Attachment D

California Regional Water Quality Control Board
North Coast Region

Monitoring and Reporting Program
No. R1-2019-0001
For General Waste Discharge Requirements
For Dairies in The North Coast Region

This Monitoring and Reporting Program (MRP) is issued pursuant to California Water Code (Water Code) Section 13267 and General Waste Discharge Requirements (GWDR) Order No. R1-2019-0001 for dairies (hereinafter "Order").

To allow the California Regional Water Quality Control Board, North Coast Region, (hereinafter Regional Water Board) to evaluate compliance with the terms and conditions of the Order, this MRP requires that regular monitoring, sampling, and record-keeping be conducted by dairy owners and operators (hereinafter "Discharger") and that the records be made available to Regional Water Board staff. The required sampling and analyses are minimum parameters necessary to evaluate if dairy operations are violating the waste discharge prohibitions or contributing to adverse water quality impacts. Any changes to the MRP or extensions to due dates are subject to approval by the Executive Officer.

Monitoring requirements are addressed in Section I and reporting requirements are addressed in Section II. The MRP requires monitoring, preparation, and submittal of plans and reports as described here and in the attached appendices.

I. MONITORING

Visual inspections and sampling of surface water and groundwater are required to assess compliance with this Order and the Water Quality Control Plan for the North Coast Basin (Basin Plan). There are also monitoring or assessment requirements associated with implementation of the Water Quality Plan (WQP-Appendix 1), Nutrient Management Plan (NMP-Appendix 2), and cultural resource protections (Attachment E).

A. Visual Inspections

This MRP requires periodic visual inspections to ensure the dairy is being operated and maintained in compliance with the Order. Visual inspections shall be done when conditions are safe to do so. Observations of any threats to water quality and corrective actions taken shall be documented in each Annual Report. All adverse conditions, including discharges that are a threat to human health or the environment, shall be reported to the Regional Water Board within 24 hours. Corrective actions shall be implemented to stop the discharge of sediment and waste to surface waters of the state and groundwater as soon as possible.

1. **Production / Confined Areas**
   The Discharger shall conduct daily inspections of the production/confined areas including all retention ponds, pumping equipment, water lines, outdoor animal wash racks, corrals, and nearby surface waters and document any non-storm water waste discharges from the property under the control of the Discharger.

2. **Retention Pond Freeboard and Integrity**
   The Discharger shall measure the freeboard weekly in each holding pond or liquid containment structure. Freeboard is the vertical distance from the pond surface to the lowest elevation of the surrounding berm or the bottom of the spillway. The size of ponds/containment structures needed to contain waste materials and rainwater from a 25-year 24-hour storm event will vary from facility to facility[1]. To maintain structural integrity and prevent a discharge, two (2) feet of freeboard shall be maintained in ponds/structures located partially or completely above ground, and one (1) foot of freeboard shall be maintained in ponds/structures that are completely in-ground. Lesser freeboard may be approved by the Executive Officer if documented by a registered civil engineer that structural integrity and required capacity will not be compromised with the proposed freeboard. Noncompliance shall be reported to the Regional Water Board staff. If frequent flooding occurs, up to or above the base of the manure pond, then the manure pond berm height and integrity shall be of proper construction to prevent discharges to surface waters of the state including during a 25-year 24-hour storm event.

3. **Manure Containment Structures**
   Manure containment structures shall be inspected weekly for berm/wall integrity, cracking, slumping, excess vegetation, animal burrows, and seepage. Repairs shall be made to prevent discharges to surface water and/or groundwater and noted in the Annual Report. Any discharges shall be reported to the Regional Water Board as explained in Section II.B. below.

4. **Cropland and Pasture**
   a. The Discharger shall inspect any cropland and pasture on which process water or manure are applied during each irrigation or spreading event. Any erosion, conditions of field saturation, runoff from the cropland containing waste, or violation of set-back requirements, shall be remedied as necessary to protect water quality and prevent nuisance conditions.
   b. Wastewater, solid waste, and all other soil nutrients and amendments applied to land must be in accordance with the facility NMP.
   c. Dates, occurrences, location, and estimated amounts of unauthorized releases from the cropland or pastures, either off-property or to surface water drainage courses, shall be documented and reported to the Regional Water Board as noncompliance (see Section II.B. below). The Discharger shall

[1] Dischargers may access the following web page to find NOAA precipitation frequency-duration information: https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html

conduct visual inspections of the pastures to verify that chosen management practices are being implemented.

