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## Central Valley Regional Water Quality Control Board

Foster Poultry Farms  
1333 Swan Street  
P.O. Box 831  
Livingston, CA 95334

14 November 2018

# NOTICE OF APPLICABILITY

## WATER QUALITY ORDER 2015-0121-DWQ GENERAL WASTE DISCHARGE REQUIREMENTS FOR COMPOSTING OPERATIONS FOSTER FARMS POULTRY FARMS MANURE COMPOSTING OPERATIONS MERCED COUNTY

Condor Earth prepared and submitted a report titled *Technical Report Notice of Intent to Comply (NOI) Order No. WQ 2015-0121-DWQ, Foster Poultry Farms, Manure Composting Operations* (Technical Report), which was received on 4 August 2016. Subsequently, Condor Earth provided further clarification to the Technical Report in an email dated 31 May 2018. Foster Poultry Farms (Discharger) owns and operates the Foster Farms Fertilizer Plant (Fertilizer Plant) located in the City of Livingston. The composting operations area (facility) of the Fertilizer Plant is currently regulated under Monitoring and Reporting Program (MRP) No. 96-811, which was adopted by the Central Regional Water Quality Control Board on 23 July 1996. The facility is currently located on 120 acres of the Fertilizer Plant property, which in some reports is also referred to as the "Manure Storage Facility." The Technical Report was required pursuant to State Water Resources Control Board Order WQ 2015-0121-DWQ, General Waste Discharge Requirements for Composting Operations (General Order).

This Notice of Applicability (NOA) was developed after the review of the *Notice of Intent* (NOI) to enroll under the General Order and the Technical Report as described in the attached Staff Memorandum, which is a part of this NOA. Based on staff's review, the facility meets the conditions of the General Order and is hereby covered under General Order **2015-0121-DWQ-R5F013** as a **Tier II** composting operation. Since the Discharger will be implementing the MRP included in the General Order, MRP No. 96-811 will be rescinded in a separate correspondence. The Discharger must comply with all Tier II requirements of the General Order.

The filing fee for composting operations is based on Threat to Water Quality and Complexity rating of 3B. The submitted \$4,699 filing fee covers the first year permitted by this NOA. The Discharger shall submit the required annual fee (as specified in the annual billing issued by the State Water Resources Control Board) until the NOA is officially terminated.

To fully comply with this NOA, please be familiar with the contents of the enclosed Staff Memorandum and all of the requirements of the General Order. The Discharger is responsible for implementing all operations in a manner that complies with the General Order. Any noncompliance with this General Order constitutes a violation of the Water Code, and is grounds for enforcement action, and/or termination of enrollment under this General Order.

Conditions of this Composting General Order include but are not limited to:

- Eliminate compost feedstocks from the biological nutrient removal (BNR) treatment ponds and former Industrial Wastewater Treatment Facility (IWWTF) pond solids by 31 August 2019.
- Perform site grading improvements to promote runoff to the stormwater retention basin by 31 August 2019.
- Reconfigure the stormwater retention basin to collect drainage from the east end of the facility by 31 August 2019.
- Install a liner system and pan lysimeter, which meets the requirements of the General Order, for the stormwater retention basin by 31 August 2019.
- Deepen monitor wells to obtain quarterly data at downgradient locations by 31 August 2019.
- Calculate statistically significant threshold concentrations for nitrate as nitrogen ( $\text{NO}_3\text{-N}$ ) and electrical conductivity for each monitoring well to identify indication of potential groundwater degradation by 31 August 2021.
- Provide additional information on site grading improvements and maps verifying the drainage pattern, wastewater volumes, and the presence of berms and/or ditches at the facility by 31 August 2019.
- Address any flood protection deficiencies by 31 August 2021.
- Provide a Water and Wastewater Management Plan describing how water and wastewaters will be managed, water re-use in composting operations, and a water balance demonstrating compliance with the Design, Construction and Operation Requirements section of the General Order by 31 August 2019.
- Submit a post-construction certification report to the Central Valley Water Board within 60 days of completing all construction activities associated with all applicable containment and monitoring structures, as required for compliance with this General Order and the MRP.
- Prior to any facility expansion, a technical report with design information will have to be submitted at least 90 days prior to new construction of working surfaces, stormwater retention basins, berms, ditches, or any other water quality protection containment structure for approval by the Central Valley Water Board. The design information must

include water balance calculations for retention ponds and wastewater conveyance features.

