Animal Waste Management Plan

July 17, 2023

Foster Farms: Ehlen Road #727

Operated by:

Foster Farms, LLC
1600 S. 13th Av
Kelso, WA
(360) 442-7413

Owner/Operator Contact:

Rich Reid
11671 Ehlen Road NE
Aurora, OR 97002
(503)-678-5048

Operation:

Chicken Grow-out Facility
Large Federal CAFO

As owner and operator of **Foster Farms, LLC: Ehlen Road Ranch**, I intend to manage in accordance with the practices described in this Animal Waste Management Plan.

Signature _____ Date 7/17/23

GENERAL NARRATIVE DESCRIPTION

Ehlen Road Ranch (Ranch) is located at **11673 NE Ehlen Road, Aurora, Oregon** and is owned by **Foster Farms, LLC**. The operation is a broiler chicken facility in Marion County. The facility is in operation year-round. Chicks are received from the hatchery in broods up to 349,999 for the 46-day grow out period. There are typically 6 grow out periods per year. The average finished weight is 6.5 pounds per chicken. Between broods, skimmed manure and litter generated is collected, stored and composted in the two compost barns at the Ranch. Skimmings are stored in the on-site compost sheds which have enough storage for approximately 360 days. The composted skimmed litter is then exported at least annually. A clean out of the poultry houses typically occurs once per year depending on cost and availability of bedding. The collected material from the cleanouts is transferred directly to trucks for transportation off the Ranch. No land application of manure occurs at the Ranch and export records are kept on file.

Poultry Operations

The poultry shelters are built on concrete stem walls and have compacted floors. The buildings are roofed and have solid walls to prevent precipitation from coming in contact with litter or manure. Feed is stored in feed silos outside the house and mechanically transported to feeders within the houses. See attached O&M Plan checklist.

Manure Collection Methods

The chickens are raised in poultry houses (60 feet x 600 feet each), which are designed for loose housing using wood shavings for bedding. Bedding materials may be changed based on cost and availability. Manure is contained within the houses while the chickens are at the facility. In between grow out periods, manure is skimmed, typically after five of the six annual broods and transferred to the covered manure storage barns for composting. Litter removed once per year from each of the houses during cleanouts is transferred directly to trucks and transported offsite. The floors within the poultry houses are compacted to meet a hydraulic conductivity of 1×10^{-5} cm/s.

Manure Storage Facilities and Transfer

The manure generated at the facility is handled in a dry solid form. Dry manure is skimmed from each of the houses using a front-end loader or litter-removal machine and transferred to the storage barns, where it is temporarily stored and composted without escape or contact with water. The two covered manure storage barns are each 60 feet by 100 feet. The floors of the storage barn are concrete. The manure is piled up to 10 feet high and composted in the barn where it is stored until the composting company or customers come to the Ranch for pick up. The Ranch has available storage capacity for approximately 360 days. Shipments of compost are exported from the Ranch as needed to maintain space in the manure shed. Stormwater is diverted around the manure storage barn and collected in a ditch onsite. See EC-1, Vicinity Map and Site Plan and EC-2, Phase-1 Grading Plan for the location of the production areas, manure storage and storm water detention pond. The covered manure barns are to be inspected frequently for structural damage and repaired as necessary to ensure that stormwater does not mix with the compost. Manure transfer activities are conducted to minimize spillage of manure and litter outside of the poultry houses and manure storage barn. Transfer areas are cleaned up frequently to remove manure and litter outside of the covered poultry houses and manure barns.

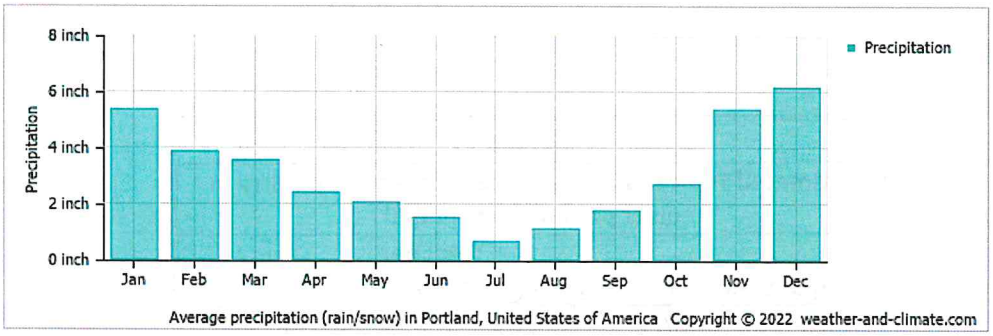
Precipitation and Drainage

Average precipitation data for the nearby areas is shown in the table below. Rainfall sheet flows directly off the roofs on poultry shelters and manure storage barns, and flows away from the structures. Precipitation does not come in contact with any waste materials. Clean storm water flows to a clean storm water pond, and then to a ditch that leads offsite.