d. The Discharger shall visually inspect croplands and pastures and the closest receiving water, upstream and downstream of the grazing facility, to identify any change in water quality resulting from facility operations. Changes may include an increase in water cloudiness, turbidity, color, animal waste, or dairy related debris. Changes also may include evidence of concentrated runoff across the property with the potential to cause rills or gullies. These inspections are needed to determine the effectiveness of the management practices implemented at the grazing facility.
e. Inspections shall occur twice during the dry season and at least monthly during the rainy season, preferably pre- and post- 1-inch (or greater) rainstorm in 24-hours. One of the dry season inspections shall be conducted in the month of September, prior to the beginning of the rainy season, and shall encompass the entire ranch facility to ensure the facility's readiness for the rainy season. A Discharger is not required to perform inspections during dangerous weather conditions or when a storm begins after scheduled facility operating hours.
f. September inspections of the entire grazing facility shall ensure that appropriate management practices are properly installed and maintained. Post-storm inspections are to evaluate whether management practices have functioned adequately and whether additional measures or maintenance work is needed.
g. The Discharger shall maintain records of any response action taken to eliminate potential sources of sediment, nutrients, and pathogens from the grazing facility identified during inspections. If a water quality problem is found during an inspection, the Discharger shall record the nature of the problem and the management practices taken to correct it, and report it in the Annual Report.

5. Storm Event Preparations

The following inspections shall be conducted prior to, during, and after anticipated 1-inch (or greater) storm event in 24-hours.

a. Inspect all retention ponds/structures for berm integrity, cracking, slumping, excess vegetation, burrowing animals, and seepage.
b. Inspect the closest receiving water, upstream and downstream of all facilities, to monitor any change in water quality resulting from facility operations. Changes may include an increase in water cloudiness, turbidity, color, odor, or debris. Any change in water quality shall be reported in accordance with the reporting requirements below.
c. Inspect confined areas to ensure that all pollution prevention measures, including those specified in the facility's WQP, are implemented and effective.

The Discharger shall document any discharges of stormwater that have commingled with wastewater, litter, or manure, and the approximate duration and amount of wastes discharged to surface waters. Such discharges shall be

reported in accordance with non-compliance reporting requirements below (Section II.B.).

B. Water Quality Testing

Water quality sampling and reporting is required to allow the Regional Water Board to assess compliance with Basin Plan water quality objectives and to assess the effectiveness of best management practices (BMPs) in the dairy's WQP and NMP. Sampling results shall be used by the Discharger to assess water quality conditions and to make informed decisions regarding BMPs.

The following sampling and reporting shall be conducted. Surface water monitoring results must be attached to the next Annual Report due after sample results are obtained. Group surface water and groundwater sampling may be allowed in some circumstances, as discussed in B.5 below. Groundwater monitoring results must be uploaded to GeoTracker as discussed in B.2.c. below.

1. Surface Water Sampling

Surface watercourses that flow through the dairy property, including the production area, cropland, or pastures, must be sampled using grab samples collected from locations both above the dairy and at the point where the watercourse leaves the dairy property. Sample locations should be identified that 1) represent the integrity of the waste management facilities (e.g., production area, manure ponds) and 2) represent the effectiveness of stormwater best management practices. If multiple watercourses flow through the property, the Discharger may submit a written request to the Executive Officer for only sampling at two representative sampling locations.

Alternatively, if surface waters flow adjacent to the dairy property but not through it, the grab samples shall be collected upstream and downstream of the areas closest to the dairy property, assuring legal access for sampling. In the event that the downstream representative grab samples show exceedances above Benchmark Values (Table 1), the Discharger, or Discharger's representative, shall collect additional grab surface water samples upstream, or at other representative locations, to bracket and isolate the problem so that the Discharger can take corrective action if the origin of the discharge is coming from the Discharger's dairy.

Each year sampling shall take place during or directly following each of three (3) major storm events after at least one (1) inch of rain per 24 hours. Sampling shall occur within 18 hours of the first inch of rainfall, as measured by the closest real-time publicly available rain gauge. The purpose for the 18-hour sample collection time limit is to collect the samples during the rising limb on the stream hydrograph when pollutants (especially dissolved pollutants) are discharged during a precipitation event. The intent is to collect the sample after at least 1-inch of rain has fallen in 24 hours in order to capture the samples when the hydrograph is rising, at its peak, or immediately after the peak. Storms that result in greater than 1-inch of precipitation in 24 hours will be even more likely to have

a sample collected on the rising limb if the field technicians collect the sample within 18 hours of the 1-inch minimum rainfall.

