



**Response to Written Comments  
Draft Waste Discharge Requirements  
Order No. R1-2024-0004  
National Pollutant Discharge Elimination System (NPDES)  
for the  
Forestville Water District  
Wastewater Treatment, Recycling, and Disposal Facility  
Regional Water Quality Control Board, North Coast Region  
April 4-5, 2024**

**Comments Received**

The deadline for submittal of public comments regarding draft Waste Discharge Requirements for Order No. R1-2024-0004, National Pollutant Discharge Elimination System Order (Draft Permit) for the Forestville Water District (Permittee) Wastewater Treatment Facility (Facility) was January 11, 2024. Regional Water Board staff (Staff) received eight written comments within the allotted public comment period from the Permittee.

This Response to Comments document includes a summary of staff-initiated changes made to the Order. Text added to the Proposed Order is identified by underline and text to be deleted from the Proposed Order is identified by strike-through in this document. The term "Draft Order" refers to the version of the permit that was sent out for public comment. The term "Proposed Order" refers to the version of the order that has been modified in response to comments received and is being presented to the North Coast Regional Water Quality Control Board (Regional Water Board) for consideration.

**Forestville Water District Comments**

**Comment No. 1: Manganese Effluent Limitation.**

*The Draft Permit justifies an effluent limitation on manganese by stating that manganese is known to cause health effects in humans (p. F-40 of Draft Permit). However, manganese is a secondary contaminant per the EPA Secondary Drinking Water Standards, meaning it is not health threatening and limits are established only for aesthetic considerations such as taste, odor, and color.*

*The Draft Permit also states that the Basin Plan adopts drinking water MCLs, including secondary MCLs. However, the Basin Plan has adopted these limits in Section 3.3.3 for inland surface waters, enclosed bays, and estuaries. The limits*

*apply to receiving waters, not effluent. Given that effluent manganese concentrations exceeded the secondary MCL by only 1 µg/L, or 2%, it is unreasonable to believe that discharges from the FWD facility could cause receiving waters to exceed the MCL unless Jones Creek has high upstream concentrations of manganese.*

*It is requested that the effluent limit for manganese be removed from the final Permit. If manganese concentrations must be addressed in the Permit, despite not being health threatening, receiving water monitoring upstream and downstream of the discharge point, without an associated limit, could be included. Receiving water data could indicate if discharges have the potential to elevate manganese concentrations in Jones Creek above the MCL.*

### **Response to Comment No. 1:**

Manganese is an essential nutrient and enzyme cofactor that is naturally present in many foods and available as a dietary supplement, but despite its nutritional benefits, adverse health effects can be caused by over-exposure. There is substantial evidence that demonstrates that exposure to manganese at high levels can pose a neurotoxic risk (ATSDR, 2012; US EPA, 2004; WHO, 2004). Regional Water Board Staff recognize that the secondary standard for Manganese was established to address issues of aesthetics (discoloration), not health concerns.

As explained in Section 4.3 of the Fact Sheet to the Draft Permit, 40 C.F.R. section 122.44(d)(1)(i) requires that NPDES permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. The process for determining reasonable potential and calculating effluent limitations when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, among other requirements. During the reasonable potential analysis, the Regional Water utilizes the most stringent water quality objective to determine if the discharge has reasonable potential to cause or contribute to exceedances of water quality criteria. To determine whether effluent limitations are necessary, staff use the State Implementation Policy (SIP) Reasonable Potential Analysis for several non-priority pollutants, including manganese, as guidance. Using the methodology, if the maximum effluent concentration (MEC) exceeds an applicable water quality objective (C), then there is reasonable potential and an effluent limitation is needed.

As stated in the Section 4.3.3.4.3 of the Fact Sheet to the Draft Permit, the Basin Plan's chemical constituents objective adopts drinking water MCLs, including secondary MCLs in Table 64449-A (California Code of Regulations § 64449), which are applicable to waters designated as domestic or municipal supply. The Basin Plan has adopted these criteria in Section 3.3.3 for inland surface waters, enclosed bays, and estuaries, and the Russian River and its tributaries are designated for domestic or municipal supply.