Average monthly snow and rainfall in Salem (Oregon) in inches

This is the mean monthly precipitation over the year, including rain, snow, hail etc.

Show average precipitation in Salem in Millimeter »



* Climate data from: Portland, United States of America (80 KM, 50 Miles).

- A lot of rain (rainy season) falls in the months: January, November and December.
- On average, December is the wettest month with 6.1 inch (156 mm) of precipitation.
- On average, July is the driest month with 0.6 inch (16 mm) of precipitation.
- The average amount of annual precipitation is: 36.3 inch (923 mm)

Average monthly rainfall and snow in Salem (Oregon), United States of America (inches) (weather-and-climate.com)

Manure Utilization

Compost companies or customers remove manure off the Ranch on a year-round basis after composting.

SPECIFIC DESCRIPTIONS AND CALCULATIONS

Land Application Areas

Manure is exported off the Ranch. No manure is applied to Ehlen Ranch.

Manure and Waste Volumes

Volumes of manure were calculated using the Oregon Animal Waste Management worksheet based from the NRCS Agricultural Waste Field Handbook, with site specific factors added. See Table 1 for the estimated weight and volume of manure from the broiler brood from a 46 day grow out period for a placement of 349,999 animals.

Table 1

Estimated Typical Manure - Meat production poultry in units per finished animal[1]

Components	Units	Broiler	Total per Brood[2,3,4]	Units
Weight	lb/f.a.	11	3,154,594	lb
Volume	ft^3/f.a.	0.17	48,753	ft^3
Moisture	% w.b.	74	74	% w.b.
TS	lb/f.a.	2.8	802,988	lb
VS	lb/f.a.	2.1	602,241	lb
BOD	lb/f.a.	0.66	189,276	lb
N	lb/f.a.	0.12	34,414	lb
P	lb/f.a.	0.035	10,037	lb
K	lb/f.a.	0.068	19,501	lb

1) Table 12(a) ASAE D384.2, March 2005
2) Calculated with removal of skimmings between broods
3) Livability Factor of 0.95 used.
4) Factor of (46 days / 48 days) used.

Nutrient Content of Manure, Litter and Process Wastewater

Table 1 also calculates the estimated nutrient content of manure and skimmed litter. See Table 2 for the estimated volume of bedding added for each brood. The total quantity per brood is based on the addition of approximately 4-inches of wood shavings each of the eight barns after removal of skimmed manure from the previous brood. It is estimated that the volume of the wood shavings will be reduced by half due to volatilization of carbon and consolidation and filling of voids with poultry excrement.

Table 2				
Estimated bedding used per brood[1]				
Components	**Units**	**Barn**	**Total per Brood[2]**	**Units**
Weight	tons	45	720,000	lb
Volume	$yards^3$	70	15,120	ft^3

Farm Nutrient Balance

Manure is exported off the Ranch.

Application Schedule and Limitations

Manure is exported off the Ranch.

Routine Animal Mortality Management

Animal mortality is composted within the manure barn and is shipped off as a soil amendment or fertilizer. Composting of poultry mortalities is conducted by layering and shall not exceed a ratio of 1 part poultry carcasses to 3 parts poultry litter and manure.

Catastrophic Animal Mortality Management

In the event of a disease outbreak, the management of animal mortalities will be conducted in coordination with State and Federal Agencies that handles such occurrences. We have a catastrophic loss plan with ODA.

Record Keeping and Reporting

Soil samples are not required for this facility. A manure sample will be taken yearly to provide customers with nutrient content following the protocol for sampling manure included in this Animal Waste Management Plan below.

Ehlen Road Ranch records date and amount of manure exported to their customers. As a large Federal CAFO, the following inspections will occur and records will be kept:

	FREQUENCY OF INSPECTIONS	ITEM(S) TO BE INSPECTED
INSPECTIONS	TWICE DAILY	• Water lines • Animal welfare checks
	WEEKLY	• Storm water diversions • Runoff diversions • Waste transport • Storage structures • Storage structure volume
	PERIODICALLY	• Application equipment leaks

Record results of:

1) Twice Daily inspections.
2) Weekly inspections.
3) Periodic inspections.
4) Corrective actions taken, explain those not corrected.
5) Total amount of manure transferred to other persons, including date and amount of each transfer and the name and address of each recipient. Nutrient content data will be given to the recipient.