- Any expansion of facility operation must meet the requirements of the General Order prior to commencement of composting operations in any new area.
- A revised NOI is required at least 90 days prior to:
  - adding a new feedstock, additive, or amendment;
  - changing material or construction specifications;
  - changing a monitoring program; or
  - changing an operation or activity not described in the approved NOI and technical report.

The Discharger is opting to implement the Groundwater Protection Monitoring portion of the General Order MRP in lieu of meeting the hydraulic conductivity specifications for working surfaces and drainage ditches. As such, MRP No. 96-811 will be rescinded.

If the Discharger wishes to meet the hydraulic conductivity requirements for the working surfaces and drainage ditches in the future, then the groundwater monitoring requirements of the MRP in the General Order may be able to be waived. However, the stormwater retention basin still needs to meet the hydraulic conductivity and liner requirements of the General Order.

Attachment B of the General Order includes specific monitoring and reporting requirements that must be complied with, including routine monitoring and reporting to the Central Valley Regional Water Control Board. The first year Annual Monitoring and Maintenance Report as identified in the General Order must be submitted to the Central Valley Water Board no later than **1 April 2019**, and then annually by 1 April each year.

All reports and other correspondence must be converted to searchable Portable Document Format (PDF) and submitted electronically. Documents that are less than 50 MB are to be emailed to: [centralvalleyfresno@waterboards.ca.gov](mailto:centralvalleyfresno@waterboards.ca.gov). Documents that are 50 MB or larger are to be transferred to a portable data storage device and mailed to this office at the address provided on the cover page.

To ensure that your submittal is routed to the appropriate staff person, the following information should be included in the body of the email or any documentation submitted to the mailing address for this office:

Attention:	Title 27 Unit
Discharger Name:	Foster Farms Fertilizer Plant
Facility Name:	Foster Poultry Farms
County:	Merced County
CIWQS Place ID:	225132

If you have any questions regarding this letter or the attached Staff Memorandum, please contact Elizabeth Welch at (559) 445-6127 or [Elizabeth.Welch@waterboards.ca.gov](mailto:Elizabeth.Welch@waterboards.ca.gov).

Sincerely,

*Original signed by Clay L. Rodgers for:*

Patrick Pulupa  
Executive Officer

Enclosures: Staff Memorandum

cc: Brianna St.Pierre, State Water Resources Control Board, Sacramento  
James Marnatti, Director of Environmental Affairs, Foster Poultry Farms  
Foster Farms Fertilizer Plant, Livingston

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## Central Valley Regional Water Quality Control Board

**TO:** SCOTT J. HATTON  
Supervising Water Resource Control Engineer

CLAY L. RODGERS  
Assistant Executive Officer

**FROM:** KRISTEN S. GOMES  
Water Resource Control Engineer  
PE No. 79025

ELIZABETH A.M. WELCH  
Water Resource Control Engineer

**DATE:** 14 November 2018

**SUBJECT: APPLICABILITY OF COVERAGE UNDER STATE WATER RESOURCES CONTROL BOARD WATER QUALITY ORDER 2015-0121-DWQ, FOSTER POULTRY FARMS, MERCED COUNTY**

### REPORT OF WASTE DISCHARGE

Condor Earth prepared and submitted a report titled *Technical Report Notice of Intent to Comply (NOI) Order No. WQ 2015-0121-DWQ, Foster Poultry Farms, Manure Composting Operations* (Technical Report) received on 4 August 2016. Subsequently, Condor Earth provided further clarification to the Technical Report in an email dated 31 May 2018. Foster Poultry Farms (Discharger) owns and operates the Foster Farms Fertilizer Plant (Fertilizer Plant) located in the City of Livingston. The composting operations area of the Fertilizer Plant is currently regulated under Monitoring and Reporting Program (MRP) No. 96-811, which was adopted by the Central Valley Regional Water Quality Control Board on 23 July 1996 and will be rescinded under separate correspondence. The Technical Report was required pursuant to State Water Resources Control Board Order WQ 2015-0121-DWQ, General Waste Discharge Requirements for Composting Operations (General Order).