Sampling will occur in the wet season, which generally begins in October and ends in April, with the first samples to be collected starting the first winter after dairy coverage under this Order. Sample events shall be at least 14 days apart. Sampling shall be done when conditions are safe to do so.

a. Surface Water Sampling Parameters:

Electrical conductivity (EC) shall be measured on-site with a handheld data sonde, comparable field equipment, or properly collected samples may be analyzed at a laboratory certified by the California Environmental Laboratory Program or a laboratory pre-approved by the Regional Water Board staff. Total ammonia nitrogen shall be measured either with a field test kit (colorimetric field kits are acceptable), ammonia test strips, or by a certified laboratory. These laboratory analyses shall be conducted in accordance with the Title 40 Code of Federal Regulations Part 136 (Guidelines Establishing Test Procedures for the Analysis of Pollutants) or other test methods approved by the Regional Water Board. One (1) sample to be tested for total ammonia nitrogen and EC, shall be collected at each sampling location. Data collection for EC must comply with the Surface Water Ambient Monitoring Program Quality Assurance Program Plan (QAPrP) at the State Board's UST electronic submittal web page [https://www.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal/]. In tidal-influenced streams or waterways, samples should ideally be collected when the tide level is falling where feasible. Visual observations of the stream must be documented during the sampling event. Note that pH and temperature are not required to be tested because past dairy program surface water samples on the North Coast showed no toxicity to aquatic organisms so long as total ammonia nitrogen was at or below 1 mg/L and the measurement of pH and temperature is not necessary for determining toxicity at these total ammonia nitrogen concentrations.

If any total ammonia nitrogen sample result is greater than or equal to 3 mg/L, then results shall be reported to the discharger and the Regional Water Board immediately.

Dairies located within Hydrologic Areas (HA) or Hydrologic Subareas (HSA) which are included on the Clean Water Act Section 303(d) list as impaired for indicator bacteria must monitor for indicator bacteria once annually during a qualifying storm from at least two locations in the HA or HSA. Samples shall be collected from at least one location upstream and at least one location downstream of the dairy/dairies within the HA or HSA. Multiple dairies within a HA or HSA listed for indicator bacteria may comply with the bacteria monitoring requirement by participating in an approved group sampling program. As applicable, Regional Water Board staff will meet with group monitoring representatives within the first year after GWDR adoption to help

design a representative monitoring program to collect bacteria samples within the section 303(d) listed watersheds.

Bacteria concentrations are to be sampled in accordance with the requirements as specified in Part 3 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California—Bacteria Provisions and Water Quality Standards Variance Policy, [https://www.waterboards.ca.gov/board-decisions/adopted_orders/resolutions/2018/final_iswebe_bacteria_provisions.pdf], August 7, 2018. These provisions are enacted as statewide objectives by the State Water Resources Control Board to protect public health.

Bacteria samples shall be collected using clean hand procedures and analyzed at a certified laboratory for Escherichia (E. coli) in freshwaters or enterococci in waters where salinity is greater than 1 part per thousand more than 5 percent of the time in a calendar year.

Any dairies that have a breach of a manure pond and a discharge to surface waters must notify the Regional Water Board and collect samples at the discharge location for analysis for indicator bacteria, total nitrogen (TN), ammonia, total phosphorus (TP), total dissolved solids (TDS), total suspended solids (TSS), and electrical conductivity. The samples of the discharge must be collected as soon as safely possible.

Inspection or water quality monitoring results, which indicate the potential that dairy discharges are impacting beneficial uses, water quality conditions, or causing nuisance, may result in the Executive Officer imposing additional monitoring requirements.

Table 1. Benchmark Values for Surface Water Sampling Parameters

Constituent	Units	Benchmarks
Electrical conductivity	µS/cm	EC samples must be compared to historic levels for that particular sampling station
Total ammonia nitrogen ($NH_3 + NH_4^+$)	mg/l	$\leq$ 1 mg/l [2]

[2] The toxicity level of unionized ammonia is directly affected by pH and temperature. The higher the pH and temperature of the water, the higher the proportion of total ammonia that exists in toxic form. The Central Valley Regional Water Board has developed procedures for using Total Ammonia field test kits and for using field sampling results to calculate unionized ammonia values. This guidance can be found at the Central Valley Regional Water Board's website. https://www.waterboards.ca.gov/centralvalley/water_issues/confined_animal_facilities/general_order_guidance/dairy/sampling_analysis/field_analysis_final_rpt.pdf

Constituent	Units	Benchmarks
Visual Stream Observations or turbidity meter measurement	Write observation	Comment such as stream was clear, opaque, slightly turbid, turbid
E. coli bacteria	cfu/ 100 mL	320 cfu/100 mL not to be exceeded by more than 10% of samples collected in a calendar month calculated in a static manner
Enterococci	cfu/100 mL	110 cfu/100 mL not to be exceeded by more than 10% of samples collected in a calendar month calculated in a static manner

Note: *E. coli* is only to be tested in freshwaters. Enterococci is only to be tested in waters where salinity is greater than 1 part per thousand more than 5 percent of the time in a calendar year.

