Table 5 of the Draft Permit be modified to match the above pH units.

Response to RRK Comment 2:

Section IV.A.1 of the Proposed Permit has been modified to provide the correct pH limits in Table 5, as described below:

Table 1. Final Technology-Based Effluent Limitations – Discharge Points 001, 006A(1), 012A (1), and 015 (Monitoring Location EFF-001)

Parameter	Units	Effluent Limitations				
		Average Monthly[1]	Average Weekly[1]	Maximum Daily[1]	Instantaneous Minimum[1]	Instantaneous Maximum[1]
Biochemical Oxygen Demand 5-day @ 20°C (BOD_5)	mg/L	10	15	--	--	--
Total Suspended Solids (TSS)	mg/L	10	15	--	--	--
pH					~~6.0~~6.5[2]	~~9.0~~8.5[2]

Table Notes:
1. See Definitions in Attachment A and Compliance Determination discussion in section VII of this Order.
2. For transfers of disinfected tertiary effluent to storage pH shall be within the limits of 6.0 and 9.0. All discharges to surface waters shall be within the limits of 6.5 and 8.5.

RRK Comment 3: Page 9, Section IV.A.2.a.ii, Effluent Limitations and Discharge Specifications

Russian Riverkeeper (RRK) recommends that the Draft Permit be modified to include a no net loading requirement for nitrogen or to limit the average monthly nitrogen concentration to 8.6 mg/L.

RRK disagrees with the Regional Water Board's determination that reductions in nitrogen will not result in "added protection of beneficial uses, or significant water quality improvements." RRK supports this statement by pointing to the abundant number of scientific studies that point to the impact of nitrogen, including excessive growth of plants and algae that lead to eutrophication and resultant oxygen deprivation, decreases in plant diversity, and impacts on beneficial uses

RRK explains that any removal of nitrogen from our waters would be beneficial, and the benefits to these reductions would not be limited to the Laguna de Santa Rosa, but also downstream waters. RRK further provides an example of how nitrogen negatively impacts marine beneficial uses in the Ocean Plan.

RRK states that the Permittee, while not the largest source of nitrogen to the Laguna de Santa Rosa, must still operate under the basic purpose of the Clean Water Act. As evidence shows that the permittee can obtain a monthly average concentration of 8.6 mg/L, less than the proposed limitation of 10.6 mg/L, they should be held to this value to not encourage backsliding. It is suggested as an alternative would be to make an Alternative Compliance Option for nitrogen.

Response to RRK Comment 3:

The Regional Water Board addressed the reasons for not including a no net loading requirement for nitrogen in the previous NPDES permit, Order No. R1-2013-0001, for the City of Santa Rosa. The Regional Water Board determined that there is no reasonable potential for total nitrogen to cause or contribute to exceedances of the Biostimulatory Substances Water Quality Objective based on the technical memorandum from Rebecca Fitzgerald dated June 14, 2013 which is included as an attachment to this Response to Comments document. As described in this memorandum, phosphorus is the primary nutrient stressor and reductions in nitrogen loads beyond current levels are not expected to result in added protections of the beneficial uses or significant water quality improvements.

Concerning the proposed nitrogen limitation of 10.6 mg/L, the Regional Water Board completed a reasonable potential analysis for total nitrogen as described in Attachment F, section IV.C.3.a.v.(b). that resulted in a concentration based effluent limitation of 11.4 mg/L. To conform with anti-backsliding policy, the total nitrogen effluent limit of 10.6 mg/L was retained from the previous Order.

No changes were made in the Proposed Permit in response to this comment.

RRK Comment 4: Page 10, Section IV.A.3.a, Table 6, Effluent Limitations and Discharge Specifications

Due to anti-backsliding principles, the increases to the WQBEL Maximum Daily limits for Chlorodibromomethane and Dichlorobromethane must go back to the same levels as in the prior permit.

“The reasoning provided by the Regional Water Board is not sufficient for anti-backsliding, especially since the currently provided reasoning is only for Discharge Points at “006A(2), 006B, 012A(2), and 012B.” Further, if the currently provided support for backsliding were applied to Table 6, it would still be insufficient. Just because something has not been detected in recent samples or has been lower than CTR human health criteria, does not mean you increase the allowable discharge amounts. It means, that you set the allowable amount at zero or hold them stagnant. The Regional Water Board cannot incentivize any possible backsliding.”

Response to RRK Comment 4:

The maximum daily effluent limitation for chlorodibromomethane and dichlorobromomethane, as presented in Table 6 of the Proposed Permit will be held to the concentrations in the Draft Permit. Although the calculation of the MDEL for both of these pollutants resulted in slightly higher effluent limitations than the previous permit, establishment of these higher effluent limitations is allowed under the anti-backsliding exception at CWA section 402(0)(2)(B) which allows the use of new information in the calculation of new effluent limitations. In this case, the new information is the monitoring data for dichlorobromomethane and chlorodibromomethane submitted by the Permittee during the term of the 2013 permit.

The following changes were made to the Proposed Permit in response to these comments:

Fact Sheet section IV.D.1, Anti-Backsliding Requirements has been modified to include the following sentence: "Reasonable potential for chlorodibromomethane and dichlorobromomethae was found at Discharge Points 006A(1), 012A(1), and 015. The calculation of the MDEL for both of these pollutants resulted in slightly higher effluent limitations than the previous permit. Establishment of these higher effluent limitations is allowed under the antibacksliding exception at CWQ section 402(0)(2)(B) which allows the use of new information in the calculation of new effluent limitations. In addition, …"

RRK Comment 5: Page 12: Section IV.C.3, Effluent Limitations and Discharge Specifications

RRK suggests that the permit should include additional provisions to address ongoing drought and climate change issues. Specifically, it is suggested that an increase in storage and recycling capacity would provide economic and environmental benefits. It is noted that the basis of the current requirements is the 2007 Incremental Recycled Water Program Master Plan, but that this is out of date.

Response to RRK Comment 5:

The Regional Water Board agrees with RRK that it is important to consider current climate change when planning recycled water use capabilities and infrastructure. Although the current IRWP is dated 2007, the Permittee has not indicated that it plans to increase treatment or recycled water capacities. Section VI.C.6.b of the Proposed Permit requires the Permittee to submit a Capacity Increase Engineering Report in the event that the Permittee plans to increase treatment and/or reclamation capacity in the future.

No changes were made to the Proposed Permit in response to this comment.

RRK Comment 6a: Page 17, Section V.A.1, Receiving Water Limitations

RRK states, "Due to anti-backsliding principles, the proposed decrease to the daily minimum DO is not allowed and must be set at 7.0 mg/L or higher, not lower. The prior permit used 7.0 mg/L and that must persist in the new permit."

"RRK further recommends a daily minimum DO of 8 mg/L to support healthy salmonid growth and increased survival rates based on recommendations from the Fish and Wildlife Salmonid Life Stage Criteria for juveniles migrating back out to sea. At a minimum, this increased daily minimum DO needs to be included from November to May to cover the salmonid migratory paths." RRK further provides explanation describing why reduced levels of DO are detrimental to salmon.

RRK recommends that Section V.A.1 of the Draft Permit be modified as follows: “In those waterbodies for which the aquatic life-based DO requirements are unachievable due to natural conditions, site-specific background DO requirements can be applied as water quality objectives by calculating the daily minimum DO necessary to maintain 85% DO saturation during the dry season and 90% DO saturation during the wet season under site salinity, site atmospheric pressure, and natural receiving water temperature. In no event may controllable factors reduce the daily minimum DO below ~~6.0~~ 7.0 mg/L.”

Response to RRK Comment 6a:

The receiving water limitations for Dissolved Oxygen (DO) are based on the water quality objectives within the Basin Plan. Applying receiving water limitations based on revised water quality objectives within an applicable Basin Plan is not considered backsliding. The revised objectives are more protective than the previous Basin Plan DO objective as they are based on updated life cycle criteria and allow for the development of waterbody specific criteria that at a minimum support beneficial uses.

On June 18, 2015 the Regional Water Board adopted Resolution No. R1-2015-0018 *Amending the Water Quality Control Plan for the North Coast Region to Update Section 3 Water Quality Objectives*. This Basin Plan Amendment was approved by the State Water Board, California Office of Administrative Law, and U.S. EPA. The Amendment included revisions to the water quality objective for DO and reflects a substantial modernization in scientific understanding. The criteria are designed, according to USEPA’s DO criteria document (USEPA 1986), to ensure no production impairment. Additionally, the Amendment was supported by the peer reviewed Staff Report for the Revisions of Dissolved Oxygen Water Quality Objectives, March 2009.

The aquatic life-based objectives are designed for the protection of sensitive aquatic organisms in fresh, free-flowing waters. The Amendment retained the existing daily minimum aquatic life objectives for WARM, MAR, SAL, and COLD. It modifies the SPWN daily minimum objective by eliminating the less protective objective (7.0 mg/L), retaining the more protective objective (9.0 mg/L), and expanding the applicability of the more protective objective to the entire period during which eggs are in the inter-gravel environment, from spawning through emergence. The current objectives also include a 7-day average DO objectives for the protection of WARM, COLD, and SPWN beneficial uses based on ensuring no production impairment to threatened and endangered species as a result of DO deficiencies.

Finally, the Basin Plan Amendment includes an allowance for the Executive Officer to approve the application of adjusted DO objectives based on natural temperatures and altitudes. Other natural conditions that could preclude attainment of aquatic life objectives include, but are not limited to, naturally nutrient-rich waters, ephemeral conditions, and others. Therefore, waterbody-specific DO objectives can be developed by calculating the minimum DO necessary to maintain 85% DO saturation in the dry season and 90% DO saturation in wet season. The waterbody specific criteria ensure that the natural pattern and range of DO variation is maintained in those waterbodies

unable to meet the aquatic life-based objectives due to natural conditions. However, the current objective clearly states that "In no event may controllable factors reduce the daily minimum DO below 6.0 mg/L."

No changes are proposed in response to this comment.

RRK Comment 6b: Page 17, Section V, Footnote 8

RRK states that the definition in Footnote 8 of the Draft Permit fails to consider the fact that anthropogenic activities are the basis or cause for many "natural conditions" since harmful algal blooms (HABs), decreased water flow, increased water temperature and other effects are all the result of human action—everything is influenced by past and present anthropogenic activities. RRK believes that it would be better for the Regional Water Board to actively work on establishing historical baselines, before anthropogenic activity, so that actual numerics are available in situations like this so that a more consistent standard would be set across the board for all future permits.

Response to RRK Comment 6b:

The language in Footnote 8 of the Draft and Proposed Permits comes directly from the Basin Plan, having been adopted into the Basin Plan as part of the Dissolved Oxygen Basin Plan Amendment and went through a thorough public process prior to adoption.

No changes are proposed in response to this comment.

RRK Comment 6c: Page 17, Section V, Footnote 9

RRK recommends that Footnote 9 of the Draft Permit be revised to read, "Upon approval from the Regional Water Board Executive Officer and Staff."

Response to RRK Comment 6c:

Footnote 9 of the Draft and Proposed Permits properly assigns the authority to approve site-specific DO requirements rests with the Regional Water Board Executive Officer as set forth in the Basin Plan. This authority does not extend to Regional Water Board Staff.

No changes are proposed in response to this comment.

RRK Comment 6d: Page 17, Section V, Footnote 10

RRK recommends that Footnote 10 of the Draft Permit be revised to read, "The method(s) used to estimate natural temperatures for a given waterbody or stream length must be approved by the Regional Water Board Executive Officer and may include, as appropriate, comparison with reference streams, simple calculation, or computer models, and consideration of historical tree cover and its effect on temperature."

Response to RRK Comment 6d:

Footnote 10 of the Draft and Proposed Permits states that the method used to attain a site-specific DO requirement, when receiving water limitations are unachievable, must be approved by the Regional Water Board Executive Officer. The consideration of historical tree coverage and its potential effect on temperature could be presented as part of this process. Staff have determined that it is not necessary to expand this language

No changes were made in response to this comment.

RRK Comment 7a: Page 34, Section VII.O.2, Water Quality Based Effluent Limitations for Total Phosphorus

RRK completely supports implementation of large scale projects that act to restore the health and ecosystem benefits provided by the Laguna de Santa Rosa stating that these projects not only act to reduce sediment and nutrient loads in the area, but they also help improve other peripheral benefits that the Laguna de Santa Rosa may not otherwise be able to gain back. RRK states, "For instance, these restorative projects often provide direct public benefits to those that live around and visit the waterbody being restored. This may be in the form of increased flood protection or fewer HABs limiting recreation. Large scale restorative projects also help facilitate the health of local public areas, as opposed to subsidizing wealthy and commercialized industry that should be meeting their water quality permits on their own with little benefit to the public (i.e. like in a WQTF)."

Response to RRK Comment 7a:

This comment is appreciated and acknowledged. Staff agree with RRK's narrative regarding the benefits of large scale restoration projects. The WQTF is designed to incentivize the implementation of projects that restore and protect the ecosystem. Without a program such as the WQTF, smaller projects might be selected for implementation over these larger restoration projects that are expected to have the biggest impact on restoring the Laguna de Santa Rosa and improving water quality.

No changes were made to the Proposed Permit in response to this comment.

RRK Comment 7b: Page 34, Section VII.O.2.b.ii.a

RRK states that enhancements cannot occur so far away from the Laguna de Santa Rosa that any expected benefits are negligible in the Laguna de Santa Rosa and that there must be a measurable benefit within the Laguna de Santa Rosa itself.

RRK requests that Section VII.O.2.b.ii.a of the Proposed Permit be modified as follows: "Enhancing environmental values (e.g., habitat or ecosystem restoration, recognized priority or multi-benefit actions) <u>within the Laguna de Santa Rosa</u>.