Staff conducted the Reasonable Potential Analysis as described above, and based on the sampled effluent for manganese, concluded that there is reasonable potential. That's the case here, even though the MEC exceeds the C by only 1 ug/L.

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

**Comment No. 2: Dissolved Oxygen (DO) Receiving Water Limitation.**

*The Draft Permit has modified the receiving water limitations for DO under Section 5.1.1. The daily limit on DO concentration has increased from a minimum of 7.0 mg/L to 9.0 mg/L. Additionally, the DO is not to go below 11.0 mg/L on a 7-day rolling average. According to compiled monitoring results from 2012 to 2016, the average dissolved oxygen concentration in Jones Creek was 8.7 mg/L upstream of the discharge location, and 9.0 mg/L downstream. Taking this into account, an 11.0 mg/L average concentration is unrealistic. The Draft Permit includes a provision for when natural conditions make these limits unachievable (which is the case), site-specific background DO requirements may be applied to maintain 85% DO saturation during the dry season and 90% DO saturation during the wet season. However, assuming a water temperature of 10 degrees Celsius (50 degrees F) during the wet season and an atmospheric pressure of 1 atm, a 90% DO saturation translates to 10.16 mg/L. This limit is also unachievable given average upstream conditions. Furthermore, an upstream DO concentration of 4.39 mg/L was recorded in May 2019, with a downstream concentration higher than the upstream. Hence, the 6.0 mg/L all-time minimum limit is also unlikely to be achievable for this site. It is noted that receiving water conditions not in conformance with surface water limitations are not necessarily a violation of the Order. However, the Draft Permit does not clearly state that unchanged or improved receiving water quality downstream of the discharge would not result in a violation. Therefore, it is requested that language in Section 5.1 be revised to provide such clarification.*

**Response to Comment No. 2:**

The Draft Permit's receiving water limitations for DO are based on the water quality objective in the Basin Plan, Section 3.3.5. For waters designated for spawning, reproduction, and/or early development, which is applicable here, the daily minimum objective is 9.0 mg/L. and the seven-day moving average objective is 11.0 mg/L. As noted by the commenter, the Draft Permit includes a provision, based on the DO water quality objective within the Basin Plan, allowing the Board to apply site specific background requirements where DO requirements are unachievable due to natural conditions.

As stated in section 3.5 of the Fact Sheet to the Draft Permit, the Green Valley Creek watershed is listed as impaired in the 2018 303(d) List of Impaired Water Bodies. As noted in Comment No. 2 above, an upstream DO concentration of 4.39 mg/L was recorded in May 2019. This low DO concentration is an example of

Dissolved Oxygen impairment in the Green Valley Creek Watershed. A Total Maximum Daily Load has not been established for dissolved oxygen in this watershed. For the Permittee to discharge effluent of the same dissolved oxygen level could add to the total daily loading of this watershed, but the effect of such loading would need to be determined on a case-by-case basis.

Section 5.1 of the Draft Permit notes the following: "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 and/or consider other available information to determine cause and culpability prior to asserting that a violation has occurred." Here, additional analysis would be necessary to determine if the discharge is causing an exceedance of Surface Water Limitation 5.1.1.

The Regional Water Board finds it would be inappropriate to include definitive language stating that unchanged or improved receiving water quality downstream of the discharge would not result in a violation, as suggested by the Permittee.