2. Groundwater Well Sampling

Groundwater well sampling from a representative well (see Section I.B.2.b.) is required in order to help assess whether the current management measures and design criteria are protective of groundwater quality. If the initial monitoring results exceed benchmark values (Table 2), then management measures must be modified accordingly, and additional monitoring is required, as described below.

Dairies without any groundwater wells such as those with water supplied from springs, municipal supply, or other delivered supply, are required to sample groundwater at the nearest downgradient supply location or install a monitoring well. The WQP and Annual Report forms require information on the groundwater wells sampled such as location, depth, and construction type.

a. Groundwater Sampling Parameters and Frequency:

Representative wells located at all existing dairies, including domestic and agricultural supply wells, shall be sampled once per year for the first three years beginning in the year 2020, and then just once every three years thereafter. For example, existing dairies shall sample groundwater in the years 2020, 2021, 2022, then 2025, 2028, 2031, and so on. New dairies, expanding dairies, and previously inactive dairies will sample the first three consecutive years after enrollment in this Order and then once every three years thereafter.

The Regional Water Board will consider requests for reduced groundwater nitrate sampling from dairies that can demonstrate the following:

- A minimum of four groundwater samples collected from representative wells with nitrate concentrations less than 5 mg/L;
- The nitrate sample results are representative of first encountered groundwater below or downgradient of the production area and/or fields with regular manure application.

If these conditions can be documented, then the Regional Water Board Executive Officer will notify the dairy of the revised sampling frequency.

Additional groundwater sampling is required if groundwater sampling results in a nitrate-nitrogen level equal to or above 5 mg/l (measured as nitrate nitrogen) as discussed below.

Benchmark exceedances for total dissolved solids will be tracked by the Regional Water Board in the groundwater basin area to check for basin-wide changes.

Only domestic supply wells at a dairy need to be tested for total coliform bacteria as explained below.

Nitrogen

United States Environmental Protection Agency (EPA) has established that the Maximum Contamination Level (MCL) of nitrate-nitrogen (Nitrate-N) in drinking water is 10 milligrams per liter (mg/l). The Regional Water Board is concerned about groundwater levels that have risen to half of this level or greater (> 5 mg/l), especially if those levels are increasing over time and the increase may be due to dairy operations.

Groundwater Nitrate-Nitrogen Results < 5 mg/l: If at least two of the three sample results, for any one well sampled during the first three years, indicate a nitrate-nitrogen level of less than 5 mg/l, then that well shall be sampled once every three years thereafter (e.g. 2020, 2021, 2022, 2025, 2028, 2031, etc.) and submitted to the Regional Water Board with the Annual Report so long as the dairy is enrolled under this Order.

Groundwater Nitrate-Nitrogen Results >5 mg/l: If at least two of the three groundwater sample results, for any one well sampled during the first three years, indicate a nitrate-nitrogen (nitrate-N) level of 5 mg/l or more (which is half of the benchmark value in Table 2), then that well shall be sampled every two years thereafter (e.g.: Year 2020, 2021, 2022, 2024, 2026, etc.). If the lab results only measure nitrate-NO_3, then the trigger for this increase in groundwater sampling is > 22.5 mg/l nitrate-NO3 which is half of the MCL of 45 mg/l nitrate-NO_3. In addition, the Discharger shall submit a Work Plan to the Regional Water Board by November 30 during the fifth year of sampling (e.g. the year 2026) to report dairy practices implemented to prevent nitrate increases in the groundwater.

The Work Plan shall be prepared and signed by a professional engineer, registered geologist, or qualified scientist, including staff employed with a Resource Conservation District (RCD), the Natural Resource Conservation Service (NRCS), or the University of California Cooperative Extension (UCCE). Individuals preparing the Work Plans must have adequate training and experience to address the components of the required Work Plan. The Work Plan must include an assessment of the extent of the impacted groundwater. Investigative steps shall include:

i. Increased monitoring frequency if warranted and/or installation of groundwater monitoring wells to capture representative samples based on the direction of groundwater flow;
ii. A review of well construction, filter pack, and screen intervals to determine the affected water-bearing units or impacted zone of groundwater;
iii. A sensitive receptor survey to identify potentially threatened beneficial uses;
iv. Sampling and analysis of additional existing down-gradient wells within the affected water-bearing unit; and
v. Borings or additional well installation to characterize the full extent of the contamination.