Response to RRK Comment 7b:

Section VII.O.2.b.ii of the Draft and Proposed Permits states that proposed projects must be in the mainstem Laguna de Santa Rosa, thus, to further clarify the condition as requested by the RRK would be repetitive and is unnecessary.

No changes are proposed in response to this comment.

RRK Comment 7c: Page 34, Section VII.O.2.b.iii

RRK suggests that numerical goals be added to section VII.O.2.b.iii of the Draft Permit with the following change: "Be designed to reduce sediment and nutrient loads and/or impacts by at least 50 percent, increase dissolved oxygen levels to at least 7.0 mg/L, and reduce water temperature in the Laguna de Santa Rosa for a significant period of time, greater than 5 years; and,"

Response to RRK Comment 7c:

Staff have determined that the inclusion of pre-determined values for each of the above conditions may limit the flexibility in project determination as a given project may offer significant positive impacts to some conditions, but not others. The goal of the Alternative Compliance Option included in the Proposed Permit is to address waterbody-wide problems that a single restoration project cannot fix. The priority of the Alternative Compliance Option and the WQTF is to benefit water quality in the Laguna de Santa Rosa by reducing phosphorus loading and adding assimilative capacity to the system. To divert focus to these other factors may over burden project options.

No changes are proposed in response to this comment.

RRK Comment 7d: Page 35, Section VII.O.2.f

RRK requests a change to section VII.O.2.f that would disallow any future credits generated by projects approved under the previous Nutrient Offset Program to be brought into the WQTF Accounting Ledger if their associated project does not meet the requirements of the new WQTF.

RRK requests that Section VII.O.2.f of the Proposed Permit be modified as follows: "All existing credits from projects under the previous Nutrient Offset Program shall be brought into the WQTF Framework Accounting Ledger by the effective date of this Permit. Credits that continue to be generated by ongoing projects under the previous Nutrient Offset Program shall be brought into the WQTF Framework Accounting Ledger by the effective date of this Permit, so long as projects under the prior Nutrient Offset Program are also in compliance with the new WQT framework."

Response to RRK Comment 7d:

It is appropriate that future credits generation by projects approved under the NOP be brought into the WQTF Accounting Ledger provided that these projects continue to maintain compliance with the project approvals that were granted under the NOP, including agreed upon practices, agreed upon eligibility period, and the need to continue to demonstrate a water quality benefit that allows the project to continue to generate credits .

No changes are proposed in response to this comment.

RRK Comment 8: Attachment K, Water Quality Trading Framework (WQTF)

RRK is particularly concerned with ensuring that the WQTF proposed for adoption as part of the Proposed Permit is effective and enforceable. RRK believes that establishing a monitoring, reporting, and enforcement program is needed to ensure no loopholes, no backsliding, and that there is actually a no net loading of total phosphorous. RRK states that WQT programs in other locations have not actually improved water quality because there was no method for accountability and that numerics are needed and suggests that random and unannounced site visits are needed to prevent fraud and has concerns about “quick & dirty” projects by credit generators.

Response to RRK Comment 8:

This comment has been noted. The Regional Water Board recognizes that effective implementation will be needed to make the WQTF program successful and believes that the program, as presented, contains the tools to accomplish this.

No changes were made to the Proposed Permit in response to this comment.

RRK Comment 9: Page 4, Attachment K, WQTF Guiding Principles

RRK proposes that several additional guiding principles be added to the WQTF:

- WQT activities must be consistent with anti-degradation and anti-backsliding policies.
- WQT activities must result in long-term improvement to water quality.
- There must be demonstrable benefits to water quality and the beneficial uses the water quality standards are intended to protect.
- WQT activities that generate credits must achieve measurable pollutant reduction via mass loading criteria for phosphorus.
- Before buying credits, buyers must be able to show that their net discharges will not increase after a credit purchase.

Response to RRK Comment 9:

Guiding Principles are included in the Introduction of the WQTF to outline the broad philosophy and values that encompass the WQTF’s provisions. The Guiding Principles

are expanded throughout the remainder of the WQTF and capture each of the concerns expressed in RRK's bullets, above. For example, RRK's first bullet "activities must be consistent with anti-degradation and anti-backsliding policies" is covered in the Guiding Principles listed in the Introduction of the WQTF that states, "WQTF activities must adhere to all applicable laws…." Another example is in Section 3.1.2 of the WQTF where it states, "Consistent with the guiding principles listed in the Introduction section above, actions taken to generate credits under this Framework must provide water quality benefits that are equal to or greater than the pollutant discharges they are meant to offset in place, in kind, and in time." The additional guiding principles proposed by RRK are either redundant statements to the existing guiding principles or conditions of implementation that RRK would like included in the WQTF Staff has determined that each of the additional guiding principles recommended by RRK are already addressed in the WQTF.

No changes are proposed in response to this comment.

RRK Comment 10: Page 5, Attachment K, Section 1.3, Public Involvement

RRK states that enforcement remedies, processes and distribution of information under the WQTF must be similar to those already established for things like failures or spills at a wastewater treatment plant in order to provide transparency to the public regarding implementation of the WQTF and to ensure that compliance is being met so that water quality is not threatened further. RRK further believes that all citizen suit powers must carry over to the WQTF.

RRK requests that Section 1.3 of Attachment K of the Draft Permit be modified follows:

- Public notification and release (online) of the Regional Water Board Executive Officer's approval of Credit Project Plans and relevant project information <u>within one week of approval</u>;
- Public notification and release (online) of key documents and reports related to project implementation and verification (Section 8) <u>within one week</u>;
- Public notification and release (online) of key documents and notices related to credit certification and credit tracking (Section 9) <u>within one week</u>;
- <u>Public notification and release (online) of all WQTF violations within one week of violation; and</u>
- <u>Public notification and release (online) of any credit trades that do not result in a total phosphorous reduction within one week of detection and/or reporting to the Regional Water Board if failure to meet reduction requirements cannot be rectified in a timely matter</u>.

Response to RRK Comment 10:

Public comment is important to ensure accountability, transparency, and implementation of programs such as the WQTF. As such, public involvement is ensured through Section 1.3 of the WQTF. Staff agree that it is reasonable to provide a one week deadline for notification and release of documents as requested by RRK in the first

three bullets of its comment. This change has been made to section 1.3 of Attachment I of the Proposed Permit.

Staff do not recommend adding timeframes for noticing violations as requested in the last two bullets of RRK's comment. The WQTF is a compliance option to meet no net loading effluent limits, it is not a strict requirement. Therefore, it is not appropriate or consistent with the WQTF to notice deficiencies of this optional program. That said, there are opportunities for checks and balances related to the WQTF which offer opportunity for public engagement. 1) Pre-qualified practices (PQPs) must be made available for public comment for 30 days before being available for use in the library; 2) projects that go directly to implementation must also be available for public comment for 30 days; 3) many of the larger projects are likely to involve a 401 water quality certification, which require public notification; and 4) credits under the WQTF are only applied once verified. Therefore, projects that fail to meet the PQP or project criteria do not receive credit. Verified credits are entered into the accounting ledger on the Regional Water Board website.

In addition, the Proposed Permit already addresses the process for spills and other violations of the requirements in section VI.A.2 of the Proposed Permit.

RRK Comment 11: Page 6, Attachment K, Section 1.4, Regional Water Board Authority to Audit

RRK recommends that Section 1.4 of Attachment K of the Draft Permit be modified to state that the public maintains all traditional citizen suit powers.

Response to RRK Comment 11:

Section VI.A.2.a of the Draft and Proposed Permits states that "Failure to comply with provisions or requirements of the Order, or violation of other applicable laws or regulations governing discharge from this Facility, may subject the Permittee to administrative or civil liabilities..." The WQTF is an optional program to comply with the no net loading requirement for phosphorus within the NPDES permit. Violations of provisions of the adopted NPDES Permit may subject the Permittee to enforcement actions including administrative and civil remedies, but do not change citizen lawsuit provisions of the Clean Water Act.

No changes were made to the Proposed Permit in response to this comment.

RRK Comment 12: Page 8, Attachment K, Section 2.5.1, Supporting Documentation for Pre-Qualified Practices

"[RRK] encourages projects that can more clearly stop or cease a nutrient discharge altogether via implementation of some BMP" and suggests that Section 2.5.1 of Attachment K of the Draft Permit be modified to contain the following Practice Standard: "Clear demonstration that practice provides more than a temporary benefit, with at least a continuous 5 year benefit provided."

Response to RRK Comment 12:

Staff agrees with RRK that practices providing a longer-term benefit are most desirable. Staff believes that the WQTF is designed to encourage restoration projects with long-term benefits, but it is up to the Permittee to determine the cost-benefit relationship for a proposed practice under different project life scenarios. Project life as defined in the WQTF effectively ties the ability to claim credits to the time when benefit is realized. Therefore, projects which have a long term benefit also provide long term credit generation. This incentive is built into the WQTF and supports the use of long term restoration projects.

No changes are proposed in response to this comment.

RRK Comment 13: Page 8, Attachment K, Section 2.5.1, Supporting Documentation for Pre-Qualified Practices

RRK states that sites generating credits must have site-specific thresholds to determine whether any steps taken within the WQTF are actually improving the water quality as they claim to be and is concerned that without some monitoring baseline, there is no way to gauge effectiveness.

RRK further discusses that credits cannot be based on project type alone because each site will respond differently due to the unique characteristics of the site. RRK also dismisses the use of currently available literature as it has "zero data to back-up its conclusions" and says that this is only acceptable when it is backed-up with local studies.

RRK requests that Section 2.5.1 of Attachment K be modified to include the following Credit Qualification Method: "<u>Utilization of site-specific thresholds to determine effectiveness.</u>"

Response to RRK Comment 13:

The WQTF includes Project Review/Verification Procedures (Section 2.5.1) including: "Recommended documentation and reporting for pre- and post-project site condition assessments, monitoring, and project verification activities…" The activities proposed to validate each specific project will be outlined in their respective submittal, and ultimately subject to review (including public comment) and approval by the Executive Officer prior to implementation. Addition of the language requested by RRK would be redundant.

As to RRK's comment about use of currently available literature, best available science is the acceptable standard. If the best available science is literature, that is what is acceptable and used.

No changes are proposed in response to this comment.

RRK Comment 14: Page 8, Attachment K, Section 2.5.1, Supporting Documentation for Pre-Qualified Practices

RRK discusses the differences between the calculated and real-world benefit to water quality that may be realized through restoration projects, suggests that utilization of a standard deviation should be used to determine compliance with the WQTF, and makes a general reference to studies made by large agricultural universities in comparison to NRCS data.

RRK recommends that Section 2.5.1 of Attachment K of the Draft Permit be modified to include additional Project Review/Verification Procedures as follows: "Utilization of a pre-set standard deviation to determine whether the proposed project and final implemented project are sufficiently similar to maintain compliance with WQTF."

Response to RRK Comment 14:

While the utilization of a standard deviation may be useful to determine if a project's real-world performance is within the projected results, the credit generator should use professional judgement when determining the anticipated performance of a project and not overestimate its performance. If ongoing project verification determines that a project fails to meet the approved practice standards, the credit seller or the party responsible for project implementation, as identified in the Credit Project Plan is required to immediately notify Staff and complete the process outlined in Section 8.3 of the WQTF. Verification reports must be submitted to Regional Water Board staff and will be made available to the general public on the Regional Water Board's website.

No changes are proposed in response to this comment.

RRK Comment 15: Page 10, Attachment K, Section 2.5.2, Process for Approving Pre-Qualified Practices

RRK states that all chosen standard deviations should be low enough to ensure water quality benefits and compliance with the WQTF, but high enough to allow certain projects at certain site types to qualify. "For instance, a standard deviation sufficiently narrow that it would allow for projects increasing buffer zones on flat land to be pre-qualified, but if a specific site were to have a 7% slope, it would require the project go through practice revisions to establish all required components."

RRK requests that Section 2.5.2 of Attachment K of the Draft Permit be changed to: "…Water Board Executive Officer and staff will determine what constitutes a significant update or revision based on a pre-set standard deviation for a project type at a specific site location."

Additionally, RRK requests consideration of the following statement to define a significant update or revision: "Significant update or revisions defined: anything that causes the pre-approved practice to fall outside of an established standard deviation for a project type at a specific site location."

Response to RRK Comment 15:

Staff maintain that the Executive Officer will determine what constitutes a significant update or revision to ensure consistency within phosphorus offset projects. Staff believe that the use of a standard deviation to define the nature of a significant update or revision would limit this definition to numerical measurements when it can also apply to project methodology, implementation process, geographic location, and many other variables.

No changes were made to the Proposed Permit in response to this comment.

RRK Comment 16: Page 10, Attachment K, Section 3.2.1, Avoiding Localized Impacts

RRK points out that Section 3.2.1, Avoiding Localized Impacts, of the WQTF in Attachment K of the Draft Permit, clearly lays out the guiding principles that all other sections should be adhering to. RRK recommends that Staff use this section of the WQTF as an example when writing other sections of the WQTF and that the proposed changes and comments they make on the WQTF are meant to make the principles in this section abundantly clear throughout the rest of the WQTF.

Response to RRK Comment 16:

This comment is acknowledged and appreciated.

RRK Comment 17a: Page 11, Attachment K, Section 3.2.2, Baseline Requirements for Credit-Generating Projects

RRK states that Staff should be required to share the sources that they are relying on when making determinations on baseline requirements for credit-generating projects so that the public is able to individually verify any baselines that are implemented. RRK further states, “In light of the funding source (i.e. agriculture) for most agriculture related studies and BMP management, there is a conflict of interest that needs to be accounted for and avoided when possible.”