### SITE CONDITIONS AND INFORMATION

Composting operations are currently located on 120 acres of Fertilizer Plant property, which in some reports is also referred to as the "Manure Storage Facility." The Fertilizer Plant is located south of Highway 140 near the intersection of Lincoln Boulevard in Merced County. The composting operations area (facility) consists of feedstock storage, final product storage, bulk manure storage, active composting, and a stormwater retention basin. The facility receives, processes, and stores bulk quantities of poultry litter from Foster Poultry Farms ranches, which

is the primary feedstock for the composting operations. Feedstocks are delivered to storage areas prior to being moved to the compost working areas for active mixing, curing, and composting in windrows. A pad of native soil, approximately two acres in size, was constructed for use in product development and is sometimes used for receiving certain shipments of feedstocks exceeding 60 percent moisture. The native soil pad provides a durable surface of limited permeability that allows the Discharger to blend high-moisture feedstocks with dry poultry prior to placement in windrows. After composting is complete, finished compost is transported to a storage area.

According to the Notice of Intent for the facility, the current processing and total facility capacity is 500,000 cubic yards. The areas used for receiving, processing, and final product storage are purported to all drain via sheet-flow to the stormwater retention basin in the southwest corner of the facility.

The average annual precipitation is 11.58 inches (1914-2014). The average annual rainfall varies from a minimum of 3.01 inches (2013) to a maximum of 23.62 inches (1983). The mean evaporation is 60.14 inches (2000-2015). The magnitude of the 24-hour 25-year design storm was estimated to be 1.96 inches based on data provided by William Mork, State Climatologist, Department of Water Resources. According to the Federal Emergency Management Agency's (FEMA) Floodplain Map Number 06047C0400G, the facility is located in a FEMA designated Special Flood Hazard Area subject to inundation by one percent annual chance flood (Zone A). Zone A indicates that no base flood elevations have been determined. In late 1995, a berm was constructed surrounding the entire facility to prevent inundation of the composting operations area.

Land uses within one mile from the perimeter of the facility is primarily agriculture and livestock grazing but also includes some industrial (Fertilizer Plant), recreational (private duck pond), and a wildlife preserve (Grasslands Wildlife Management Area) uses. Average depth to groundwater is approximately 30 feet below ground surface. Gradients indicated flow directions are west to northwest. The facility contains six shallow monitoring wells, two extraction wells, and three piezometers, which have been previously monitored under MRP No. 96-811. The supply well is located approximately 120 feet west of the northwest corner of the facility. The facility also has three production wells used for irrigation, which are located within 1,000 feet of the site. The closest surface waters include the following: a duck pond (approximately 1,200 feet away from the nearest property boundary), Bear Creek (approximately 1.2 miles southwest from the nearest property boundary), and East Side Irrigation Canal (approximately 1.7 miles southwest from the nearest property boundary).

Surficial geology at the site is mapped as the Modesto Formation on the California Geological Survey Geologic Map of San Francisco-San Jose Quadrangle. The Modesto Formation and pre- and post-Modesto geologic units are lithologically similar and are subdivided based on soil profile development and unconformities marked by buried soils. These represent separate alluvial episodes, recorded by fill terraces opening westward onto alluvial fans. The combined thickness of the Modesto and pre-Modesto sediments ranges up to 120 meters in the eastern Central Valley and thin going west to the facility. The facility is located in the distal alluvial fan facies of the Merced River dominated by fine-grained silts and sands, sometimes reworked by aeolian processes into ancient dunes, now covered in grassy vegetation. The underlying Turlock Lake Formation includes lacustrine deposits of clay and fine sediments. Of hydrogeological interest is the Corcoran Clay Member, which is an important regional aquitard. Depth to the top of the Corcoran Clay in this area is inferred to be approximately 150 feet on

State maps. This is consistent with a "blue clay" from 185-248 feet below ground surface noted on a drillers log from the facility's supply well. Natural geologic materials in and underlying the location of the operations are sand, silt, and clay to a depth of approximately 40-45 feet. Within this section, accumulations of clay and hard cemented sand are noted at depth of 10-15 feet on borings from the 1990s. These hard pans are interpreted as illuviated fines accumulated at the maximum depth of penetration of winter precipitation which coincides with the approximate historic top of the capillary fringe.