A group Work Plan may be proposed to the Executive Officer by a group of dairies that collectively have groundwater results greater than or equal to 5 mg/l nitrate-N in the same general location. The group Work Plan shall be submitted to the Regional Water Board by November 30 during the fifth year after dairy enrollment under the Order. Regional Water Board staff will review the sampling data and Work Plan, in conjunction with onsite inspections, and inform the Discharger on further actions needed.

Total Dissolved Solids (TDS)
TDS is the quantity of dissolved material in a given volume of water. The dissolved material may include minerals, salts, and organic matter such as: calcium, magnesium, potassium, sodium, bicarbonates, chlorides, nitrate, sulfates, metals, and other particles. The TDS of most drinking water averages 200 to 300 mg/l. Water with TDS greater than 500 mg/l adversely affects taste and odor and is not recommended for human consumption. EPA establishes that the secondary maximum contaminant level of TDS is 500 mg/l and that noticeable effects above this level include hardness, deposits, colored water, staining, and salty taste.

Total Coliform
Total coliforms are a group of related bacteria. Benchmark exceedances for total coliform for domestic water supply wells can cause ill health effects so the dairy should take precautions such as disinfection of the drinking water before ingesting water that may be contaminated with harmful bacteria. EPA considers total coliforms a useful indicator of other pathogens for drinking water and are used to determine the adequacy of water treatment and the integrity of

the distribution system. EPA establishes that the Maximum Contaminant Level Goal (MCLG) for the presence of total coliforms in drinking water is zero because there have been waterborne disease outbreaks in which researchers found very low levels of coliforms. If at least two of the three groundwater sample results, for any one well sampled during the first three years, indicate total coliform results have exceeded benchmark values in Table 2 below, then that well shall be sampled every two years thereafter (e.g.: Year 2020, 2021, 2022, 2024, 2026, etc.). In addition, the Regional Water Board may require a Work Plan from the dairy for coliform bacteria similar to the one described in section I.B.2.a. above under Groundwater Nitrate-Nitrogen Results >5 mg/l.

Groundwater Sampling: One (1) sample from each representative well shall be tested for the following parameters:

Table 2. Benchmarks Values for Groundwater Sampling Parameters

Constituent	Units	Benchmarks (municipal supply)
Nitrate[3]	mg/l	10 mg/l nitrate-N or 45.0 mg/l Nitrate-NO_3
Total Dissolved Solids[4]	mg/l	500 mg/l adversely affects taste/odor
Total Coliform Bacteria (test domestic water supply wells only)	MPN/100 ml	1.1 MPN/100 ml[5]

b. Selecting Representative Groundwater Wells for Sampling

In selecting a representative well for sampling, the local groundwater gradient and flow direction should be considered. If multiple wells on the property are available for sampling, then the Discharger shall select the well downgradient of the production area (where manure is concentrated) or below crop fields that have had manure/fertilizer applications. On some dairies, it may be necessary to sample from multiple wells. If no wells are available on site, then the Discharger shall survey the downgradient area for the nearest groundwater well that can be sampled or install a new groundwater well or

[3] Nitrate may be analyzed and reported as either Nitrate-N or Nitrate-NO_3.
[4] A TDS/Electrical Conductivity meter may be used to measure TDS.

[5] In groundwater with a beneficial use of municipal and domestic supply, the median of the most probable number of coliform organisms over any seven-day period shall be less than 1.1 most probable number per 100 milliliters (MPN/100 ml) (ref: National Primary Drinking Water Regulation, 40 CFR, Part 141.21 (f)).

monitoring well. The Discharger is required to demonstrate that groundwater wells chosen for sampling are representative of dairy groundwater conditions. This information is required in the WQP and Annual Reports. If springs are the only water supply for the dairy, then an alternative shall be put forth by the dairy operator to the Regional Water Board such as measuring the nearest downgradient groundwater well or increasing surface water monitoring. Installation of new site-specific monitoring wells may be required.

c. Submittal of Groundwater Sampling Results

The Executive Officer requires that monitoring data be submitted in a format suitable for uploading to an electronic database specified by the Executive Officer. The discharger or their representatives shall create a GeoTracker user account. Instructions for setting up an account and the process of claiming a site, formatting and uploading data, and other technical information can be found under "ESI Overview" and "Getting Started" sections on the State Water Board's website or:
https://www.waterboards.ca.gov/ust/electronic_submittal/index.html

Groundwater monitoring data shall be uploaded to GeoTracker in an Electronic Deliverable Format (EDF). Dischargers may request data in EDF format from the lab prior to analysis. Additionally, monitoring data, monitoring reports, and correspondence shall be in searchable Portable Document Format (PDF) and shall be uploaded annually to GeoTracker.