RRK suggests for purposes of this WQT Framework that baseline be defined as “<u>20% below the existing phosphorous amount at the specific site-location where a credit-generating project will be located. This baseline will then help determine</u> the minimum level of effort or level of implementation that must be achieved before a project is eligible to generate credits.”

Response to RRK Comment 17a:

Staff believes that requiring a minimum numerical value when determining the baseline value for a project could limit the willingness of credit sellers to develop projects within more challenging areas within the Laguna de Santa Rosa. Baseline requirements are

to be defined in the credit project plan, thus will be subject to review and approval before project implementation, and the specific methodology may be addressed at this time if needed. The Credit Project Plan requires that a description of the applicable baseline requirements be included, including a discussion of how those requirements have been or will be satisfied.

No changes are proposed in response to this comment.

RRK Comment 17b: Page 11, Attachment K, Section 3.2.2, Baseline Requirements for Credit-Generating Projects

RRK suggests that Section 3.2.2, Paragraph 2 of Attachment K of the Draft Permit be modified with the following change: "Where no such requirements exist, baseline shall at least be equivalent to current conditions or practices at the project site, based on the prior three-year history of the property or operation, unless the proposed project site has a history of violations, which case the baseline shall at least be equivalent to current conditions or practices of a similar site directly upstream of the proposed site."

Response to RRK Comment 17b:

Baseline requirements are to be specified in the Credit Project Plan and are subject to review prior to approval. It will be critical for Credit Sellers to establish correct baselines as Section 3.2 of the WQTF will not allow any action that is already required by law, regulation, permit, enforcement action, or any other legally binding agreement to generate credits. Project sites with a history of violations will likely be subject to these conditions and extra effort may be needed to distinguish the benefit from a credit generating project from that of an already required action.

No changes are proposed in response to this comment.

RRK Comment 18: Page 11, Attachment K, Section 3.2.5, Timing of Framework Applicability

RRK states "It is important that all approved projects grow with the applicable NPDES permit and updated regulations, etc. that may apply." and suggests that, in order to increase incentives, that modifications to existing projects that bring them into the new WQTF requirements be used with fewer processes/filings, or a one-year bridge agreement to continue to generate credits, although at a reduced rate.

RRK recommends that Section 3.2.5, Paragraph 1 of Attachment K of the Draft Permit be modified with the following change: "…Projects previously approved under the Santa Rosa Nutrient Offset Program (Regional Water Board Order No. R1- 2008-0061) shall be considered eligible under this Framework to continue generating credits according to terms under which those projects were originally approved and for their approved project lives, if the prior project also satisfies the requirements of the new WQTF."

Response to RRK Comment 18:

It is Staff's understanding that RRK is recommending that projects established under one set of permit requirements be subjected to any future changes in permit requirements. More specifically, it is Staff's understanding based on this comment and RRK Comment 7b that RRK does not support having projects that were approved under the NOP to be brought under the new WQTF.

Staff believes that project proponents have reasonable expectations that projects previously approved will continue to generate viable credits for the approved period. It would be inappropriate to change the applicable rules after projects have been approved for credit generation.

The Regional Water Board believes that for a program such as this to work, it must honor all previous agreements from the Nutrient Offset Program to maintain trust and demonstrate that investments into this program will be honored.

No changes are proposed in response to this comment.

RRK Comment 19: Page 12, Attachment K, Section 3.2.7, Credit Stacking

RRK requests additional clarity on section 3.2.7 of Attachment K of the Draft Permit, noting that, as written, Attachment K of the Draft Permit is for this particular NPDES Permit and is limited to Total Phosphorous only, making section 3.2.7 not applicable and irrelevant. RRK suggests removing this section to avoid any possible confusion because.

Response to RRK Comment 19:

Section 3.2.7 of the WQTF addresses the ability for a project to generate credits for multiple environmental markets, and this will be used with proportional accounting. Staff believes that while the WQTF as presented in Draft and Proposed Permits is limited to total phosphorous, circumstances may present themselves where a specific project may have the ability to generate alternate credits under a different program. As such, the Regional Water Board has determined that it is important to retain a provision for credit stacking.

No changes are proposed in response to this comment.

RRK Comment 20: Page 13, Attachment K, Section 4, Quantifying Pollutant Reductions for Water Quality Credits

RRK requests modification of the following statement Section 4, of Attachment K: "In general, for this WQT Framework, methods used to quantify water quality credits should rely on best available science, and should demonstrate accuracy, repeatability, sensitivity, transparency, and practicality, ~~although some trade-offs amongst these qualities are inevitable~~."

Response to RRK Comment 20:

Staff agree with RRK that the above language is unnecessary. Section 4 of Attachment I of the Proposed Permit has been modified as requested by RRK.

RRK Comment 21: Page 14, Attachment K, Section 5, Trading Ratios

RRK requests modification to Section 5, Trading Ratios, of Attachment K to the Draft permit to identify the conditions under which the Executive Officer may allow the retirement and/or uncertainty ratios to be adjusted.

RRK specifically suggests that Condition a of Section 5 that states "a reduced retirement ratio may be applied when a credit-generating project is explicitly designed to enhance environmental values (e.g., habitat or ecosystem restoration, recognized priority or multi-benefit actions)", is redundant as it is inclusive of the purpose of the WQTF.

RRK requests that Condition c be changed to: "A reduced uncertainty ratio may be applied when ~~a credit generating project includes direct measurement of pollutant reduction~~ the permittee can demonstrate, through direct measurement, in-stream water quality improvements in a manner that reduces the influence of uncertainty."

RRK further requests that the following condition be added: "The project in question has been generating credits for multiple years and has developed a strong track record of reliable performance."

Response to RRK Comment 21:

Staff acknowledge that the requirements of Condition a, within Section 5 of the WQTF, are inclusive to the general purpose of the WQTF, but it should be recognized that all projects that can qualify as credit producing will not meet "Condition a". "Condition a" has been included in the WQTF to further encourage permittees and credit sellers to pursue projects that will provide more benefit.

RRK's recommended change to Section 5, Condition c of Attachment K would modify this language from allowing a reduced retirement or uncertainty ratio based on something that is being planned, to something that is demonstrated after a project is implemented. Regional Water Board staff believe that it is important to determine the applied trading ratio for a project during the planning phase so that credit sellers can adequately evaluate their investment and have confidence in the WQTF program.

The additional condition proposed by RRK would provide a reduced trading ratio to existing projects that have been renewed if those projects have a strong track record and reliable performance. While the Regional Water Board would hope that credit generators would renew projects with a proven history, Staff believe that this type of

project will benefit through reduced capital investment and would thus not need the additional incentive.

No changes are proposed is response to this comment.

RRK Comment 22a: Page 15, Attachment K, Section 6.2, Credit Characteristics and Accounting Conventions

RRK states its belief that it is unnecessary to limit land management practices for agricultural operations as short term and states, "In actuality, there are many long-term land management practices that would be highly effective in protecting water quality."

RRK requests that Section 6.2, of Attachment K of the Draft Permit be modified with the following change: "Project life shall be specified in each approved Credit Project Plan and will be evaluated on a case by case basis. This Framework does not prescribe a maximum project life, but all projects must have a life that continues for at least three years."

Response to RRK Comment 22a:

Staff wish to clarify that agricultural practices are not limited to the short-term. Section 6.2 of the WQTF included agricultural practices as an example of a short-term project.

The WQTF is designed to encourage projects with long-term benefits, but it is up to the Credit Seller to propose a project life that best meets their needs and complies with the provisions of the WQTF.

No changes are proposed in response to this comment.

RRK Comment 22b: Page 15, Attachment K, Section 6.3, Credit Characteristics and Accounting Conventions

RRK requests clarification as to how Section 6.3, Banking Credits for Later Use, relates to the "one-year" life span for all credits generated under the WQTF.

Response to RRK Comment 22b:

As described in Section 6.3 of the WQTF, phosphorus offset projects with a project life of one year will have a minimum banking period of 3 years. Alternatively, offset projects with an approved project life greater than three years will be allowed to bank credits for the duration of that project's life.

No changes are proposed in response to this comment.

RRK Comment 22c: Page 15, Attachment K, Section 6.3, Credit Characteristics and Accounting Conventions

RRK states that if banking of credits occurs, there should be a gradual decrease in credit value after the renewal of a new NPDES permit, or, alternatively, there should be a maximum set on the amount of credits that can be banked. RRK further states that improving water quality is an ongoing process that must always encourage that new practices and projects be implemented and that any incentives that might otherwise discourage continuous water quality improvements or technology advancements must be removed from the WQTF immediately.

Response to RRK Comment 22c:

The Regional Water Board believes that devaluing banked credits and providing a maximum banked credit limit are not necessary as each project will have an approved project life and credit release schedule included within the approved Credit Project Plan. Additionally, the regular reissuance of NPDES permits once every five years allows the permit to be updated to reflect improvements in technology and water quality standards to be implemented through the permit.

No changes are proposed in response to this comment.

RRK Comment 22d: Page 15, Attachment K, Section 6.3, Credit Characteristics and Accounting Conventions

RRK requests that Section 6.3, of Attachment K of the Draft Permit be modified with the following change: “Under this WQT Framework, once a credit-generating project reaches the end of its specified project life, it shall be considered expired and no longer able to generate credits. However, where such a project continues to function, is properly maintained, and meets all eligibility criteria and Framework requirements that are in effect at the time, it may be renewed and allowed to generate additional credits <u>so long as there is some additional action that acts to further improve the effectiveness of the project by at least 15%.</u> The process for renewing an expired project shall be the same as the process for approving a new project (Section 7.2 or Section 7.4).”

Response to RRK Comment 22d:

The Regional Water Board believes that the process of renewing an expired project will adequately assess its ongoing benefits, credit generating potential, and opportunities for improvement through the submittal, review, and approval of an updated Credit Project Plan, which would be required if the credit generator decides to renew the project, per Section 6.4 of the WQTF. The process for a renewal is the same as the process used for submittal of a new project. Moreover, it is in the interests of water quality that installed projects be renewed and maintained. Creating additional requirements for renewal would discourage such maintenance to the detriment of water quality.

No changes are proposed in response to this comment

RRK Comment 23: Page 17, Attachment K, Section 7.1, Project Monitoring, Verification, and Reporting Plan

RRK states that having a contingency plan in place helps provide assurance to other project participants and ensures that any gaps in water quality protection will be limited and requests that Section 7.1, of Attachment K be modified to add the following requirement to the Project Monitoring, Verification and Reporting Plan: "Description of a contingency plan for: any unexpected project delays, project cost increases, shortfalls in obtaining water quality improvements, etc."

Response to RRK Comment 23:

Staff recognizes RRK's concern for ensuring that a contingency plan is in place, but the risks for implementing a project under the WQTF are held solely by the Credit Seller, and a contingency plan is not required to be submitted. When project verification identifies a material failure to meet the approved practice standards or other requirement of the approved Credit Project Plan, the Credit Seller is required to provide immediate notification to the Regional Water Board and submit a remedy for the shortfall within 60-days, per Section 8.3 of the WQTF.

No changes are proposed in response to this comment.

RRK Comment 24a: Page 18, Attachment K, Section 7.3, Credit Project Pre-Screening Process

RRK suggests the addition of a disclaimer statement to Credit Project pre-screening process in Section 7.3, of Attachment K as follows: "…Any preliminary determinations and/or response to a request are not binding on the Regional Water Board and are subject to change at a later date if necessary."

Response to RRK Comment 24a:

Section 7.3 of the WQTF states that the pre-screening process may be used prior to the Credit Project Plan Approval Process to allow Staff to provide feedback on proposed project elements. The pre-screening process does not replace the project approval process and the credit seller cannot assume project approval based on pre-screening correspondence.

No changes are proposed in response to this comment.

RRK Comment 24b: Page 18, Attachment K, Section 7.3, Credit Project Pre-Screening Process

RRK would like the Regional Water Board to release information contained in Credit Project Plans that the Credit Seller asserts to be confidential, if the Regional Water Board determines that the information in question does not fall within the protection of applicable laws.

RRK requests that Footnote 8 of Section 7.3, of Attachment K be modified with the following addition: "…If the Regional Water Board determines that an asserted portion does not fall within the protection of applicable laws, they shall initiate further consult with the credit seller or agent. If the consultation does not bring the portion at issue within the protection of applicable laws, the Regional Water Board may make those portions available to the public."

Response to RRK Comment 24b:

The Regional Water Board has determined that the suggested wording would be redundant and unnecessary. Footnote 8 of Attachment K of the Draft Permit (Attachment I of the Proposed Permit) already states that confidential information or trade secrets may be limited in accordance with applicable laws. The content of this footnote need not establish a procedure to determine what information may or may not be released to the public.

No changes are proposed in response to this comment.

RRK Comment 25: Page 20, Attachment K, Section 8.2.1, Footnote 10, Project Implementation and Verification

RRK suggests that it might be useful to compile a list of reputable 3rd party verifiers so that all projects can choose from a closed list for consistency in verification processes.

Response to RRK Comment 25:

It is not practical for the Regional Water Board to anticipate all potential projects and develop a list of reputable 3rd party verifiers. It will be the responsibility of the Credit Seller to select a verifier and to establish that the verifier meets the required qualifications for the selected project. A description of qualification for third-party verifiers is listed in footnote 10, Section 8.2.1 of the WQTF.

No changes are proposed in response to this comment

RRK Comment 26a: Page 21, Attachment K, Section 8.3, Ongoing Project Verification

RRK suggests an addition to the Ongoing Project Verification section that would maintain a minimum verification frequency of two times per year.