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

**Comment No. 3: E. Coli Receiving Water Limitation.**

*The Draft Permit has implemented new limits on E. coli concentration in receiving water under Section 5.1.21, where previously there were no monitoring requirements for E. coli. There is no existing data on upstream E. coli concentration in Jones Creek, and therefore it is unclear whether the proposed limit is attainable. Additionally, the effluent storage pond is open to the environment and mammals may have access to the banks of the pond. E. coli samples at monitoring location EFF-002, treated wastewater discharged from the effluent storage pond to Jones Creek, could be artificially high because of this. It is requested that the effluent limitation for E. coli be removed from the final Permit. If the effluent limitation remains, it is requested that language to Section 5.1 is revised as discussed in Comment 2 above to resolve concerns related to the attainability of the proposed E. coli limits.*

**Response to Comment No. 3:**

Receiving water limitations for *E. coli* are necessary to comply with the statewide bacteria objective for the protection of beneficial use water contact recreation (REC-1); thus, the limitation shall be retained in the Proposed Permit. Additionally, the Draft Permit includes an effluent limitation for total coliform bacteria based on standards set forth in CCR, title 22, section 60301.225 for disinfected tertiary recycled water, which are more stringent than the *E. coli* standards set forth in the Statewide Bacteria Provisions.

See Response to Comment No. 2 regarding existing receiving water limitation compliance language within the Draft Permit.

The Draft Permit includes upstream receiving water monitoring for *E. coli* which will provide evidence whether the receiving water limit is being attained. The Regional Board agrees with the Permittee that it is unclear whether the limitation will be immediately attainable upon adoption of this Order, and this uncertainty is addressed with the implementation of the Pathogen Special Study required in the Draft Permit, Section 11.4.3 of Attachment E, Monitoring and Reporting Program (MRP). The Study Requires the Permittee to assess the Facility's ability to comply with the bacteria water quality objective in section 5.1.21 of the Draft Order and to submit a report that summarizes the results of the Permittee's ability to comply with the bacteria water quality objective. If the study concludes that bacteria water quality objectives cannot be met, the Permittee is required to submit a plan and schedule for achieving compliance with the bacteria objectives. If the Study concludes *E. coli* levels exceed water quality objectives in a storage pond as the result of wildlife, then the Permittee should demonstrate conclusively that the *E. coli* is not of human origin as a result of incomplete disinfection or regrowth.

No change has been made to the Proposed Order in response to this comment.

**Comment No. 4: Six-week Rolling Geometric Mean (*E. coli* bacteria).**

*In the definition of the six-week geometric mean in section 7.8.2, the minimum number of samples required is inconsistent. In the first sentence, it is stated that "the rolling geometric mean shall be calculated using at least 5 sample results over a 6-week period". Later in the section, it is stated that a "minimum of three samples over a six-week period is necessary to calculate the geometric mean". Additionally, the monitoring frequency of E. coli is weekly at monitoring location EFF-002 and monthly at monitoring locations RSW-001 and RSW-002, when discharging to surface waters. Frequently, the duration of a discharge event is less than 6 weeks and could result in less than 5 samples when monitored weekly. It is requested that the language in section 7.8.2 be revised to be consistent throughout the definition and clarify how the calculation should be performed when a discharge event is less than six weeks, resulting in less than five samples.*

**Response to Comment No. 4:**

The proposed permit has been modified as follows to clarify compliance determination for *E. coli* receiving water limitations.

**7.8.2 Six-week Rolling Geometric Mean (*E. coli* bacteria).** *The rolling geometric mean shall be calculated using at least 5 sample results over a 6-week period from a site using the following formula:*

$$\text{Geometric Mean} = \sqrt[n]{(x_1)(x_2)(x_3) \dots (x_n)}$$

*where x is the sample value and n is the number of samples taken.*

*A minimum of ~~three~~ five samples over a six-week period is necessary to calculate the geometric mean. When less than ~~three~~ five 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~~ five times during a six-week period, compliance shall be assessed by comparing the single sample results to the STV.*

**Comment No. 5: Disaster Preparedness Assessment Report.**

*The Draft Permit includes a requirement to prepare a Disaster Preparedness Assessment Report and Action Plan. Draft Monitoring Reporting Program (MRP) Section 11.4.2 states, “Natural disasters, extreme weather events, sea level rise, and shifting precipitation patterns, some of which are projected to intensify due to climate change, have significant implications for wastewater treatment and operations.” Weather projections and disaster scenarios which consider the effects of climate change generally present a range of outcomes depending on a range of future changes to global emissions and projection timelines. The limited description provided for the report does not indicate the climate projection scenario or magnitude of extreme weather events that the report must address. Specific disaster scenarios, example reports, or other more detailed guidance is requested.*