3. Sampling Protocol

a. The Discharger shall use clean sample containers and sample handling, storage (example: on ice in a cooler), and preservation methods that are accepted or recommended by the selected analytical laboratory or, as appropriate, in accordance with approved EPA analytical methods.
b. All samples collected shall be representative of the volume and nature of the material being sampled.
c. All sample containers shall be labeled, and records maintained to show the time and date of collection as well as the person collecting the sample and the sample location.
d. All samples collected for laboratory analyses shall be preserved and submitted to the laboratory within the required holding time appropriate for the analytical method used and the constituents analyzed.
e. All samples submitted to a laboratory for analyses shall be identified in a properly completed and signed Chain of Custody form.
f. Field test instruments used for electrical conductivity and total ammonia nitrogen, may be used, provided:
    i. The operator is trained in the proper use and maintenance of the instruments;
    ii. The instruments are field calibrated prior to each monitoring event; and
    iii. Instruments are serviced and/or calibrated by the manufacturer at the recommended frequency.

g. Each groundwater well shall have a unique location identifier (i.e., name of well consistent over time).
h. Results of groundwater samples collected consistent with the sampling protocols and within these time frames for another purpose (e.g. for a County Health Department or by the County milk inspector) may be submitted to the Regional Water Board instead of collecting additional samples.
i. The sample must be representative of groundwater well conditions. For example, samples for total coliform bacteria analysis must not be disinfected.
j. Groundwater samples from domestic wells shall be collected from the tap before the pressure tank after water has been pumped from this tap for 10 to 20 minutes. If the sample cannot be collected prior to a pressure tank, the well must be purged at least twice the volume of the pressure tank. Groundwater samples from agricultural supply wells shall be collected after the pump has run for a minimum of 30 minutes or after at least three well volumes have been purged from the well. Alternatives to this protocol may be approved by the Regional Water Board. Groundwater samples shall be analyzed by a laboratory certified by the California Environmental Laboratory Program (ELAP)or a laboratory pre-approved by the Regional Water Board staff.
k. Alternative test methods must be approved by Regional Water Board staff.

Note: Consultation with the California Dairy Quality Assurance Program regarding sampling protocol is encouraged. The *California Analytical Methods Manual for Dairy General Order Compliance – Nutrient Management Plan Constituents* laboratory analysis methods document is a valuable reference, located at the UC Davis website (https://anlab.ucdavis.edu/media/pdf/uc_analytical_methods.pdf)

4. Additional Monitoring

The Regional Water Board may require additional monitoring or may modify the existing monitoring program as appropriate on a site-specific or watershed basis. Future management practices and/or monitoring requirements may also be imposed by the Regional Water Board, within those waterbodies listed as impaired due to constituents that may be present in waste from dairies under federal Clean Water Act Section 303(d).

5. Group Sampling

One option for fulfilling monitoring requirements is to form a representative monitoring group to develop and/or administer a local watershed-based surface water and/or groundwater monitoring program. When approved by the Executive Officer, the Discharger may use data gathered from the representative monitoring program to substitute for some or all of the required monitoring of individual dairies, if the Discharger can demonstrate that the data are valid and representative of the water quality at the participating dairies. All group monitoring programs must be pre-approved by the Executive Officer prior to representing any dairies. Any abnormal results observed during field sampling will be reported immediately to the dairy operator for remediation and follow-up.

Water quality problem sites and discharge violations must be reported to the Regional Water Board (see Noncompliance Reporting below in section II.B.).

Group monitoring programs must include a Quality Assurance Plan that meets the requirements of the Order, including this MRP and all sampling protocols. Group samples collected must be representative of water quality above, and discharges below, the dairies participating in the group monitoring program. Sample locations should represent the integrity of waste management facilities and represent the effectiveness of stormwater best management practices.

If any water quality results show higher than normal values, then the group must immediately determine which dairy may be responsible, contact the dairy to control any discharge, and discuss BMPs the dairy can implement to mitigate future possible discharges and ensure compliance with Order conditions. The dairy shall follow Noncompliance Reporting protocols in the MRP as appropriate.