Section 8.3, paragraph 2, of Attachment K of the Draft Permit is recommended to be modified with the following addition: "… Verification frequency, required elements of ongoing project review, and reporting requirements will vary depending on the individual project. Verifications must occur at least two times each year—once in the wet season and once in the dry season. Requirements for all ongoing verification activities will be specified in the approved Credit Project Plan…."

Response to RRK Comment 26a:

Staff believes that establishing a proper verification schedule is more important than maintaining a minimum verification schedule. As such, a schedule for monitoring, project verification, and reporting is required within the Credit Project Plan. It is the responsibility of the Credit Seller to tailor these requirements to their project, and to provide support that these items will effectively demonstrate regulatory and environmental goals. Staff retain the discretion to require more frequent monitoring and verification during the review of a Project Plan, per section 7.2 of the WQTF.

No changes are proposed in response to this comment.

RRK Comment 26b: Page 21, Attachment K, Section 8.3, Ongoing Project Verification

RRK suggests that Section 8.3, paragraph 3, of Attachment K be modified to read: "… In the event that a verification report identifies a material failure to meet approved practice standards or other requirements of an approved Credit Project Plan, the credit seller (or the party responsible for project implementation, as identified in the Credit Project Plan) shall notify Staff immediately…."

Response to RRK Comment 26b:

Section 8.3 (third paragraph) of Attachment K includes the exact language regarding "material failure" that RRK asked for in its comment.

No changes are proposed in response to this comment.

RRK Comment 26c: Page 22, Attachment K, Section 8.3, Ongoing Project Verification

RRK suggests changing the 60-day requirement for submitting a plan for remedy to 20 days suggesting that this change would limit the time of any gaps in water quality improvements and would ensure that any resulting failures are taken care of in an effective manner. RRK further discusses that the suggested 20-day requirement would be reasonable if the previously suggested contingency plan (RRK Comment 32) is required upfront.

Response to RRK Comment 26c:

As previously discussed in the response to RRK Comment 23, the risks for implementing a project under the WQTF are held solely by the Credit Seller and a contingency plan is not required to be submitted. It is in the interest of the Credit Seller to provide a quick response, and the developed remedy plan may be submitted prior to the 60-day deadline.

No changes are proposed in response to this comment.

RRK Comment 27a: Page 24, Attachment K, Section 9.5, Credit Tracking and Registry Administration

RRK suggests modifying Section 9.5, paragraph 1, of Attachment K to read: "…The role of administrator shall be performed by Regional Water Board Staff or by a trusted and qualified third-party designee."

Response to RRK Comment 27a:

Section 9.5 (first paragraph) of Attachment K already includes the language "or by a trusted and qualified third-party designee".

No changes are proposed in response to this comment.

RRK Comment 27b: Page 24, Attachment K, Section 9.5, Credit Tracking and Registry Administration

RRK suggests adding items to be tracked in the credit registry, including expiration date and site location.

Response to RRK Comment 27b:

The Regional Water Board acknowledges this comment. The suggested items have been added to the attributes to be tracked in the credit registry. Section 9.5 of Attachment I of the Proposed Permit has been modified to read: "Attributes to be tracked for each credit in the registry include, but shall not be limited to: serial number, date of certification, owner, status, expiration date, site location, project from which the credit was derived, and links to publicly-available project documents."

RRK Comment 27c: Page 24, Attachment K, Section 9.5, Credit Tracking and Registry Administration

RRK further requests that Section 9.5, paragraph 3, of Attachment K of the Draft Permit be modified to state: "Upon the selling of any credits, the buyer, sale date, and value shall be added to the public credit registry as well."

Response to RRK Comment 27c:

The proposed items identified in RRK's comment are redundant with the list identified in Comment 27b, above. Additionally, Staff wish to clarify that the value for each credit is one pound of phosphorus.

No changes are proposed in response to this comment.

RRK Comment 28: Page 24, Attachment K, Section 10, Compliance and Enforcement

RRK suggests that Section 10, paragraph 2, of Attachment K of the Draft Permit be modified to state that the public maintains all traditional citizen suit powers.

Response to RRK Comment 28:

See response to RRK Comment 11, above. No changes were made to the Proposed Permit in response to this comment.

RRK Comment 29a: Page 25, Attachment K, Section 11.2

RRK requests that the Monitoring/Evaluating Framework Effectiveness section be revised to provide a consistency to projects that share certain aspects. By modifying Section 11.2 of Attachment K to read: "However, the type, location, and frequency of monitoring activities will necessarily vary between practice types (Section 2.5.1), ~~with~~ though there will be consistency in type, location, and frequency of monitoring activities within each practice type. Some specific monitoring details may be determined at the project scale and incorporated into an approved Credit Project Plan (Section 7.1)."

Response to RRK Comment 29a:

Staff has determined that it is unnecessary to incorporate the above suggestion because the intent of the statement in Section 11.2 is to indicate that the monitoring protocols shall vary between practices, and not to establish consistency. The processes by which monitoring is achieved shall be determined within the Credit Project Plan. When a project is based on a pre-qualified practice (PQP), the general monitoring requirements will be described in the PQP, therefore all projects based on that PQP will have essentially the same monitoring protocols

No changes are proposed in response to this comment.

RRK Comment 29b: Page 25, Attachment K, Section 11.2, Framework Improvements and Monitoring

RRK requests that the Monitoring/Evaluating Framework Effectiveness section be revised to add details to the monitoring program to read:

"Depending on the nature and location of an approved credit-generating project, examples of monitoring shall include:

- … Bi-monthly sampling of surface sediment nutrient concentrations at a predetermined project site to quantify credits generated; …"

Response to RRK Comment 29b:

The Regional Water Board does not believe that the inclusion of a specific monitoring requirement that applies to all projects is beneficial to the WQTF as it may or may not be appropriate to all projects. Monitoring requirements will be determined within the Credit Project Plan and tailored specifically to each project. The Credit Project Plan process allows for review and approval of the proposed monitoring, verification, and reporting requirements by Regional Water Board staff per Section 7.2 of the WQTF.

No changes are proposed in response to this comment.

C. Russian River Watershed Protection Committee (RRWPC) Comments

RRWPC Comment 1: RRWPC supports most of the content in the Draft Permit and thinks it will do an excellent job of protecting beneficial uses using current standards. RRWPC is very happy about the permit requirement that "increased capacity must not rely on increased discharge to the Russian River." Russian River supporters also appreciate that over 95% of Santa Rosa's wastewater is reused, that less surface river water is needed for irrigation, and "the current Regional Water Board staff's and Board's professionalism and respect their efforts to improve our river environment."

Response to RRWPC Comment 1: Staff have noted and appreciate this comment.

RRWPC Comment 2: RRWPC is concerned about endocrine disrupting chemicals that may be present in recycled water.

Response to RRWPC Comment 2: Note that this is not a comment that affects the NPDES permit directly as the City of Santa Rosa and Rohnert Park are both enrolling their recycled water programs under the Recycled Water General Order. Staff are noting this concern here to demonstrate that the comments have been considered.

During the adoption of the previous NPDES permit as well as the Recycled Water General Order, RRWPC presented comments concerning the impact of endocrine disrupting chemicals that may be present in recycled water.

Attachment A of the Recycled Water Policy (Monitoring Requirements for Constituents of Emerging Concern in Recycled Water Used for Groundwater Recharge and Reservoir Water Augmentation) states that monitoring of health-based CECs or performance indicator CECs is not required for recycled water used for landscape irrigation because there is a low risk for ingestion of recycled water. Further, the Policy states that the "The regional water boards shall not issue requirements for monitoring of additional CECs or bioanalytical screening in recycled water beyond the requirements provided in this Policy except when recommended by the State Water Board following the review of the Title 22 engineering report or when requested by the recycled water producer. However, the regional water boards can require other monitoring requirements consistent with their authorities." The Proposed Permit is consistent with the Policy.

In March 2016, the report titled Pilot Monitoring of Constituents of Emerging Concern (CEC) in the Russian River Watershed (Region 1) was released by the Surface Water Ambient Monitoring Program. For this study, Staff collected ambient water and sediment samples from eight locations in the Russian River watershed and wastewater samples from two wastewater treatment plants. Several pesticides were included in the list of pollutants analyzed in this study. The study results indicated a presence of estrogen mimicking compounds, but based on the latest science and knowledge, the low concentrations did not indicate bioavailability or a threat to beneficial uses. The study recommended further monitoring for (Perfluorooctanesulfonic acid) PFOS and a few select pesticides.

No changes were made to the Proposed Permit in response to this comment.

RRWPC Comment 3: RRWPC is concerned about recycled water being permitted through the enrollment under the Recycled Water General Order, rather than through the NPDES permit. RRWPC is concerned that enrollment through the Recycled Water General Order provides no opportunity for public comment on recycled water.

Response to RRWPC Comment 3: Note that this is not a comment that affects the NPDES permit directly as the City of Santa Rosa and Rohnert Park are both enrolling their recycled water programs under the Recycled Water General Order. Staff are noting this concern here to demonstrate that the comments have been considered.

RRWPC's Comment 1 notes their agreement with protecting surface waters by reducing discharges of treated municipal wastewater to surface waters. The establishment of well-managed recycled water programs achieves this goal.

Staff have reviewed the recycled water programs administered by the cities of Santa Rosa and Rohnert Park and have inspected both systems and find that these recycled water programs meet all of the conditions required for enrollment under the Recycled Water General Order.

The Recycled Water General Order was adopted to facilitate recycled water use and reduce demand on public water supplies. Prior to its adoption by the State Water Board, the draft General Order was made available for public comment and a public hearing that allowed the public to address their concerns to the State Water Board. After considering the science and recycled water data available in the state, and after considering public comment received during the adoption of the Recycled Water General Order, the State Water Board concluded, "When used in compliance with the Recycled Water Policy, the Uniform Statewide Recycled Water Criteria, and all applicable state and federal water quality laws, the State Water Board finds that recycled water is safe for approved uses, and strongly supports recycled water as a safe alternative to raw and potable water supplies for approved uses." Staff are in agreement with the State Water Board in this regard.

RRWPC's April 29, 2020 comment letter on the Draft Permit are similar to those presented during adoption of the Recycled Water General Order but are included here as Comments 4 and 5 with responses to acknowledge RRWPC's comments and provide current responses.

No changes were made to the Proposed Permit in response to this comment.

Staff believe it is appropriate to make the Notices of Applicability and monitoring and reporting programs for the cities of Santa Rosa's and Rohnert Park's respective enrollments under the Recycled Water General Order available for a 14 day public comment period before these documents are issued by the Regional Water Board Executive Officer. The public noticing will be timed so that the recycled water enrollments are completed prior to the effective date of the Proposed Order which is October 1, 2020.

RRWPC Comment 4: RRWPC has concerns about incidental runoff of recycled water, including the concern that almost all recycled water irrigation occurs at night, making it difficult for regulators or the public to observe system operations. RRWPC would like to have the permit describe in detail, how inspections will be conducted and insists that inspections be completed when the recycled water system is being operated in order to provide credibility to the data provided by the City. RRWPC is also concerned that enforcement of recycled water violations has been limited.

RRWPC's comment includes a summary of violations that RRWPC has observed in the past, including excessive spray reaching streets and storm drains, spray nozzles located only a few feet from the street or at the top of an incline causing runoff into the street and storm drain, overapplication that caused ponding, and puddles on sidewalks and gutter. RRWPC further expresses concern that recycled water runoff carries nutrients, toxins, pathogens, and pesticides to surface waters.

RRWPC's comment also included recommendations for requirements to include in the permitting of Santa Rosa's recycled water program.

Response to RRWPC Comment 4: Note that this is not a comment that affects the NPDES permit directly as the City of Santa Rosa and Rohnert Park are both enrolling their recycled water programs under the Recycled Water General Order. Staff are noting this concern here to demonstrate that the comments have been considered.

Requirements for the production and use of reclaimed water are contained in the California Water Code sections 13500-13577 and in Division of Drinking Water regulations at Title 22, sections 60301-60357. The Proposed Permit contains requirements that are consistent with these regulations. RRWPC appears to be asserting that reclaimed water should be regulated as if it were an indirect discharge to surface water because reclaimed water could potentially discharge to surface waters. The Proposed Permit acknowledges that incidental runoff is unavoidable, but the environmental and public health risk is low if the incidents are infrequent and low volume. In addition, the Proposed Permit requires the City to implement its Recycled Water User's Guide, which if implemented effectively, will minimize irrigation runoff. Compliance with regulations is critical to protecting public health and the environment, and it is the preference of the State and Regional Water Boards that the most effective and timely methods be used to assure that the regulated community achieves and maintains compliance. For most cases, the State and Regional Water Boards support the principle of progressive enforcement, which contemplates an escalating series of actions beginning with notification of violations and compliance assistance, followed by increasingly severe consequences, culminating in a complaint for civil liabilities or other formal enforcement. Tools such as providing assistance, training, guidance, and incentives are commonly used by the Water Boards and work very well in many situations. When a cooperative approach proves ineffective, the Water Boards take on a formal enforcement approach by using tools such as assessment of civil liabilities, cleanup and abatement orders and cease and desist orders.

Over the past few years, Staff have worked cooperatively with the City to ensure compliance with the requirements to minimize or prevent irrigation runoff and to ensure protection of public health and the environment. Staff worked with City staff in 2013 to update and revise the Santa Rosa Non-Storm Water Discharge Best Management Practices Plan submitted to the Regional Water Board as required by the NPDES MS4 Permit Order No. R1-2009-0050 and the City's Recycled Water User's Guide to better track and report noncompliance with recycled water requirements and improve enforcement of existing and anticipated new requirements. Staff have seen improvements in each city's oversight of their respective recycled water use sites. Staff inspected Santa Rosa's recycled water use sites in 2018 and did not observe any violations of recycled water regulations. Staff conduct regular drive-by inspections and have observed great improvement in the management of recycled water use sites along Stony Point Road where a number of RRWPC's observations of runoff were observed in the past.