### **COMPOSTING OPERATIONS**

According to the Technical Report, the facility complies with allowable feedstock requirements identified in the General Order. The compost feedstocks include poultry litter consisting of poultry manure mixed with bedding material of wood shavings or rice hulls, organic solids from the dissolved air flotation (DAF) water treatment process, bone residue from the Fresno processing plant, and filter cake from the Livingston rendering plant. All poultry litter stored at the facility for composting comes from Foster Poultry Farms owned poultry ranches. No additives or amendments are used. Currently, composting is only performed during the summer months. The total cubic yards of material undergoing composting at any one time does not exceed 50,000 cubic yards.

The compost mix is formed into windrows. Each windrow measures approximately 5 feet high by 10 feet wide by 300 to 350 feet long. Approximately 400 to 475 cubic yards of litter is contained in each. Depending on the month of the year and the moisture conditions of the raw feedstock, a total of approximately 9,000 to 10,000 gallons of water is added to the dry litter in each windrow. Each windrow is then mixed using a rotary-tilting machine that straddles the row and mixes the moistened material. The process results in aerobic composting of the litter, which takes approximately 15 days to complete.

According to the Technical Report, the facility does not have a wastewater management plan as no wastewater is generated. However, the General Order defines wastewater as, "leachate or any other liquid flowing from, or on the working surface." According to this definition, wastewater would be generated at the facility if precipitation comes into contact with feedstocks or compost materials at any stage of the composting operation. The Technical Report failed to include a wastewater management plan that satisfies Specification 5 of the General Order.

Stormwater is impounded onsite and evaporated during the dry season. Run-on is controlled by a berm constructed above the 100-year flood elevation. Runoff is controlled by grading the site to drain via sheet-flow to the on-site stormwater retention basin. The stormwater retention basin, which is clay-lined and has a capacity of 52.5 acre-feet, is located at the southwestern corner of the facility's processing and storage area. Since wastewater generated from storm events would also be collected in the stormwater retention basin, this basin must meet the design requirements of the General Order.

The composting operation is permitted for 120 acres. The feedstock receiving and storage area measures approximately 25 acres, the active and curing composting area measures approximately 22 acres, and the final product storage area measures approximately 19 acres. Surface soils are silt and fine sand that have been compacted by heavy equipment working on the composting working surface. Table P of Appendix B of the Technical Report contains the hydraulic conductivity results of the various areas of the facility. The information provided in the Technical Report indicates that the hydraulic conductivity requirements are not consistently met throughout the facility for the working surfaces, stabilized pads, or the stormwater retention

basin. The hydraulic conductivity requirements of the General Order for working surfaces and drainage ditches must be met if the Discharger chooses to discontinue groundwater water monitoring. However, at this time, the Discharger has opted to implement Groundwater Protection Monitoring in lieu of meeting these requirements. The stormwater retention basin still needs to be synthetically lined and a pan lysimeter monitoring device needs to be installed under the lowest point of the basin.

### **TIMELINE FOR COMPLIANCE**

Full compliance with the General Order must be completed by 4 August 2022 for existing facility operations. Any expansion of facility operation must meet the requirements of the General Order prior to commencement of composting operations in any new area.

Additionally, the Discharger must submit a post-construction certification report to the Central Valley Water Board within 60 days of completing all construction activities associated with all applicable containment and monitoring structures, as required for compliance with this General Order and the MRP.