C. Riparian Management Areas

The Discharger shall plan and implement riparian management measures that prevent, minimize, and control the discharge of sediment, nutrients, and animal or other waste to surface waters. Riparian management and protection measures shall comply with the Waste Discharge Specifications for Riparian Areas in section B.4. of the Order.

Once per year the Discharger shall inspect riparian areas to ensure that the standard conditions are being achieved. Adaptations to the management of riparian areas shall be reported in the Annual Report. Annual inspections of the condition of riparian protection shall also be conducted.

By **November 30, 2020**, the Discharger shall submit to the Regional Water Board, a Riparian Management Plan that describes the site-specific management measures used to comply with the standard conditions or alternative management measures. Dairies without surface waterbodies shall submit a statement demonstrating that the dairy does not have the potential to adversely impact riparian areas.

II. REPORTING

A. Documentation and Annual Report

The objective of the Annual Report is to provide updates using photographs and narrative text on new management practices and the effectiveness of existing management practices. Documentation of compliance with conditions of the Order must be submitted to the Regional Water Board in an Annual Report due each November 30 starting in 2021 (MRP Appendix 3). The annual reporting period is November 1 through October 31. Regional Board staff will review the Annual Report and provide comments if necessary, for the facility to meet Order requirements. If the Regional Water Board provides comments on the Annual Report or any technical report, the Discharger will be required to address those

comments. A copy of the Annual Report, including photo documentation, must be kept at the facility for Regional Water Board review during inspections. The contents of the Annual Report shall also include:

1. Photos taken each year by November 1 to confirm that:
   a. The liners of the manure ponds are protective of water quality (free of weeds and cracks that may disturb the liner); and
   b. The manure ponds have sufficient storage capacity prior to the rainy season as required in the Order.

2. Photos of other pollution prevention measures to protect surface and groundwater. Photos of permanent pollution prevention measures only need to be submitted in an Annual Report once, as long as the measures are still operational and effective. Examples of pollution prevention measures include:

   c. Cleaning up of pollutants from areas where stormwater runoff occurs;
   d. Covering of manure, compost, and feed storage areas;
   e. Installing impermeable ground covering in manure storage areas;
   f. Protecting watercourses from erosion and wastes;
   g. Riparian management measures; and
   h. Any other best management practices or control measures for water quality protection.

3. A narrative summary of measures taken to protect surface and groundwater and to meet conditions of the Order. Where appropriate, diagrams or sketches of pollution prevention measures implemented since the previous Annual Report may also be submitted.

4. Analytical results of surface water and groundwater samples. If participating in a group monitoring effort approved by the Executive Officer, the Discharger must submit a statement identifying the group, and the group must submit the analytical results annually. If results of groundwater samples collected for another purpose are submitted to meet these MRP requirements, an explanation is required in the Annual Report.

B. Noncompliance Reporting

The Discharger shall report any noncompliance that endangers human health or the environment as soon as practicable, but in no later than 24 hours from knowledge of its occurrence. The incident shall be reported to **California Office of Emergency Services (open 24 hours) (800) 852-7550**) and the Regional Water Board (707) 576-2220. During non-business hours, the Discharger shall leave a message on the Regional Board's office voice mail. The OES is operational 24 hours a day. The message shall include the time, date, place, and description of the discharge. A written report shall be submitted to the Regional Water Board office within fourteen (14) business days of the Discharger becoming aware of the incident. The report shall include complete details of the

steps that the Discharger has taken, or intends to take, in order to prevent recurrence. The written submission shall, at a minimum, contain:

1. The approximate date, time, and location of the discharge;
2. A description of the noncompliance and its cause;
3. The flow rate, volume, and duration of the discharge;
4. Note if the noncompliance has been corrected and/or the actual or anticipated time for achieving compliance; and
5. A time schedule and a plan to implement necessary corrective actions to prevent the recurrence of such discharges.

The Discharger shall notify the Regional Water Board by letter when it returns to compliance. Violations may result in enforcement action, including Regional Water Board or court orders requiring corrective action or imposing civil monetary liability, or in terminating the applicability of this Order to a specific facility or Discharger.

If during the performance of Discharger and/or Regional Water Board staff inspections, deficiencies, defects, and/or impending failures are observed in any of the manure-contacted water conveyance, control, and/or retention structures, the Discharger shall take immediate action to correct and/or prevent any unauthorized release. The corrective action(s) must be documented, and these records attached to the Annual Report.