Staff inspected Rohnert Park's recycled water use sites on July 1, 2020 and noted that newer recycled water use sites have been well designed for recycled water use and did not observe any problems at these sites, but observed problems such as overspray onto sidewalks and streets, runoff that reached storm drains, and insufficient signage at some older sites. The problems are related to poor design features such as irrigation of sloped areas near roadways and sidewalks. Staff also observed overspray due to too much water pressure and improper alignment of sprinklers. Staff have notified Rohnert Park staff of these issues and will continue to provide compliance assistance to Rohnert Park to ensure improved management practices. These issues have been recorded as violations of Title 22 requirements. Through Rohnert Park's enrollment under the Recycled Water General Order, Staff will continue to work with Rohnert Park to ensure compliance with permit requirements and if this approach proves ineffective, take on a formal enforcement approach.

No changes were made to the Proposed Permit in response to this comment.

RRWPC Comment 5: Have any studies ever been done as to the impacts to Laguna and Mark West bank stabilization and resulting sedimentation as a result of allowing discharge into Laguna, lower Mark West, and lower Russian River?

Response to RRWPC Comment 5: Staff are not aware of any targeted studies that have assessed the impact of the Permittee's discharge on bank stabilization. Staff do not believe sediment is an issue in Santa Rosa's discharge nor as a result of the City's discharge. The City manages its system to minimize discharges to surface waters and typically discharges only during periods of high flow. Further, the City's discharges to Santa Rosa Creek are moderated through the use of a diffuser and its discharges to the Laguna de Santa Rosa by a concrete lined channel between Meadow Lane Pond and the Laguna.

Fact Sheet section III.D of the Proposed Permit states "Aspects of the sediment impairing the Russian River watershed include settleable solids, suspended solids, and turbidity. The impact of settleable solids results when they collect on the bottom of a waterbody over time, making them a persistent or accumulative constituent. The impact of suspended solids and turbidity, by contrast, results from their concentration in the water column. An analysis of the Permittee's effluent monitoring data for discharges to the Laguna de Santa Rosa and Santa Rosa Creek indicates levels of BOD_5, TSS, and total coliform in the effluent are generally less than the effluent limitations required by this Order. Thus, the discharge does not typically contain sediment (e.g., settleable solids, suspended solids, and turbidity) at levels which will cause, have the reasonable potential to cause, or contribute to increases in sediment levels in the Russian River watershed. This finding is based in part on the advanced level of treatment provided by the Facility, which removes settleable solids and reduces TSS and turbidity to negligible levels in wastewater discharged to the Laguna de Santa Rosa and Santa Rosa Creek. This finding is also supported by the summer discharge prohibition, and the five percent flow limitation for the winter discharge."

No changes were made to the Proposed Permit in response to this comment.

RRWPC Comment 6: (1) Why are coliform bacteria concentrations in disinfection channels at the treatment plant the bacterial standard and *E. coli* the standard in the river? (2) Are they equivalent in some way? (3) Do they measure significantly different types of bacteria? (4) Is one more appropriate for protecting human health? (5) There is no measure of Coronavirus required, but should there be under the circumstances? (6) Why aren't new *E. coli* limits used here? (Effluent Limitations, section IV.A.1.c, page 9 of Draft Permit)

Response to RRWPC Comment 6: RRWPC poses six questions in this comment which are answered as follows.

Response to RRWPC Comment 6: RRWPC poses six questions in this comment which are answered as follows.

Questions 1 and 6. Total coliform effluent limitations and monitoring are specified at the end of the disinfection channels because total coliform is the technology-based standard to demonstrate for adequate wastewater disinfection as established in Title 22 for protection of public health, and it is also established in the Basin Plan for discharges of treated wastewater to the Russian River and its tributaries. *E. coli* bacteria is the standard for river sampling because U.S. EPA and State Water Board water quality standards staff have determined that *E. coli* is the most appropriate bacterial standard for assessing impacts to human health.

Questions 2 and 3. Total coliform is a broad group of bacteria that can either be fecal coliforms that come from the fecal matter of warm-blooded animals or non-fecal coliforms that come from the soil. *E. coli* bacteria is a subgroup of fecal coliform within the Total Coliform group which primarily come from the feces of warm-blooded animals and indicate that the water has been exposed to feces, indicating a risk to human

health. The low total coliform bacteria effluent limitations that must be met after disinfection of municipal wastewater ensures that *E. coli* bacteria concentrations are also low and protective of public health.

Question 4. Both total coliform and *E. coli* measurements are useful for assessing protection of public health. As discussed in the response to Questions 1 and 6, above, the bacterial parameter that is used is guided by the regulations and the particular situation.

Question 5. In regard to the question about measuring for coronavirus, there are no established objectives for viruses. The City's disinfection system has been designed and tested to verify that it inactivates viruses at the levels required by DDW for the protection of public health. Certainly, there is much to learn about the novel coronavirus. The monitoring requirements would be modified at a future date if new testing requirements are established specifically for coronavirus.

The following discussion provides additional background to further explain the specific bacterial permit requirements.

The Proposed Permit includes monitoring requirements for *E. coli* bacteria in order to develop data needed to assess whether or not the Permittee's discharge is a source of pathogens as defined in the Regional Water Board's Russian River Watershed Pathogen TMDL Action Plan adopted in August 2019 and to determine if the Facility complies with *Part 3 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California - Bacteria Provisions and a Water Quality Standards Variance Policy* (Statewide Bacteria Provisions) adopted by the State Water Board adopted in February 2019.

The Statewide Bacteria Provisions establish statewide bacteria objectives for the protection of the REC-1 beneficial uses. For non-saline surface waters (which is what is present in the Laguna de Santa Rosa and Santa Rosa Creek where the City discharges), the bacteria objective is based on *Escherichia coli* (*E. coli*) bacteria as a six-week rolling geometric mean not to exceed 100 colony forming units (cfu) per 100 milliliters (mL), calculated weekly, and a statistical threshold value (STV) of 320 cfu/100 mL not to be exceeded by more than 10 percent of the samples collected in a calendar month, calculated in a static manner. U.S. EPA has determined through epidemiological studies and statistics that both of the fecal indicator bacteria (FIB) *E.coli* and enterococcus can be tied to 1 in 1,000 risk to human health associated with REC-1 contact. For the adoption of the 2018 statewide objectives State Board selected *E.coli* for statewide application of an objective for FIB. The *E. coli* objective is established in the Proposed Permit it is applicable to protection of the REC-1 beneficial use in freshwater (where salinity is less than 1 part per thousand 95% or more of the time) based on scientific studies. Santa Rosa discharges to freshwater. The enterococcus objective is applicable to saline waters.

The Action Plan for the Russian River Watershed Pathogen TMDL (TMDL Action Plan) and Prohibition of the Discharge of Fecal Waste Materials adopted by the Regional

Water Board as an amendment to the Basin Plan on August 14, 2019 includes a Program of Implementation designed to control fecal waste pollution, achieve bacterial water quality objectives, and restore the water contact recreation (REC-1) beneficial use to protect public health within the Russian River watershed. The TMDL Action Plan establishes wasteload allocations (WLAs) for point source discharges and load allocations (LAs) for nonpoint source discharges based on the Statewide Bacteria Provisions.

The TMDL Action Plan identifies wastewater holding pond discharges to surface waters as a special area of concern due to the potential for regrowth of bacteria in these ponds and states that the Regional Water Board will begin to conduct reasonable potential analyses based on information submitted by the implementing party for entities that discharge wastewater from wastewater holding ponds to surface water. For discharges with reasonable potential to cause or contribute to an exceedance of the WLAs, water quality-based effluent limitations will be established in the applicable waste discharge requirements that will ensure compliance with WLAs for bacteria. This Proposed Permit requires the Permittee to monitor for *E. coli* bacteria for discharges from storage ponds to surface waters and to conduct a Pathogen Special Study in order to develop data needed to assess whether or not the Permittee's discharge is a source of pathogens as defined in the TMDL Action Plan. If there is reasonable potential for pond discharges to exceed the *E. coli* bacteria water quality objectives, the Permittee is required to submit a pathogen source study plan by the end of the term of the Proposed Permit to determine if bacteria discharged from the storage ponds is of human origin and, if so, *E. coli* effluent limitations for discharges from the storage ponds would be established in the next permit.

For direct discharges from the Facility to surface waters, the total coliform effluent limitations derived from Title 22 requirements for disinfected tertiary recycled water would apply to the direct discharges from the Facility to surface waters and would be sufficient to ensure compliance with WLAs for *E. coli* bacteria because the Title 22 total coliform limitations are more stringent than the applicable *E. coli* bacteria water quality objectives.

No changes were made to the Proposed Permit in response to this comment.

RRWPC Comment 7: Are copper limits called for in the permit protective of steelhead olfactory migrational senses?

Response to RRWPC Comment 7: Water quality standards for copper in the California Toxics Rule (CTR) were established by the U.S. EPA after considerable technical input and a lengthy public participation process and were based on best available science. If new information becomes available in the future that support the basis for the U.S. EPA to modify the water quality standard for copper, discharge requirements will be reviewed and revised, if appropriate.

No changes were made to the Proposed Permit in response to this comment.

RRWPC Comment 8: Is wastewater recycling allowed in winter? What are circumstances and limitations?

Response to RRWPC Comment 8: Note that this is not a comment that affects the NPDES permit directly as the City of Santa Rosa and Rohnert Park are both enrolling their recycled water programs under the Recycled Water General Order. Staff are noting this concern here to demonstrate that the comments have been considered.

There are no prohibitions against recycling in the winter. Order No. R1-2013-0001 and the Recycled Water General Order prohibit the use of recycled water for irrigation during periods when soils are saturated and requires that uses of recycled water with frequent or routine application (for example: agricultural or landscape irrigation uses) to be at agronomic rates. During dry winter periods, the use of recycled water for irrigation uses would be allowed, provided that these conditions are met and that all other requirements in the Recycled Water General Order are complied with.

No changes were made to the Proposed Permit in response to this comment.

RRWPC Comment 9: Discharge Prohibition III.H states that, "…peak weekly wet weather flow of waste through Facility shall not exceed 64 mgd and peak monthly wet weather flow….shall not exceed 47.3 mgd." Yet Other Requirement IV.D.2 states, "…the maximum tertiary filter flow shall not exceed 90.7 mgd. Is this a contradiction? If not, how does this work?

Response to RRWPC Comment 9: The flow rate prohibitions identified in Section III.H of the Draft Permit are not contradictory. Wastewater treatment plant processes are designed based on different averaging periods. Wastewater treatment plants can sustain higher flows for short periods of time. The maximum tertiary filter flow is the largest volume of flow to be received during a continuous 24-hour period. The wastewater treatment plant processes are not designed to sustain the maximum flow for longer periods of time, thus as the averaging interval increases (to weekly or monthly), the average amount of wastewater that can be processed over those longer intervals will be less.

No changes were made to the Proposed Permit in response to this comment.

RRWPC Comment 10: Section IV.D.4 (Disinfection Process Requirements) discusses virus removal. RRWPC has heard mixed messages on whether coronavirus gets removed from wastewater. Has the Subregional system been able to remove coronavirus? Since this is a recent issue, can we request a specific requirement that a study be done on whether it is removed or not, and to what degree?

Response to RRWPC Comment 10: The coronavirus issue is far broader than this individual permit. Many studies are being conducted to determine whether coronavirus is inactivated during wastewater disinfection and also to evaluate whether its presence in wastewater influent or sludge can be used as an indicator of its presence in a community. See also the response to RRWPC's Comment 6, above (7th paragraph).

No changes were made to the Proposed Permit in response to this comment.

RRWPC Comment 11: Section V.A.12 (Receiving Water Limitations). Is there any monitoring or are there any studies indicating that pesticides are adversely affecting beneficial uses? Pilot Monitoring of Constituents of Emerging Concern from 2015, found some pesticides in tributary creeks to Laguna (Santa Rosa Creek?) How do you know if the pesticides reside in the soils if no further monitoring is taking place? What is happening with this? Any follow up?

Response to RRWPC Comment 11: Receiving Water Limitation V.A.12 is a standard limitation in all NPDES permits. The Proposed Permit requires monitoring for CTR priority pollutants twice per year in the Permittee's disinfected tertiary effluent, whether or not the Permittee discharges to surface waters. No pesticides were found in the Permittee's monitoring data collected during the term of the 2013 NPDES permit.

In March 2016, the report titled Pilot Monitoring of Constituents of Emerging Concern (CEC) in the Russian River Watershed (Region 1) was published by the Surface Water Ambient Monitoring Program. Water and sediment samples were collected from eight locations in the Russian River watershed and wastewater samples were collected from two wastewater treatment plants. Several pesticides were included in the list of pollutants analyzed in this study. The study recommended further monitoring for PFOS and a few select pesticides.

