

Response to Written Comments

**Draft Waste Discharge Requirements
Order No. R1-2019-0020
National Pollutant Discharge Elimination System (NPDES)
for the Fort Bragg Municipal Improvement District No. 1
Wastewater Treatment Facility**

**Regional Water Quality Control Board, North Coast Region
June 19/20, 2019**

Comment Letter Received

The deadline for submittal of public comments regarding draft Waste Discharge Requirements for Order No. R1-2019-0020, National Pollutant Discharge Elimination System Permit (Draft Permit) for the Fort Bragg Municipal Improvement District No. 1 Wastewater Treatment Facility was April 12, 2019. The Fort Bragg Municipal Improvement District (Permittee) provided timely comments. No other comments were received during the public comment period.

In this document, the Permittee's comments are summarized, followed by the Regional Water Board staff response. Text to be added is identified by underline and text to be deleted 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.

Permittee Comments

Comment 1: The Permittee is concerned about the use of the Colony Forming Units (CFU) method for counting Enterococci instead of Most Probable Number (MPN). The District Laboratory is not able to complete the CFU method nor is the nearest contract laboratory in Ukiah. Would it be possible to use the MPN method in this situation?

Response: Sections IV.A.1.c.ii and V.A.1.a.i.(b) of the Proposed Permit establish effluent limitations and receiving water limitations for enterococci that are expressed in CFUs. Regional Water Board staff discussed this concern with State Water Board staff who worked on the August 2018 *Amendment to the Water Quality Control Plan for Ocean Water of California – Bacteria Provisions and a Water Quality Standards Variance Policy* (Bacteria Provisions). Although the effluent and receiving water limits for enterococci are expressed in CFU to reflect the new enterococci water quality objectives in the Ocean Plan, compliance monitoring may be conducted using any enterococci method specified in 40 CFR 136. The U.S. EPA and State Water Board consider CFU and most probable number (MPN) to be comparable. Testing methods that produce results in either of these units are equally protective of water quality objectives.

The Proposed Permit has been modified in response to this comment as follows:

Section IV.A.1, Table E-4 of the Monitoring and Reporting Program has been modified as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Enterococci	MPN or CFU/100 mL ¹²	Grab	Weekly ^{2,12}	EPA Method 1600 Part 136
Enterococci, Rolling 6-Week Geometric Mean	MPN or CFU/100 mL ¹²	Calculate	Weekly	--
12. Enterococcus monitoring shall be conducted in June through September of each year. Weekly samples shall be collected and analyzed during each of these months for a minimum of 4 samples per month.				
13. <u>MPN and CFU are comparable units. The Permittee may use any enterococci method specified in 40 CFR 136 for compliance monitoring.</u>				

Fact Sheet section VII.B.4.b has been modified to include a new paragraph b, as follows: “Although the effluent and receiving water limits for enterococci are expressed in colony forming units (CFU) to reflect the new enterococci water quality objectives in the Ocean Plan, compliance monitoring may be conducted using any enterococci method specified in 40 CFR 136. The U.S. EPA and State Water Board consider CFU and most probable number (MPN) to be comparable. Testing methods that produce results in either of these units are equally protective of water quality objectives.”

Comment 2: The Permittee inquired about substituting *E. coli* testing instead of fecal coliform testing for compliance with the Ocean Plan’s bacteria objectives specified in the Draft Permit. The Permittee cited an EPA website that states the *E. coli* is the best indicator of health risk from water contact in recreational waters.

Response: The USEPA 2012 Recreational Water Quality Criteria and the Bacteria Provisions state that *E. coli* should not be used in saline environments. Section 5.2.2 of the Staff Report for the Bacteria Provisions (page 59) identifies the reason why the USEPA and the State Water Board chose not to use *E. coli* as an indicator in saline environments, as follows: “Epidemiological studies show enterococci are good predictors of gastrointestinal illness in fresh and marine waters while *E. coli* bacteria do not survive well in saline environments and are only good predictors in fresh water.”