### **MONITORING AND REPORTING**

The Discharger will regularly inspect and maintain all containment, control, monitoring structure, and monitoring systems pursuant to the submitted Technical Report and Attachment B of the General Order Monitoring and Reporting requirements. The frequency of inspections will be sufficient to prevent discharges of feedstocks, compost (active, curing, or final product), or wastewater from creating, threatening to create, or contributing to conditions of contamination, pollution, or nuisance.

The Discharger will conduct a monitoring program as prescribed in the applicable portions of Attachment B of General Order Monitoring and Reporting requirements. Sections that apply are A.1.-A.5, B and C. Results of monitoring will be reported annually in the Annual Monitoring and Maintenance Report, which will be submitted by **1 April** of each year as long as the Notice of Applicability is in effect.

### **SITE CLOSURE**

The Report states that at least 90 days prior to ceasing composting operations, Foster Farms will submit a Site Closure Plan for Central Valley Water Board approval.

### **DISCUSSION**

Foster Poultry Farms was inspected on 12 December 2017 pursuant to MRP Order 96-811. There did not appear to be any violations of MRP 96-811 observed during the on-site inspection.

### **RECOMMENDATION**

Based on staff review of the Technical Report, it is anticipated that the Foster Poultry Farms can meet the requirements of the General Order. The Notice of Applicability can be issued and stay in effect as long as Foster Poultry Farms implements all operations in a manner that complies with the requirements of the General Order.

Foster Poultry Farms proposed compliance items 1 through 6. The items proposed were adjusted to reflect additional clarification received via email dated 31 May 2018 that Foster Farms plans to continue with the groundwater monitoring option instead of meeting the requirements of hydraulic conductivity at the facility for the working surfaces and drainage



ditches. The original dates proposed were adjusted based on review time taken for the technical report. Additional items were added per staff's review of the technical report. Foster Poultry Farms must comply with the following items:

1. Eliminate compost feedstocks from the biological nutrient removal (BNR) treatment ponds and former Industrial Wastewater Treatment Facility (IWWTF) pond solids by 31 August 2019.
2. Perform site grading improvements to promote runoff to the stormwater retention basin by 31 August 2019.
3. Reconfigure the stormwater retention basin to collect drainage from the east end of the facility by 31 August 2019
4. Install a liner system and pan lysimeter, which meets the requirements of the General Order, for the stormwater retention basin by 31 August 2019.
5. Deepen monitor wells to obtain quarterly data at downgradient locations by 31 August 2019.
6. Calculate statistically significant threshold concentrations for nitrate as nitrogen ( $\text{NO}_3\text{-N}$ ) and electrical conductivity for each monitoring well to identify indication of potential groundwater degradation by 31 August 2021.
7. Provide additional information on site grading improvements and maps verifying the drainage pattern, wastewater volumes, and the presence of berms and/or ditches at the facility by 31 August 2019.
8. Address any flood protection deficiencies by 31 August 2021.
9. Provide a Water and Wastewater Management Plan describing how water and wastewaters will be managed, water re-use in composting operations, and a water balance demonstrating compliance with the Design, Construction and Operation Requirements section of the General Order by 31 August 2019.
10. Submit a post-construction certification report to the Central Valley Water Board within 60 days of completing all construction activities associated with all applicable containment and monitoring structures, as required for compliance with this General Order and the MRP.
11. Prior to any facility expansion, a technical report with design information will have to be submitted at least 90 days prior to new construction of working surfaces, stormwater retention basins, berms, ditches, or any other water quality protection containment structure for approval by the Central Valley Water Board. The design information must include water balance calculations for retention ponds and wastewater conveyance features.
12. Any expansion of facility operation must meet the requirements of the General Order prior to commencement of composting operations in any new area.

The Discharger is opting to implement the Groundwater Protection Monitoring portion of the General Order MRP in lieu of meeting the hydraulic conductivity specifications for working surfaces and drainage ditches. As such, MRP No. 96-811 will be rescinded.

If the Discharger wishes to meet the hydraulic conductivity requirements for the working surfaces and drainage ditches in the future, then the groundwater monitoring requirements of the MRP in the General Order may be able to be waived. However, the stormwater retention basin still needs to meet the hydraulic conductivity and liner requirements of the General Order.