**Response to Comment No. 5:**

Regional Water Board staff are available to meet and discuss the specifics of this report and provide example reports to Forestville Water District Staff. The requirements are intentionally broad to allow for the Permittee to assess their own site-specific vulnerabilities. Regional Board staff are also available to review any draft documents the Permittee submits as the report is developed and can offer input and comments to ensure the Permittee has met all requirements before the final submission.

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

**Comment No. 6: Pathogen Special Study.**

*The Draft Permit includes a requirement to prepare a Pathogen Special Study. Draft MRP section 11.4.3 requires a Pathogen Special Study to assess “the Facility’s ability to comply with the bacteria water quality objective in section 5.1.21 of the Order and required actions outlined in Table 4 of the Russian River Watershed Pathogen TMDL Action Plan (TMDL Action Plan) adopted by the Regional Water Board in August 2019.” (p. F-75). The TMDL Action Plan has since been amended by the Regional Board in 2021. The “required actions” in Table 4 of the 2019 and 2021 versions of the Pathogen TMDL are actions to be taken by the Regional Board, leaving the action to be taken by FWD open to interpretation. If the intention is for FWD to evaluate their ability to comply with the*

waste load allocations (WLAs) for bacteria, that seems to be redundant to the bacterial water quality objective of 5.1.21.

Clarification of the elements of the TMDL Action Plan to be addressed in the Pathogen Special Study is requested. Additionally, the TMDL Action Plan has yet to be accepted by the State Water Resources Control Board or approved by the Office of Administrative Law. Therefore, the TMDL Action Plan has yet to take effect. It is unreasonable to adopt a required timeline for the Pathogen Special Study in the Draft Permit, prior to the effective date of TMDL Action Plan. It is requested that the dates by which the work plan and final Pathogen Special Study shall be submitted be set relative to the effective date of the TMDL Action Plan.

#### **Response to Comment No. 6:**

The TMDL waste load allocations (WLAs) for point sources are identical to the statewide bacteria objective for protection of REC-1. As the Permittee notes, the TMDL Action Plan has yet to take effect; however, the concerns outlined in the TMDL Action Plan and meant to be addressed by the Pathogen Special Study remain applicable to the discharge based on the Statewide Bacteria Provisions.

The Pathogen Special Study is necessary for the Regional Water Board to accurately determine whether the discharge is causing an excursion above the receiving water limitation for *E. coli* based on the statewide bacteria objective.

To clarify the basis for this study requirement and to provide additional time to collect data to support the study, as requested by the Permittee, Section 11.4.3 of the Draft MRP and Section 7.9.12. of the Draft Factsheet have been modified as follows:

**11.4.3 Pathogen Special Study.** *The Permittee shall conduct a study to assess the Facility's ability to comply with the bacteria water quality objective in Section 5.1.21 of the Order and ~~required actions outlined in Table 4 of the Russian River Watershed Pathogen TMDL Action Plan (Pathogen TMDL, TMDL, or Action Plan) adopted by the Regional Water Board in August 2019.~~ By ~~November 1, 2024~~ **December 1, 2025**, the Permittee shall submit, for Regional Water Board Executive Officer approval, a work plan for conducting the study. A final report summarizing the results of the Pathogen Special Study describing the Permittee's ability to comply with the bacteria water quality objective ~~and the Pathogen TMDL~~, and, if necessary, a plan and schedule for achieving compliance with ~~the Pathogen TMDL~~ the bacteria water quality objective shall be submitted to the Regional Water Board in conjunction with the ROWD by ~~August 1, 2027~~ **May 31, 2028**. If monitoring demonstrates that the Permittee cannot comply with the bacteria water quality objective ~~and the Pathogen TMDL~~, the plan of compliance shall identify any other studies necessary to demonstrate compliance with the bacteria water quality objective ~~and the Pathogen TMDL~~ (i.e., study to determine whether the discharge includes pathogens of human origin).*