The Surface Water Ambient Monitoring Program's (SWAMP) Stream Pollution Trends (SPoT) Monitoring Program conducts monitoring for toxicity and pollutant chemistry (including some pesticides) at selected stations in major watersheds throughout California. SWAMP recently released its 10 year report titled *Spatial and Temporal Trends in Toxicity and Chemical Contamination Relative to Land Use in California Watersheds: Stream Pollution Trends (SPoT) Monitoring Program Fifth Report*. This report summarizes and analyzes toxicity and pollutant chemistry data generated by the SPoT Monitoring Program between 2008 and 2017, including one site in the Laguna de Santa Rosa and one in the Russian River. The report states that sediment samples were tested and analyzed in the context of watershed land use to understand the nature of identified water pollution and its trends. The report further states "Sediments deposited at the base of these watersheds integrate contaminants transported from land surfaces throughout the drainage area. Chemical analyses of sediment combined with sediment toxicity testing allow an assessment of water quality trends in these watersheds and throughout the state. When combined with land-use characterizations, SPoT data provide water quality managers with essential information about how land use affects water quality". The report includes this statement regarding the Russian River: "Samples from the Russian River (114RRDSDM) had the highest average pyrethroid concentrations of any SPoT site in Region 1, but overall, this region has the lowest pesticide concentrations in the state."

No additional monitoring or studies are proposed as part of this permit due to the absence of pesticides found in effluent samples collected by the Permittee during the previous permit term and that additional sampling of the surface waters is most appropriately down through special studies such as the ones cited in this response.

No changes were made to the Proposed Permit in response to this comment.

RRWPC Comment 12: Provision VI.A.2 b. (Regional Water Board Standard Provision). This provision lists numerous violations and requires that Regional Water Board be notified within 24 hours of any spill or irrigation overflow. No mention is made of any action to be taken after that point. I recall notifying Regional Water Board in 2012 and 2013 of many spills in the Stony Point Rd. area and also various locations in Rohnert Park and I don't recall if any enforcement action was taken. In looking at Regional System's spill report of the second quarter for 2019, I notice that the spills reported appear to be at some of the same locations as I had reported eight years earlier. What good is the monitoring and reporting if the offense never ends? I would like to advocate enforcement of this practice.

Response to RRWPC Comment 12: The Proposed Permit is applicable to recycled water production and storage but not to recycled water distribution and use. Recycled water distribution and use is addressed in the cities of Santa Rosa and Rohnert Park's respective enrollments under the Recycled Water General Order. As stated in response to RRWPC's Comment 4, above, in most instances and in particular for this case, the Regional Water Board supports the principle of progressive enforcement. Staff notified Rohnert Park of overspray and insufficient site drainage conditions observed at some of recycled water use sites. These observations were recorded as Title 22 violations. We will continue to work cooperatively with Rohnert Park to ensure compliance with permit requirements and if this approach proves ineffective, take on a formal enforcement approach.

No changes were made to the Proposed Permit in response to this comment.

RRWPC Comment 13: Provision VI.C.2.f (Disaster Preparedness Report and Action Plan). During floods, natural conditions in Laguna cause it to backup to Delta Pond and other facilities of the treatment system. RRWPC requests that the City be required to submit information on staffing needs to protect the various facilities during crisis conditions. It would also be helpful to know how the facility might cause diminished capacity of the Laguna to store Russian River water during floods and to what extent that exacerbates flooding conditions in lower river.

Response to RRWPC Comment 13: The Regional Water Board agrees that proper resource management, including staffing requirements, are an important part of any emergency procedure or contingency plan developed as part of the Disaster Preparedness Assessment Report and Action Plan. These control measures include staffing information to be utilized during emergency conditions, but due to the varying magnitude and complexity for any given situation, the designation of a numerical staffing requirement is less appropriate than allowing the trained incident supervisor to evaluate a given situation and delegate resources as needed to respond appropriately.

The extent that any discharge would exacerbate flooding conditions in the Lower Russian River is a rhetorical concern as the Laguna Treatment Plant minimizes any discharge to surface waters, and the discharge volume is diminutive in comparison to the Russian River flow. However, the Disaster Preparedness Assessment Report and Action Plan specifically require the Permittee to conduct an assessment of the

wastewater treatment facility, operations, collection, and discharge systems to determine areas of short- and long-term vulnerabilities related to natural disasters and extreme weather, including floods, and will provide insight to how the treatment plant will change its operation during floods and other emergency conditions.

No changes are proposed in response to this comment.

D. Coast Action Group (CAG) Comment

CAG Comment 1: Alan Levine of Coast Action Group submitted an email that states "I feel more confident in the Santa Rosa NPDES permit and the relationship with the Nutrient Offset Program - which has potential for restorative processes on the Laguna de Santa Rosa. With respect to the comments I submitted, I have no issues.

Response to CAG Comment 1: Staff spoke with Alan Levine and confirmed that he has no particular comments regarding the Proposed Permit. He appreciated Staff contacting him, and he confirmed that he believes that the permit requirements related to addressing phosphorus are likely to have positive results for the Laguna de Santa Rosa.

E. Staff Initiated Changes

The following section describes changes made to the Proposed Permit by Staff based on information or considerations of Staff after the Draft Permit was released for public comment.

1. Changes to CTR Priority Pollutant Monitoring Timing and Frequency

   The monitoring frequency for CTR priority pollutant monitoring has been changed in Tables E-4, E-5, E-6, and E-8 of the Proposed Permit. Staff recognized the need for this change while working on a response to the Permittee's Comment 6 that questioned the findings of reasonable potential for several CTR priority pollutants. While reviewing the data for pentachlorophenol and 4,4-DDD, Staff realized that findings of reasonable potential were made for these two pollutants based on data that was collected during periods when the Permittee did not discharge, nor would be expected to discharge. Staff determined that it would be appropriate to change the monitoring timing and frequency to ensure that data collected for CTR Priority Pollutants will represent the character of the Permittee's effluent during the discharge season. Due to the intermittent and infrequency nature of the Permittee's discharges, Staff determined that it is important to ensure that some data is collected each year of the permit term regardless of whether the Permittee discharges in a given year. Therefore, the revised monitoring requirements for CTR priority pollutants apply at Monitoring Location EFF-001 whether or not the Permittee discharges in a given year to ensure that adequate data is collected during the permit term at Monitoring Location EFF-001 since that monitoring location represents the quality of the effluent that is both transferred to storage for potential

future discharge and for direct discharges to surfaces waters at Discharge Points 006A, 012A, and 015. Monitoring at all discharge locations from storage only apply if there is a discharge to surface waters.

The Proposed Permit has been modified as follows:

- Table E-4 has been modified to change the monitoring frequency from quarterly to twice per year for CTR Priority Pollutants.
    - Table Note 8 regarding accelerated monitoring has been modified to apply to twice per year monitoring frequency. The first sentence of Table Note 8 reads: "Accelerated monitoring (monthly and twice per year monitoring frequency)."
    - A new Table Note 15 has been added to read: "Monitoring for CTR priority pollutants shall occur at least two times per year. The sampling shall coincide with such discharges whenever they occur. If no discharges occur, sampling must be conducted between the months of December and April to ensure that representative data is available to assess reasonable potential."

- Tables E-5, E-6, and E-8 have also been modified to change the monitoring frequency from quarterly to twice per year for CTR Priority Pollutants.
    - A new table note has been added to each table (Table Note 10 in Table E-5, Table Note 11 in Table E-6, and Table Note 8 in Table E-8), has been added to read: "Monitoring for CTR priority pollutants shall occur at least two times per year between the months of December and April during periods of discharge to surface waters."

2. Self-Monitoring Report Submittal Frequency Change

The State Water Board Division of Drinking Water Title 22 Report acceptance letter (February 12, 2020) stated that DDW staff want the Permittee to submit recycled water production data monthly. This is due to the fact that the Permittee has an aging UV disinfection system that has had excursions of Title 22 limits that apply to disinfection systems. The Proposed permit has been modified to change the SMR report submittal frequency from quarterly to monthly. MRP sections V.B.9, IX.A.1.c.i, IX.A.1.c.ii, IX.A.2.a, IX.A.2.c.i, IX.A.2.c.ii, IX.B.1.c, IX.C.1, X.B.2, X.B.4 (Table E-10), and X.C.1 reflect this change in the Proposed Permit.

Attachment to Santa Rosa Response to Comments Document

June 14, 2013 Memorandum titled:

Summary of TMDL Development Data Pertaining to Nutrient Impairments in the Laguna de Santa Rosa Watershed

TO: Charles Reed, Core Regulatory Unit
Cathleen Goodwin, Core Regulatory Unit
Mona Dougherty, Core Regulatory Unit Supervisor
David Leland, Watershed Protection Division Chief
David Rice, Office of Chief Counsel

FROM: Rebecca Fitzgerald, TMDL Unit Supervisor

DATE: June 14, 2013

SUBJECT: SUMMARY OF TMDL DEVELOPMENT DATA PERTAINING TO NUTRIENT IMPAIRMENTS IN THE LAGUNA DE SANTA ROSA WATERSHED

INTRODUCTION

The purpose of this memorandum is to summarize information and data analyzed by staff to date for the development of the Laguna de Santa Rosa Total Maximum Daily Loads (TMDLs) for phosphorus, nitrogen, dissolved oxygen, temperature and sediment – as such are relevant to the development of National Pollutant Discharge Elimination System (NPDES) permits for the City of Santa Rosa Subregional Water Reclamation System and for the Town of Windsor Wastewater Treatment, Reclamation, and Disposal System.

The greater Laguna de Santa Rosa watershed consists of the Laguna de Santa Rosa, Santa Rosa Creek, and Mark West Creek hydrologic subareas (HSAs), as mapped in the Water Quality Control Plan for the North Coast Region (NCRWQCB 2011), also known as the Basin Plan.

The information and data summarized herein primarily pertain to the nutrient impairments and the nutrient assimilative capacity of the mainstem of the Laguna de Santa Rosa (hereinafter mainstem Laguna, which approximately begins in the City of Cotati and flows north to its confluence with Mark West Creek) and the lower portion of the mainstem of Mark West Creek (hereinafter, lower Mark West Creek, from its confluence with the mainstem Laguna to its confluence with the Russian River).

STATUS OF LISTINGS AND TMDL DEVELOPMENT

On October 11, 2011, the United States Environmental Protection Agency (USEPA) provided final approval of the most current Clean Water Act (CWA) Section 303(d) list of impaired water bodies prepared by the State of California. The list identifies the entire Russian River watershed, including the Laguna de Santa Rosa, Santa Rosa Creek, and Mark West Creek HSAs, as impaired by excess sediment and elevated water temperatures. In addition, Santa Rosa Creek, the Laguna de Santa Rosa, and portions of the Lower Russian River are identified as impaired by pathogenic indicator bacteria, and the Laguna de Santa Rosa is identified as impaired by low dissolved oxygen, nitrogen, phosphorus, and mercury.

TMDLs for nitrogen, ammonia, and dissolved oxygen were approved by the USEPA in 1995 in the form of the Waste Reduction Strategy for the Laguna de Santa Rosa (Morris 1995). The Waste Reduction Strategy called for the reduction of nitrogen loads to address ammonia toxicity concerns along the mainstem Laguna and lower Mark West Creek. The Strategy was implemented via improvements to municipal wastewater treatment facilities and dairy management practices in the greater Laguna watershed. These improvements are the likely cause of observed reductions in nutrient and ammonia concentrations in the mainstem Laguna between the late 1990s and early 2000s (Sloop et al. 2007).

Regional Water Board staff are currently developing new TMDLs for nitrogen, phosphorus, dissolved oxygen, temperature, and sediment in the greater Laguna de Santa Rosa watershed to address continuing water quality impairments. These TMDLs will apply to all water bodies in the Laguna de Santa Rosa, Santa Rosa Creek, and Mark West Creek HSAs. These TMDLs are estimated to be completed in 2016.

Regional Water Board staff are also currently developing a pathogen TMDL to address indicator bacteria impairments in the Russian River, the Laguna de Santa Rosa, and the Santa Rosa Creek watersheds. The pathogen TMDL is estimated to be completed in 2016. Development of a mercury TMDL for the Laguna de Santa Rosa is not yet scheduled.

SUMMARY OF NUTRIENT DYNAMICS AND IMPAIRED CONDITIONS

Nitrogen compounds (ammonia, nitrate, nitrite, and dissolved organic nitrogen) and phosphorus compounds (phosphate, particulate phosphorus, and dissolved phosphorus) in surface waters can stimulate the growth rates of algae and macrophytes, as well as increase the activity rates of bacteria and fungi. The overabundance of nitrogen and phosphorus compounds in surface water systems can result in the excessive growth and decay of these organisms, thus accelerating the process of eutrophication, especially in lake-like waters. This biostimulatory condition leads to the lowering of dissolved oxygen levels below concentrations needed for the survival and health of fish and aquatic life, negatively affects the aesthetic quality of water bodies, and impairs beneficial uses.

While nutrient inputs to an aquatic system significantly contribute to biostimulatory conditions, there are other contributing factors. These include physical factors that influence the mixing and aeration of water, such as wind, temperature, channel geometry, and water flow rates.

Available data and other information suggest that harmful biostimulatory conditions are present in the mainstem Laguna and lower Mark West Creek, including: elevated amounts of nutrients in the water column and in aquatic sediments, elevated levels of chlorophyll *a*, low dissolved oxygen levels, and the extensive presence of benthic macrophytes (including *Ludwigia* sp.) These reaches, as well as other water bodies in the greater Laguna de Santa Rosa watershed, are also facing significant water quality problems due to high levels of instream sedimentation, hydrologic and physical habitat changes, and high water temperatures.

In addition to being a causative agent of an aquatic system's biostimulatory response, excessive amounts of nitrogen can also contribute to instream ammonia toxicity, as described by Butkus (2013). Ammonification is the process by which nitrogen compounds are converted to ammonia, which is toxic to fish and aquatic life in its unionized form. High concentrations of total nitrogen can lead to high levels of ammonia toxicity, especially where instream temperatures and pH levels are high. Available data suggest that conditions present in the mainstem Laguna and lower Mark West Creek do not exceed current standards for acute ammonia toxicity.