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

Comment 3: The Permittee identified an error in the Fact Sheet regarding the description of the current and future disinfection system. The Fact Sheet erroneously states that gaseous chlorine and sulfur dioxide are used. In December 2015, the Permittee completed installation of equipment to use sodium hypochlorite to chlorinate treatment plant effluent and sodium bisulfite for dechlorination.

Response: Regional Water Board staff agree that the disinfection system is incorrectly described in the Fact Sheet.

Fact Sheet Section II.A.2 of the Proposed Permit has been modified to read as follows:

“The current wastewater treatment Facility has an average dry weather design treatment capacity of 1.0 mgd and an average monthly wet weather treatment capacity of 2.2 mgd. The treatment system consists of a Parshall Flume for influent flow monitoring, rag screening, grit removal, primary clarification, two-stage trickling filters, secondary clarification, chlorination using ~~gaseous chlorine~~ sodium hypochlorite, and dechlorination using ~~gaseous sulfur dioxide~~ sodium bisulfite. Effluent is discharged through a diffuser at Discharge Point 001 to the Pacific Ocean.”

Fact Sheet section II.A.3 of the Proposed Permit has been modified to read as follows:

“The upgraded treatment system has been designed with an average dry weather design treatment capacity of 0.8 mgd and an average daily wet weather treatment capacity of 4.9 mgd. The upgraded treatment system consists of a Parshall flume for influent flow monitoring prior to the headworks, headworks, grit removal, equalized influent flow monitoring following the Influent Pump Station, Aero-Mod system, chlorine disinfection using ~~gaseous chlorine~~ sodium hypochlorite, and sodium bisulfite dichlorination.”

Staff Initiated Change

As Regional Water Board staff reviewed the Permittee’s comments about the bacteria provisions, we recognized that there is an opportunity to consider cost of compliance in relation to the permit requirements for bacteria. The Draft Permit included effluent limitations for total coliform and fecal coliform based on water quality objectives in the Ocean Plan. The total coliform bacteria limitations are more stringent than the fecal coliform limitations. For the effluent, compliance with the total coliform bacteria effluent limitations would ensure compliance with the fecal coliform effluent limitations, therefore, the Proposed Permit has been modified to remove the fecal coliform effluent limitations and monitoring requirements.

Regional Water Board staff discussed this change with State Water Board staff that developed the Bacteria Provisions identified in the response to Comment 1, above, and received concurrence for this modification.

The Proposed Permit has been modified to incorporate these changes, as follows:

Section IV.A.1.c has been removed to remove the fecal coliform bacteria effluent limitations, as follows:

- c. “Disinfection.** Disinfected effluent discharged from the Facility through Discharge Point 001 to the Pacific Ocean shall not contain bacteria exceeding the following concentrations, as measured at Monitoring Location EFF-001: ¹

² See section VII.H of this Order regarding compliance with bacteriological limitations.

~~i. Fecal Coliform Bacteria~~

- ~~(a) The geometric mean of fecal coliform bacteria shall not exceed a Most Probable Number (MPN) of 200 per 100 mL in a calendar month; and~~
- ~~(b) No sample shall exceed an MPN of 400 per 100 mL.~~

i. Enterococci

- (a) The 6-week rolling geometric mean of enterococci shall not exceed 30 colony forming units (CFU) per 100 mL; and
- (b) No sample shall exceed a CFU of 110 per 100 mL.”