7.9.12. **Pathogen Special Study (MRP Section 11.4.3).** ~~The Regional Water Board adopted the Action Plan for the Russian River Watershed Pathogen TMDL (Pathogen TMDL) in August 2019, and TMDL-driven effluent limitations may be implemented in future permits. The Pathogen TMDL notes that tertiary~~ On August 7, 2018, the State Water Board adopted 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), which establishes water quality objectives for reasonable protection of people that recreate within all surface waters, enclosed bays, and estuaries of the state that have the water contact recreation beneficial use (REC-1). Tertiary recycled water, such as that produced by the Facility, is fully disinfected and is not considered a source of pathogens of human origin; however, the TMDL expresses uncertainty the Regional Water Board is uncertain about the potential for regrowth of pathogens of human origin, particularly after storage. This Order requires the Permittee to conduct a study to assess the Facility’s ability to comply with the bacteria water quality objective in section 5.1.21 of the Order and required actions outlined in Table 4 of the Pathogen TMDL and to submit a report that summarizes the results of the Permittee’s ability to comply with the bacteria water quality objective and the Pathogen TMDL, and, if necessary, a plan and schedule for achieving compliance with the bacteria water quality objective Pathogen TMDL. The plan of compliance should identify any other studies necessary to demonstrate compliance with the bacteria water quality objective and the Pathogen TMDL (i.e., study to determine whether the discharge includes pathogens of human origin). The Regional Water Board will use the results of the study to determine whether water quality-based limitations inform the implementation of TMDL-based effluent limitations, if necessary, during the next permit renewal are required to ensure achievement of the applicable bacteria water quality objectives.

**Comment No. 7: Monitoring Location PND-002 and PND-003.**

Section 10.4.1 of Attachment E – Monitoring and Reporting Program requires that the freeboard, odors, and berm condition of PND-002 and PND-003 be monitored. PND-002 is owned and operated by Iron Horse Vineyards and PND-003 is owned and operated by Russian River Vineyards. The District should not be responsible for or monitor the conditions of these ponds when they are not delivering water to these ponds. It is requested that language in section 10.4.1 of the Monitoring and Reporting Program be revised to require monitoring at PND-002 and PND-003 only occur when the District is delivering water to these ponds.

**Response to Comment No. 7:**

As a Master Water Recycler, Forestville Water District has monitoring requirements, such as minimum freeboard and periodic berm inspection, in accordance with Water Code §13523.1. (Master Permit Requirements). If



discharge to the pond has stopped and recycled water remains stored in PND-002 and PND-003, the ponds still may be at risk of overflow, berm migration, or discharge objectionable odors. These requirements are retained in the Proposed Order.

Monitoring requirements at these locations are required regardless of ownership for consistency with requirements in the Statewide Recycled Water General Order to ensure that ponds are properly operated and maintained to protect pond berms and to avoid overflows. The Permittee has permitted storage of recycled water at privately-owned recycled water storage ponds at PND-002 and PND-003. District Staff can complete the monitoring, but that is not required by the Draft Permit. The Permittee can choose to request the property owners to complete this monitoring.

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

**Comment No. 8:**

The Permittee noted that the page numbers were incorrect in the Draft Permit.

**Response to Comment No. 8:**

The Page numbers have been corrected in the Proposed Permit.

**Staff Initiated Changes**

The following sections describe changes made to the draft Order, initiated by Regional Water Board staff to update and provide clarification to the Proposed Permit. The modified sections are identified by their section numbers as indicated in the Proposed Order. The proposed changes are either required by law or do not materially impact the Permittee.

1. In Table E-13 the deadline for a Disaster Preparedness Assessment Report and Action Plan was changed to September 1, 2025, from November 1, 2025, to reflect the same date listed in Section 11.4.2 of the MRP.