SUMMARY OF APPLICABLE WATER QUALITY STANDARDS RELATED TO NUTRIENT IMPAIRED CONDITIONS

Biostimulatory Substances

The Basin Plan contains a narrative water quality objective for biostimulatory substances that states: "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." In order to interpret this narrative objective, Regional Water Board staff evaluate several chemical and biological indicators against numeric threshold values. These include numeric criteria for phosphorus, nitrogen, and chlorophyll *a* concentrations, as well as numeric Basin Plan water quality objectives for dissolved oxygen. Regional Water Board staff also use macroyphyte cover as a secondary indicator of impairment.

In the early 2000s, the USEPA proposed new total phosphorus, total nitrogen, and chlorophyll *a* criteria for rivers and streams (USEPA 2000) and for lakes and reservoirs (USEPA 2001) based on aggregate ecoregions. Table 1 shows the applicable criteria proposed for Aggregate Nutrient Ecoregion III, which includes the greater Laguna de Santa Rosa watershed. The criteria were empirically derived to represent reference conditions for surface waters, and are based on 25th percentiles of all nutrient data in Aggregate Nutrient Ecoregion III.

Table 1. USEPA Biostimulatory Substance Criteria

Constituent	(Lentic) Criteria for Lakes & Reservoirs	(Lotic) Criteria for Rivers & Streams
Total Phosphorus	0.017mg/L	0.02188 mg/L
Total Nitrogen	0.40 mg/L	0.38 mg/L
Chlorophyll *a*	0.0034 mg/L	0.00178 mg/L

In addition, the State Water Resources Control Board (State Water Board) developed evaluation guidelines for assessing biostimulatory conditions to identify impaired waters for the CWA Section 303(d) list (SWRCB 2007). For rivers and streams, State Water Board staff reviewed the California Nutrient Numeric Endpoint (California NNE) technical approach (Tetra Tech 2006) and four subsequent California case studies. For lakes and reservoirs, State Water Board staff reviewed published research of pollutant effects in freshwater lakes and reservoirs (Welch & Jacoby 2004, as cited in SWRCB 2007). These efforts resulted in the development of nutrient numeric screening tools for total nitrogen, total phosphorous, and chlorophyll *a* concentrations in California surface waters to interpret narrative Basin Plan water quality objectives, as shown in Table 2.

Table 2. California Biostimulatory Substance Criteria

Constituent	(Lentic) Criteria for Lakes & Reservoirs	(Lotic) Criteria for Rivers & Streams with COLD, REC, MUN, & SPWN Beneficial Uses	(Lotic) Criteria for Rivers & Streams with WARM Beneficial Uses
Total Phosphorus	0.100 mg/L	0.02 mg/L	0.08 mg/L
Total Nitrogen	1.200 mg/L	0.23 mg/L	0.52 mg/L
Chlorophyll *a*	0.005 mg/L	150 mg/m^2	200 mg/m^2

Dissolved Oxygen

The narrative water quality objective for biostimulatory substances is also interpreted by comparing dissolved oxygen concentrations to the numeric water quality objective for dissolved oxygen found in the Basin Plan. The objective states that dissolved oxygen levels shall not fall below 7.0 mg/L at any time, that 90% or more of all annual dissolved oxygen levels shall be equal to or exceed 7.5 mg/L, and that 50% or more of all annual dissolved oxygen levels shall be equal to or exceed 10.0 mg/L.

Ammonia Toxicity

The Basin Plan contains a narrative water quality objective for toxicity that states: "All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life."

Water quality criteria for toxicity due to ammonia concentrations in fresh water systems have changed over the last several decades (Butkus 2013). Regional Water Board staff currently rely on USEPA's recommended criteria from the 1999 Update of Ambient Water Quality Criteria for Ammonia (USEPA 1999) to interpret the Basin Plan's narrative objective for toxicity from ammonia. The USEPA recommends acute and chronic water quality criteria for the protection of aquatic life, which are expressed as mathematical formulas. The acute criterion varies depending on pH and on the presence or absence of salmonids. This criterion is expressed as the one-hour concentration of total ammonia nitrogen that shall not be exceeded more than once every three years. The chronic criterion varies depending on pH, water temperature, and the presence or absence of early life stages of fish. This criterion is expressed as the thirty-day average concentration of total ammonia nitrogen that shall not be exceeded more than once every three years. Examples of the acute criteria are presented in Table 3.

Table 3. Acute Toxicity Criteria for Total Ammonia Nitrogen (Criterion Maximum Concentration)

pH	Salmonids Present	Salmonids Absent
7.0	24.1 mg/L	36.1 mg/L
8.0	5.62 mg/L	8.4 mg/L
9.0	0.885 mg/L	1.32 mg/L

SUMMARY OF EXCEEDENCES OF WATER QUALITY OBJECTIVES FOR BIOSTIMULATORY SUBSTANCES

As previously stated, available data and other information suggest that harmful biostimulatory conditions are present in the mainstem Laguna and lower Mark West Creek, as demonstrated by elevated amounts of nutrients in the water column and in aquatic sediments, elevated levels of chlorophyll *a*, low dissolved oxygen levels, and the extensive presence of benthic macrophytes. The following sections provide evidence of elevated amounts of nutrients (i.e., total nitrogen and total phosphorus) in the water column.

Instream water samples for nutrients and other indicators of biostimulatory conditions have been collected in the mainstem Laguna and other watershed locations since the 1970s. Regional Water Board staff reviewed data and analyses presented by Otis (1990), NCRWQCB (1992), Church and Zabinsky (2005), Sloop et al. (2007), and NCRWQCB (2008), among others, to determine the overall status and trends of total nitrogen and total phosphorus concentrations over time in the greater Laguna watershed.

Nitrogen Levels Exceed Biostimulatory Substances Criteria

Using data from the studies referenced above, Figure 1 presents total nitrogen concentrations measured since 1989 at the four TMDL attainment locations established in the Waste Reduction Strategy for the Laguna de Santa Rosa (Morris 1995), which are located in the mainstem Laguna at Stony Point Road, at Occidental Road, and at Guerneville Road, and in lower Mark West Creek at Trenton-Healdsburg Road.

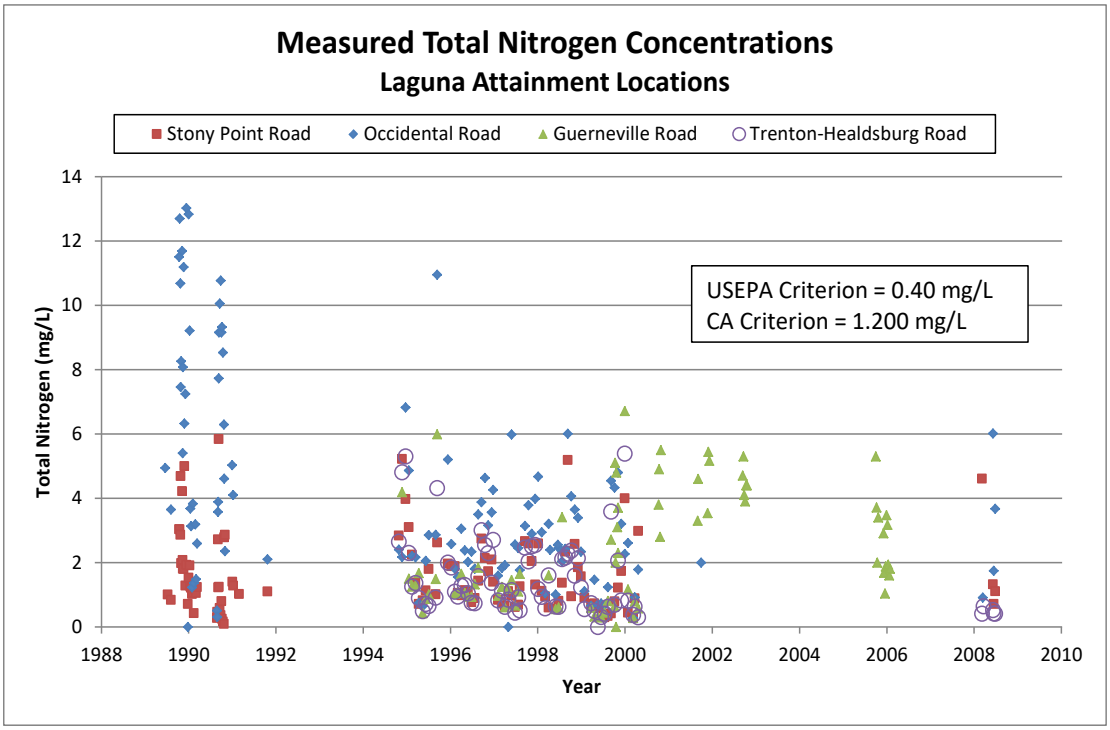

Figure 1. Total Nitrogen Concentrations Measured in the Laguna de Santa Rosa

Data presented in the Figure 1 reveal apparent reductions in total nitrogen concentrations since the late 1980s. However, concentrations measured most recently continue to exceed applicable water quality standards, as summarized in Table 4. In fact, total nitrogen concentrations in 100% of the 42 samples collected and analyzed at the four TMDL attainment locations during the period 2001-2010 exceed the USEPA criterion of 0.40 mg/L, and concentrations in 79% of the samples exceed the California criterion of 1.200 mg/L.

Table 4. Total Nitrogen Concentration Criteria Exceedence Rates in the Laguna de Santa Rosa

Location	Period	# of Samples	Median Total Nitrogen Concentration (mg/L)	Percent Greater than USEPA Criterion (0.40 mg/L)	Percent Greater than CA Criterion (1.200 mg/L)
Laguna TMDL Attainment Locations	1989-1994	84	2.750	93%	76%
	1995-2000	251	1.460	96%	57%
	2001-2010	42	3.235	100%	79%

Phosphorus Levels Exceed Biostimulatory Substances Criteria

Using data from the studies referenced above, Figure 2 presents total phosphorus concentrations measured since 1972 at the four TMDL attainment locations established in the Waste Reduction Strategy. These data reveal large reductions in total phosphorus concentrations since the 1970s, which are likely due to significant improvements to municipal wastewater treatment facilities and dairy management practices over the last several decades. Figure 3 presents total phosphorus concentrations measured since 1984, demonstrating that reductions appear to continue to decline over more recent time periods.

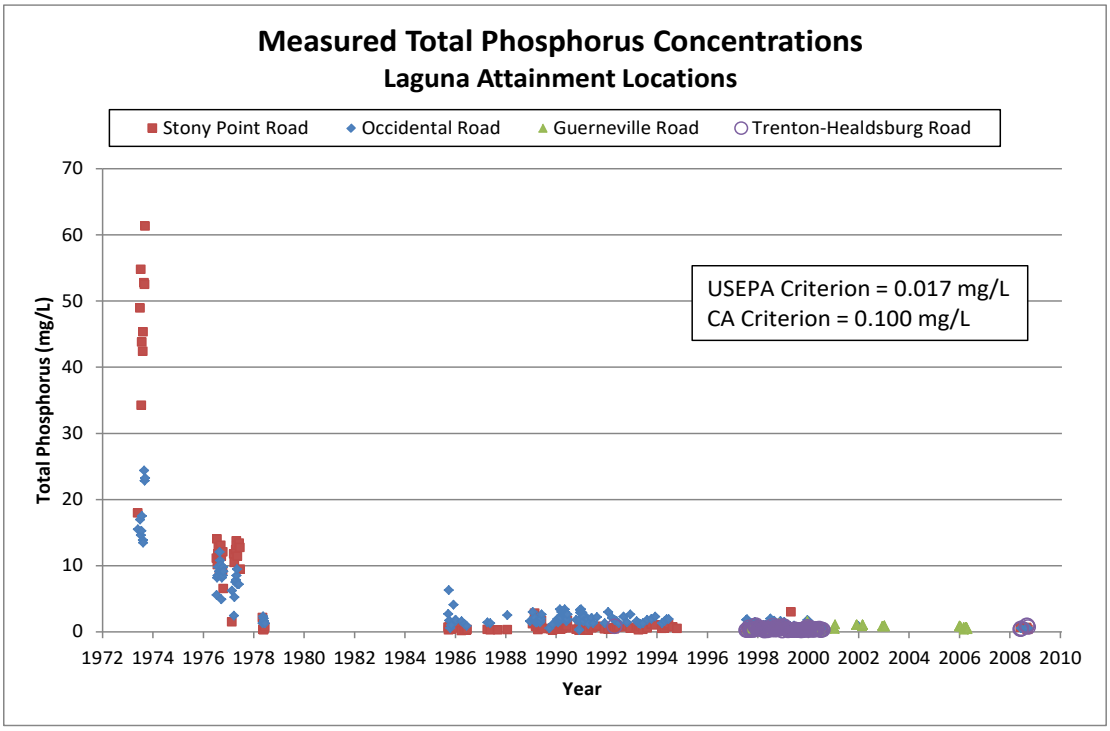

Figure 2. Total Phosphorus Concentrations Measured in the Laguna de Santa Rosa since 1972