Ehlen Road Ranch will report any waste discharge within 24 hours to the Oregon Department of Agriculture. Annual reports including amount of manure exported will be submitted each year.

Protocol for Sampling Manure

Solid manure compost will be sampled and tested prior to manure exports in the Fall. Approximately 20 small grab samples from the manure pile will be taken to make on composite sample. After collection, the grab samples will be thoroughly mixed. About one quart of manure will be removed for nutrient analysis. The sample will be preserved for shipping to an analytical laboratory to be tested for Total Nitrogen (TKN), Ammonium Nitrogen (NH4-N), Phosphorus (P), Potassium (K) and moisture content (or dry matter).

Operation and Maintenance Plan
For
(Name of Operation)

Ehlen Rd Ranch
Name of Operation

Mark all that apply to your operation.

☐ Above and/or Below Ground Liquid Tank

The tank serves as a collection point for effluent to drain to or be scraped from the animal feeding areas. If the tank will provide storage capacity to the waste management system it shall be completely emptied at the beginning of the storage period and the contents applied to cropland as weather and crop conditions permit. A 1-foot free board will be maintained to prevent spillage. Continually maintain all pumps, agitators, piping valves and all other electrical and mechanical equipment in good operating condition by following manufacturer's recommendations. Float valves will be maintained in good working order. Perform daily inspections of waterlines including drinking water or cooling water lines. Repair leaking lines immediately to prevent excess water from entering the waste storage system. Depth markers are installed to assure maximum volume will be maintained and checked weekly. At least once every 5 years, the tank shall be emptied and inspected for structural damage and leakage. Any damage found shall be corrected before putting the tank back in service. Remove all foreign debris within the structure that may cause damage to pumps and agitator. If below ground, the tank lid will not be subjected to more than two, 8,000 pound wheel loads. Before entering a tank, for any reason whatever, proper ventilation shall be provided, and self-contained breathing apparatus shall be used, if required, when entering a covered tank. No one shall enter the tank unless safety ropes are used and someone else capable of providing assistance is outside of the tank. Warning: Entering Unventilated Tanks Is Extremely Dangerous.

☐ Animal Access Lanes or Walkways

Damaged components will be repaired or replaced as needed. Debris and excess manure will be removed from roadway surfaces, road ditch and drainage areas. Maintain drainage area capacities. Maintain good vegetative cover on all slopes and watercourses.

☐ Agitator

Preventative maintenance will be in accordance with the manufacturer's recommendations. Periodically examine the agitator for proper operation. Clean debris from the propeller and promptly replace any defective or damaged parts. Remove the agitator from the manure tank or pond and periodically clean and oil as needed to increase the life expectancy of the agitator. Immediately repair any vandalism or livestock damage. Do not allow livestock near the equipment during operation.

☐ Concrete Gutters

Floor gutters and grates will be inspected periodically. All foreign material restricting flow will be removed. Damage will be repaired as needed.

☐ Curbs

Curbs, gutters and slabs that are used to convey effluent to the below ground tank will be inspected periodically. Broken sections will be repaired or replaced. Manure or other solids will be prevented from building up next to curbs or flowing over them. If over flow is a consistent problem the curb height should be increased.

☐ Culverts

Inspect annually or after large rainfall event. All foreign objects restricting water flow will be removed. Damaged sections will be repaired or replaced. Erosion around inlet or outlet will be corrected.

☐ Dry Stack Storage Facility

Solid manure storage facility will be inspected annually. Broken slabs and curbs will be repaired. Repair or replace rusted or damaged areas on roof structure. Broken gutters and/or downspouts will be repaired or replaced. Check for adequacy and function of drain away from downspouts. Check side and back walls for soundness.

☐ Fencing

Fences will be inspected periodically. Broken or decayed posts will be replaced. Sagging wire will be tightened. Broken wire will be spliced or replaced. Broken or missing insulators for electric fencing will be replaced. Vegetation will be controlled under the fences.

☐ Filter Strips

Maintain vigorous growth of vegetative covering. This includes reseeding, fertilization and application of herbicides when necessary. Periodic mowing, harvesting or grazing may also be needed to control height. Remove all foreign debris that hinders system operation. Limit the traffic from filter strip area. Limit livestock usage to vegetative growth periods when the animals will not damage vegetative root system or compact the soil. Eradicate or otherwise remove all rodents or burrowing animals. Immediately repair any damage.

☐ Gutters and Downspouts

Gutters will be inspected annually to ensure all gutters are free of foreign materials. Broken gutters or downspouts will be replaced or repaired. Gutters will be connected to downspouts. Leaky gutters and downspouts will be repaired. Weeds and sediment will be removed from downspout outlets. All downspouts will be connected to outlets, which are kept free flowing. Outlets will be inspected for rodent guards and repaired or replaced as needed.