Section VII.H.1, (Compliance Determination, Bacteriological Limitations) has been modified as follows:

1. “The geometric mean² for enterococci in section IV.A.1.c.ii(a) shall be calculated weekly based on six or more effluent sample results collected within the last rolling 6-week period. ~~The geometric mean² for fecal coliform bacteria in section IV.A.1.c.i(a) of this Order shall be calculated monthly based on five or more effluent sample results collected within a calendar month.~~ “

Table E-4. Effluent Monitoring – Monitoring Location EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Fecal Coliform Bacteria	MPN/100 mL	Grab	5/Month ^{2,1012}	Part 136 ³
Fecal Coliform Bacteria, Calendar Month Geometric Mean	MPN/100 mL	Calculate	Monthly ¹¹	–

Fact Sheet section IV.C.3.c.ii.(a) (4th paragraph) has been modified as follows:

“To comply with the Ocean Plan, and instead of requiring receiving water monitoring¹ and direct determination of compliance with WQO for bacteria, the disinfected effluent discharged through Discharge Point 001 shall not contain concentrations of ~~fecal coliform bacteria and enterococci~~, as measured at Monitoring Location EFF-001, exceeding the ~~following~~ limitations. This Order does not establish effluent limitations for fecal coliform because the shellfish standard for total coliform is more stringent and will allow for assessment of compliance with the Ocean Plan fecal coliform limitations.

~~(1) Fecal Coliform Bacteria~~

- ~~(i) The geometric mean of fecal coliform bacteria shall not exceed a Most Probable Number (MPN) of 200 per 100 mL in a calendar month.~~
- ~~(ii) No sample shall exceed an MPN of 400 per 100 mL.”~~

Fact Sheet section IV.C.3.c.ii.(a), Footnote 1 has been modified as follows:

“The Permittee reports that access to conduct receiving water monitoring is limited and poses safety risks. Therefore, this Order includes effluent limitations and effluent monitoring to determine compliance with total ~~and fecal~~ coliform bacteria and enterococcus water quality objectives. In addition, this Order requires once per permit term receiving water monitoring for total and fecal coliform bacteria and enterococcus.”

Fact Sheet section V.A has been modified to include the following paragraph (third paragraph in section) to explain how the Proposed Permit implements the bacteria water quality objectives and to clarify that the bacterial water quality objectives apply year-round:

“The Permittee is unable to safely access the receiving water in the vicinity of the Permittee’s ocean outfall for the purpose of conducting receiving water monitoring that would be needed to demonstrate compliance with the bacterial receiving water limitations. Therefore, this Order implements the bacterial water quality objectives as effluent limitations because effluent can be monitored routinely to demonstrate compliance. Compliance with the bacterial effluent limitations allows the Permittee to demonstrate that its effluent is not causing exceedances of the bacterial receiving water limitations.”

The MRP limits effluent monitoring for enterococci to the summer season when the water contact recreation (REC-1) is at its highest. As discussed in Fact Sheet section IV.C.3.c.ii.(a), fecal coliform effluent limitations and monitoring has been determined to be unnecessary because the Ocean Plan total coliform bacteria limitation is more stringent than the fecal coliform bacteria limitation. Nonetheless, the bacterial water quality objectives apply year-round.”

Fact Sheet section VII.B of the Proposed Permit has been modified to remove paragraph 4 due to the removal of fecal coliform effluent limitations, as follows:

4. ~~“This Order includes new effluent limitations for fecal coliform bacteria based on the bacterial objectives in the 2018 Ocean Plan. The effluent limitation for fecal coliform organisms is expressed as a geometric mean of samples collected within a calendar month. A minimum of five samples is necessary to calculate the geometric mean; therefore, this Order requires effluent monitoring for fecal coliform bacteria five times per month during the months of June through September of each year in order to calculate the geometric mean and determine compliance with the applicable effluent limitation.~~”

Fact Sheet section VII.B.5 of the Proposed Permit has been further modified to add a statement to clarify that the water quality objective for enterococci also applies year-round.

5. This Order includes new effluent limitations for enterococci based on the bacterial objectives in the 2018 Ocean Plan.
 - a. The effluent limitation for enterococci is expressed as a rolling 6-week geometric mean. A minimum of five samples is necessary to calculate the geometric mean; therefore, this Order requires effluent monitoring for enterococci weekly during the

months of June through September of each year in order to calculate the geometric mean and determine compliance with the applicable effluent limitation. Although the MRP limits enterococci monitoring to the months of June through September, the water quality objective for enterococci is applicable year-round.