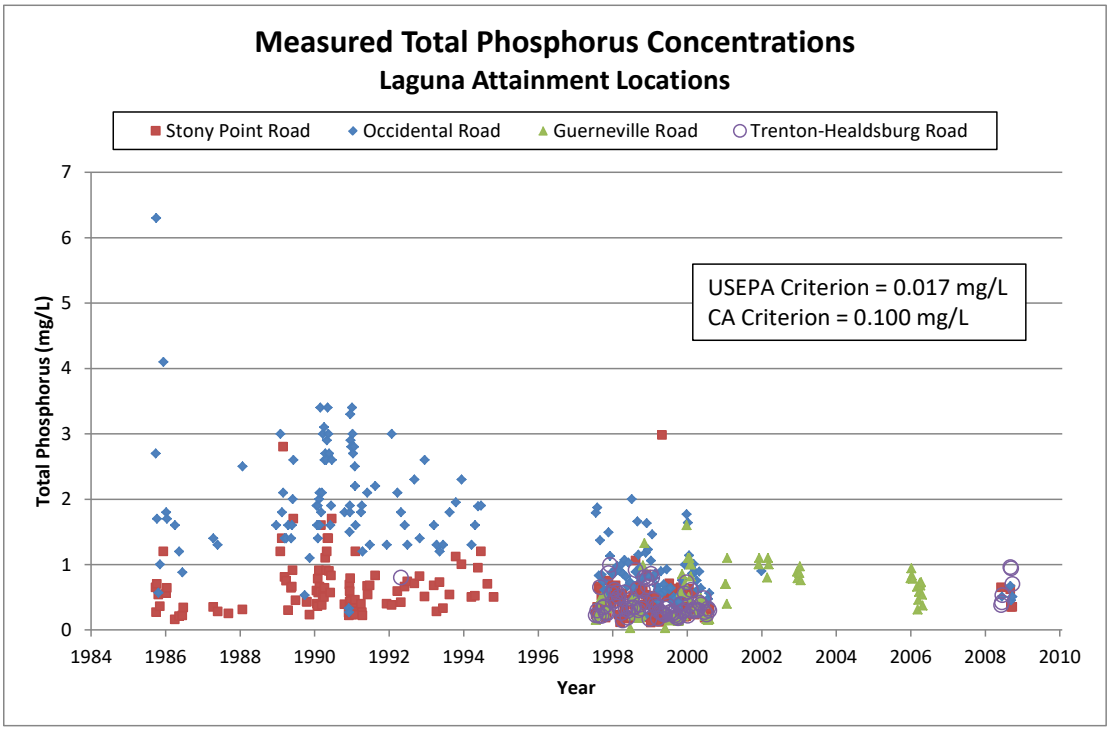

Figure 3. Total Phosphorus Concentrations Measured in the Laguna de Santa Rosa since 1985

While data presented in the above figures indicate substantial reductions in total phosphorus over time, concentrations nonetheless continue to far exceed applicable water quality standards, as summarized in Table 5. In fact, total phosphorus concentrations in 100% of the 43 samples collected and analyzed at the four TMDL attainment locations during the period 2001-2010 exceed both the USEPA criterion of 0.017 mg/L and the California criterion of 0.100 mg/L.

Table 5. Total Phosphorus Concentration Criteria Exceedence Rates in the Laguna de Santa Rosa

Location	Period	# of Samples	Median Total Phosphorus Concentration (mg/L)	Percent Greater than USEPA Criterion (0.017 mg/L)	Percent Greater than CA Criterion (0.100 mg/L)
Laguna TMDL Attainment Locations	1970-1984	81	10.440	100%	100%
	1985-1994	191	1.200	100%	100%
	1995-2000	291	0.430	100%	100%
	2001-2010	43	0.700	100%	100%

Phosphorus Levels Limit Biomass Production and Contribute to Biostimulatory Conditions

In addition to analyzing nutrient data measured in the Laguna de Santa Rosa over the last three decades, Regional Water Board staff reviewed scientific literature regarding nutrient limitations on biomass production (Butkus 2012a), including the *Report to Russian River Watershed Protection Committee and City of Santa Rosa on Phosphate Loading and Eutrophication in the Laguna de Santa Rosa* (Wickham and Rawson 2000) which states

> Limnologists widely regard phosphate as the predominant limiting nutrient for plant production in freshwater ecosystems. While other nutrients combine with phosphate to fulfill the metabolic needs of plants, such as nitrogen, sulfur, iron, and various other mineral and organic compounds, phosphate is typically the compound that is in lowest availability in free form. Where all available phosphate has been consumed in the course of the production cycle, plant growth stops. This can occur even though all other nutrients, including nitrogen, remain abundant. (p. 1)

Staff conclude that reductions of phosphorus loads are needed to control the amount of algal biomass production and reduce the adverse effects of eutrophication in the mainstem Laguna and lower Mark West Creek. This conclusion is based on the scientific literature and the widespread presence of *Azolla filiculoides* (a native water fern) in the mainstem Laguna de Santa Rosa and lower Mark West Creek, which severely limits the effectiveness of controlling nitrogen loads because of its role in converting atmospheric nitrogen through nitrogen fixation. Wickham and Rawson (2000, p 6) expand upon this concept by saying:

> Nitrogen, however, can never be completely controlled since it is available from numerous other sources, including natural ones. Nitrogen oxides are readily available from polluted air typical of an urbanized area such as the Santa Rosa Plain. Many species of photosynthetic bacteria and blue-green algae are nitrogen fixers capable of drawing nitrogen in molecular form from the atmosphere and incorporating it into plant tissue as they photosynthesize. The attempt to limit nitrogen in the Laguna, while a worthy goal for many reasons, is potentially fruitless if it is the sole nutrient being addressed.

Preliminary TMDL linkage analysis and modeling results support the conclusion that total phosphorus concentrations limit algal biomass production in the Laguna de Santa Rosa (Butkus 2012b). Results of water quality modeling indicate that aquatic sediments are highly enriched with organic material, which results in a relatively high sediment oxygen demand (SOD). SOD is caused by the oxidation of organic matter in benthic sediments. Sources of organic matter in sediments include leaf litter, soil entering the water body through erosion and deposition, particulate matter from wastewater discharges, and deposition of algal and macrophyte biomass. Regardless of the source, the oxidation of deposited benthic organic matter will exert a SOD on the water body.

Regional Water Board staff has established linkages between the total phosphorus concentration, algal biomass, carbonaceous biochemical oxygen demand (CBOD), and SOD.

According to the assessment, algal biomass contributes to CBOD in the water column, which upon senescence and settling, contributes to the SOD. In the mainstem Laguna and lower Mark West Creek, total phosphorus concentrations limit both phytoplankton and benthic algal biomass. Reductions in total phosphorus concentrations are therefore expected to reduce algal biomass, CBOD, and SOD, which is the primary driver of low dissolved oxygen in the water column.

Although the Laguna de Santa Rosa TMDLs are not yet fully developed, the evidence is clear that biostimulatory conditions exist and that instream phosphorus concentrations contribute to those conditions. Currently, the mainstem Laguna and lower Mark West Creek have no apparent capacity to assimilate additional phosphorus loads without continuing to exceed the Basin Plan's water quality objective for biostimulatory substances.

Nitrogen Levels Contribute to Biostimulatory Conditions

While phosphorus concentrations are the most important nutrient for algal biomass production and a have direct relationship to sediment oxygen demand, which is a primary driver of low dissolved oxygen levels, nitrogen concentrations can cause short-term algal growth. The exceedences of nitrogen biostimulatory criteria in the mainstem Laguna and lower Mark West Creek indicate that instream nitrogen concentrations likely contribute to the biostimulatory condition.

SUMMARY OF EXCEEDENCES OF WATER QUALITY OBJECTIVES FOR AMMONIA TOXICITY

Ammonia Levels Do Not Exceed Criteria

Regional Water Board staff reviewed data and analyses presented by Otis (1990), NCRWQCB (1992), Morris (1995), Church and Zabinsky (2005), Sloop et al. (2007), and NCRWQCB (2008), among others, to determine the overall status and trends of total ammonia concentrations and ammonia toxicity over time in the greater Laguna watershed.

Using data from the studies referenced above, Figure 4 presents total ammonia concentrations measured since 1989 at the four TMDL attainment locations established in the Waste Reduction Strategy for the Laguna de Santa Rosa (Morris 1995). These data reveal apparent reductions in total ammonia concentrations since the late 1980s.

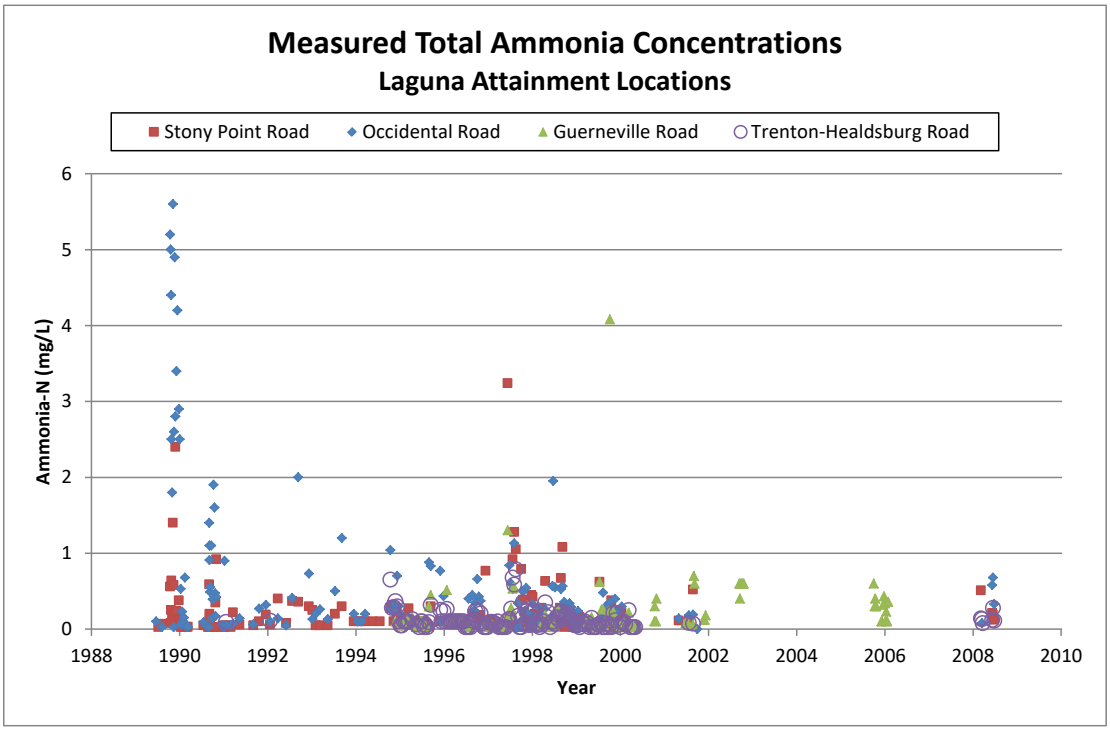

Figure 4. Total Ammonia Concentrations Measured in the Laguna de Santa Rosa since 1989

Regional Water Board staff coupled data presented in the above figure with corresponding (measured or inferred) water column pH values, and evaluated them against the 1999 USEPA criterion for acute ammonia toxicity, assuming the presence of salmonids. None of the measured ammonia concentrations exceed the current acute criterion, as summarized in Table 6. Staff are currently unable to conduct a similar evaluation against the 1999 USEPA criterion for chronic ammonia toxicity, due to lack of sufficiently frequent measurements during the sampled period.

Table 6. Acute Ammonia Toxicity Exceedence Rates in the Laguna de Santa Rosa

Location	Period	# of Ammonia Samples	Median Total Ammonia Conc. (mg/L)	Median pH	Percent Greater than 1999 USEPA Criterion
Laguna TMDL Attainment Locations	1989-1994	139	0.13	7.7	0%
	1995-2000	503	0.10	7.7	0%
	2001-2010	53	0.20	7.78	0%

CRITICAL CONDITIONS

The most critical conditions for dissolved oxygen concentrations and saturation levels - primary indicators of a biostimulatory condition – vary spatially along the length of the mainstem Laguna and lower Mark West Creek and also temporally throughout the year. Available data demonstrating these conditions are presented by Butkus (2011).

Available data show that dissolved oxygen concentrations and saturation levels increase and improve as water flows downstream from the upper portions of the mainstem Laguna toward the Russian River, although most measurements still do not meet the Basin Plan's water quality objective for dissolved oxygen of 7.0 mg/L.

In the greater Laguna de Santa Rosa watershed, the most critical conditions for biostimulatory impairment generally occur in the late summer. This is mainly due to the timing of the highest daily maximum air temperatures during the year, which cause higher water temperatures. High water temperatures lower the saturation potential for dissolved oxygen concentrations and increase the rates for many biochemical processes, which lower dissolved oxygen concentrations even further. This seasonal critical condition is readily observed in data from the mainstem Laguna at Occidental Road with lower dissolved oxygen concentration and saturation values in the summer and higher values in the spring and fall. Seasonal conditions at other locations vary and show dissolved oxygen concentrations at similar, low levels throughout the year.

HYDRAULIC/HYDROLOGIC PHENOMENA IN THE LAGUNA

There is evidence that during high flows in the Russian River, the mainstem Laguna and lower Mark West Creek back up, creating conditions causing the deposition of nutrient-laden solids. Sloop et al. (2007) describe the unique hydrology of the mainstem Laguna and lower Mark West Creek and conditions under which a flow restriction is created during flood events in the Russian River. Philip Williams & Associates (2004) describe the geologic outcrop in the area of the Trenton-Healdsburg Road crossing that limits the sediment transport capacity of the mainstem Laguna and lower Mark West Creek.

While there continue to be uncertainties regarding the dynamics of nutrient fate and transport in the mainstem Laguna and lower Mark West Creek, it is likely that winter discharges of phosphorus-laden particles into the water bodies of the greater Laguna watershed are captured and stored in the channels of the mainstem Laguna and lower Mark West Creek to become bioavailable later in the summer. Any such channel deposits therefore are likely to contribute to high levels of sediment oxygen demand, low levels of dissolved oxygen, and continued harmful biostimulatory conditions.

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