❑ Irrigation Water Management

Irrigation water application will be at rates that minimize transport of sediment, nutrients, and chemicals to surface water and ground water. Equipment modifications and/or soil amendments such as polyacrylamides and mulches should be considered to reduce erosion if needed.

❑ Manure Application Equipment

All manure application equipment (including but not limited to sprinklers, big gun irrigators, spreaders and/or tank wagons) will be operated and maintained according to the manufacturer's manual. Equipment found to be broken or worn will be replaced. Equipment will be calibrated to ensure recommended rates are applied. Liquids will be drained from sprinklers or big guns prior to freezing weather. When system is flushed, rinse water is used following waste, and liquid and sediment is applied agronomically. Nozzles will be checked periodically and if worn, nozzles will be replaced. Minimize exposure to animal and organic waters and manure gasses. Wear protective clothing when appropriate. When cleaning equipment after nutrient application, remove and save wastes in an appropriate manner. Avoid applying manure near surface water and use extreme care to avoid contaminating ground water.

❑ Manure Effluent and Irrigation Transfer Lines.

Manure, effluent and irrigation lines shall be flushed with clean water periodically to prevent particle buildup and plugging. Manure flushed from the lines will be applied agronomically so that surface and groundwater will be protected. Manure, effluent and irrigation lines shall be inspected periodically for leaks or worn out nozzles, and repairs or replacements made as needed. Special inspection shall be done to pressure relief valves, risers and control valves. Shut off valves will be inspected annually. Avoid unnecessary travel over pipelines that will damage their integrity. Equipment found to be broken or worn will be replaced. Water will be drained during cold weather to prevent frozen or broken lines. These lines can explode if not properly maintained and may cause human injury.

❑ Pumps

Pumps will be maintained in accordance with manufacturer's operation and maintenance manual. Effluent will be drained from pumps prior to freezing weather. Pumps will be inspected periodically to identify and remove debris wrapped around impeller or worn parts. Appropriate action will be taken to repair any worn parts. Liquids will be drained from pump prior to freezing weather to prevent breakage. It is recommended to have a spare pump or back up system in case a pump must be removed for an extended time for repair.

● Roofs

Roofs will be inspected annually. Rusted sections will be replaced or repaired if needed. Loose sections will be secured. All broken trusses, beams, poles, gutters and downspouts will be repaired or replaced.

❑ Solid Manure Separator

The separator should be inspected regularly for deterioration of protective coatings and repaired as necessary. All plumbing will be inspected annually and broken lines will be replaced or repaired. Loose connections will be tightened. If applicable, electric motors, pumps and gears should be routinely maintained. Separator will be operated and maintained according to manufacturer's manual.

☐ Subsurface Drainage System

Subsurface drainage will be inspected annually. Fields will be checked for breaks or suck holes. Outlets will be kept free of vegetation and sediment. Erosion at outlets will be corrected with riprap or other means. Damage or broken lines will be repaired. Outlets from fields on which animal waste is being applied will be monitored daily. Animal waste applications will cease if the tile outflows contains any indication of animal waste.

☐ Trough or Tank

Watering facility will be inspected periodically. Damaged tank/trough will be repaired or replaced. Float valves will be maintained in good working order. Area immediately surrounding the trough/tank will be maintained in a stable condition.

☐ Waste Storage Pond

Prior to the storage season, empty the pond to provide storage capacity for the accumulation of wastewater and precipitation during the winter storage period. Sludge and accumulated solids will be removed from the pond periodically when buildup limits storage capacity in the pond. Depth markers are installed to assure maximum volume will be maintained and checked weekly. A 2-foot free board will be maintained to prevent spillage.

Maintain all pumps, agitators, pipeline, valves, and electrical and mechanical equipment in good operating condition following the manufacturer's recommendations. Immediately repair any vandalism, vehicular, or livestock damage to any earth fill. Immediately remove any obstructions or blockage of spillways, trash racks or pipe inlets. Settlement or cracks in earthen sections should be investigated to determine cause and immediately repaired. Maintain vigorous growth of vegetative coverings on the dikes to eliminate soil erosion. Eradicate or otherwise remove all rodents or burrowing animals and repair any damage caused by their activity. Fences and/or warning signs should be maintained as necessary to unauthorized human or livestock entry. Operate systems in a manner that minimizes odor and drift.

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Signature of Legally Authorized Representative: _____

Print Name: Richard Reid Date: 7/17/23