C. Record-Keeping

The Discharger shall create, maintain for five years, and make available to the Regional Water Board during inspections and upon request by the Regional Water Board, any reports or records required by the Order including those required under this MRP.

D. Signature and Submittal

Each Annual Report and Noncompliance Report shall be signed by the Discharger or a duly authorized representative and shall contain the following statement:
"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this report and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Groundwater sampling results shall be submitted to GeoTracker as listed in section I.B.2.b. above. Annual Reports and Noncompliance Reports shall be submitted to:

North Coast Regional Water Quality Control Board
5550 Skylane Boulevard, Suite A
Santa Rosa, CA 95403
Phone (707) 576-2220
Fax (707) 523-0135

Or

NorthCoast@waterboards.ca.gov

E. Enforcement
Failure to comply with provisions of this Order, including corrective actions to correct sustained exceedance of water quality maximum contaminant levels, could lead to enforcement by the Regional Water Board.

III. SUMMARY OF REQUIRED REPORTS AND NOTICES

In summary, the Discharger must complete the following in accordance with the Order:

A. Notice of Intent (NOI) - see Order-Attachment A. All dairies meeting the minimum size requirements listed in the Order (page 3, Finding 6) must submit a completed NOI to the Regional Water Board by **November 30, 2019** and receive a letter from the Executive Officer acknowledging enrollment to obtain coverage under the Order. Fees to be attached to the NOI, as needed for certain enrollments, are explained in the NOI.

B. Water Quality Plan (WQP) – see MRP Appendix 1. For existing dairies that were covered by Regional Water Board dairy regulation just prior to adoption of the Order, the WQP must be prepared, submitted to the Regional Water Board, and implemented by **November 30, 2020**. Any new, expanded, or re-opened (previously abandoned dairies) must prepare and submit a WQP by the time of NOI submittal for permit coverage. A copy of the WQP must be kept on the dairy site and made available for review by Regional Water Board staff during inspections and upon request by the Regional Water Board staff.

C. Riparian Management Plan (RMP) information is at the end of the WQP. By **November 30, 2020**, the Discharger shall submit to the Regional Water Board, a Riparian Management Plan that describes the site-specific management measures used to comply with the standard conditions. Note that for existing dairies, the RMP must be submitted to the Regional Water Board within one year of submittal of the WQP. For new, expanded, and previously inactive dairies that are reopening, the Riparian Management Plan is due at the time of the WQP.

D. Nutrient Management Plan (NMP) – see MRP Appendix 2. For existing dairies, the NMP must be completed by **November 30, 2020**, if the dairy doesn't already have an NMP. If existing dairies already have an NMP from before adoption of this Order, then the NMP must be updated to meet the new requirements in Appendix 2 by November 30, 2020. For re-opening, new, or expanding dairies, the NMP must be completed within two (2) years of dairy enrollment in the GWDR. The NMP must be kept at the dairy facility and made available to Regional Water Board staff during inspections and submitted to the Regional Water Board if requested.

E. Annual Report – see MRP Appendix 3. Existing dairies shall submit an Annual Report to the Regional Water Board by **November 30 of each year starting in 2021**. The reporting period is November 1 through October 31. A copy of each Annual Report shall be kept at the facility and be made available for review by Regional Water Board staff during inspections. New, expanded, or previously inactive dairies that have re-opened shall submit a completed Annual Report to the Regional Water Board by each November 30 beginning two years after Order enrollment.

F. Noncompliance Report – Any spills, discharges, or other noncompliance must be reported and corrected as described in section II.B. of this MRP.

G. Extension Request - The dairy operator may request an extension to MRP deadlines by written request to the Executive Officer. This request must be received at least 30 days prior to the deadlines. This request must include a description of any incomplete plan elements, an alternative date of compliance, and a description of the measures that will be implemented to assure water quality protection in the interim. A letter from the Regional Water Board will be issued granting or denying the request. A staff inspection may be necessary.

H. Modification Request - The dairy operator may request to modify MRP requirements by written request to the Executive Officer. This request must be received at least 30 days prior to commencement of the modified action or deadline. This request must include the reason for the need for modification, a description of alternative plan elements, an alternative date of compliance, and assurance of water quality protection in the interim. A letter from the Regional Water Board will be issued granting or denying the request. A staff inspection may be necessary.

Ordered by: _____
Matthias St. John
Executive Officer

Appendix:

1. Water Quality Plan (WQP) and Riparian Management Plan (RMP)
2. Nutrient Management Plan (NMP)
3. Annual Report