



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

November 25, 2019

Dear Commentors:

This letter is in response to comments received by the Department of Environment and Natural Resources (DENR) regarding the proposed Ratio, LLC, swine operation in Hand County. Thank you all for your comments.

DENR received an application from the proposed facility for coverage under the General Water Pollution Control Permit for Concentrated Animal Feeding Operations. The department issued public notices for Ratio, LLC's proposed animal feeding operations on July 30, 2019 and August 15th, 2019 to the One Stop Public Notice website. A processing error caused the notices to not be published in *The Miller Press*, so the notice was published to *The Miller Press* and again on the department's One Stop Public Notice on October 16, 2019.

The purpose of this document is to list the comments received as a result of the public notice. Many comments are the same or similar. For this document, the DENR has combined similar comments and prepared the enclosed response which will be mailed to all those who commented.

The DENR reviews all applications for coverage under the general water pollution control permit for concentrated animal feeding operations (CAFOs) to determine if the proposed operation is designed and can be constructed, maintained, and operated in compliance with the conditions and requirements of the general permit. If the application meets all the conditions and requirements, the application will be approved or approved with conditions. If the application does not meet all the conditions, comments will be sent to the applicant explaining why the application will not be approved as currently submitted. Our review of the Ratio, LLC, swine operation is currently underway and your comments will be considered during the review.

Thank you again for your comments.

Sincerely,

Kent R. Woodmansey, PE
Administrator
Feedlot Permit Program

Enclosures

Response to Public Comments
Ratio, LLC, Swine Operation, General Water Pollution Control Permit Application
Division of Environmental Services
Department of Environment and Natural Resources
November 2019

Comment #1. Comments were received related to a proposed conditional use permit requesting the county commissioners deny the application and expressing concern that by issuing the conditional use permit, the County may be effectively entering into a partnership with Ratio, LLC for possible future litigation. Comments received included issues such as odor, flies, property values, reducing economic impact of hunting and fishing on public lands, the operation not being compatible with adjacent land use, reducing wildlife habitat, changing land use from cattle grazing to row cropping, elimination of possible future growth and development, road safety and traffic, and harming the neighbor's way of life. Comments express concerns about the distance of the proposed operation to game production areas, waterfowl production areas, and Sunshine Bible Academy. Some comments ask the department to develop a buffer for public recreation, wetland health, and adjacent properties. Some commenters asked the buildings be relocated, and that the department should consider predominant seasonal wind direction. One comment expressed concern about the Governor's Office of Economic Development (GOED) funds on the county's decision-making process. One comment involved possible drainage changes caused by proposed roads, drainage ditches, and culverts.

Response #1. These comments relate to land use and the county's approval of a conditional use permit. The South Dakota Legislature has given the authority to make land use decisions that regulate economic growth and development to local governments. The department cannot approve or deny an application based on the location of the proposed facility. Approval of the facility location is a decision made by Hand County.

As part of its land use decision making, counties may consider issues related to local or Township roadways, economic benefit, job creation, local taxes, or local social issues. These are not a part of the department's review. Also, setback distances established by the County must be enforced by the County.

The department's review is to ensure that the applicant's general permit application meets the requirements of the general permit, which requires the collection, containment, and management of all manure and process wastewater to protect the surface waters and aquifers of the state. The general permit also contains requirements for the design and construction of the manure containment system and the submission of an initial nutrient management plan showing the operation has enough land available for the agronomic fertilizer application of nitrogen and phosphorous in the manure and process wastewater that will be generated by the operation. The DENR will enforce all setbacks shown on the permit application and required by the permit.

The general permit recommends producers consider several conditions when siting, building, and operating a concentrated animal feeding operation (CAFO) and recommends several Best Management Practices (BMPs) to reduce odor, flies, dust, noise, and other nuisances. These include considering the distance to neighboring homes, public buildings, residential areas, recreational areas, and the prevailing wind direction. Planting shelterbelts and adding other aesthetically pleasing controls are

also recommended but not required. These BMPs are recommended, not required, because many of these issues are normally addressed at the county level through county zoning or nuisance ordinances. Please see the definitions of “shall” and “should” in the definitions section of the general permit as these words are used to differentiate between required and recommended conditions.

The department is not involved in the GOED funding process. The legislature has given the authority to regulate drainage to local government not to DENR.

Comment #2. Several commenters stated they are concerned the proposed operation will create odor problems and generate air pollution.

Response #2. The operation has applied for coverage under a water pollution control permit authorized by SDCL, Chapter 34A-2, Water Pollution Control Act. The general permit includes best management practices to reduce odors, but there is no authority to regulate odor or set standards to eliminate odors. The primary mechanism to address odors in South Dakota is through planning and zoning regulations. The Legislature has given the authority to local governments, such as counties and municipalities, to adopt local laws that address where animal feeding operations may be located in their respective jurisdictions. The state general permit for concentrated animal feeding operations requires the owners of permitted operations to comply with all local requirements. If a feeding operation is in compliance with local requirements, the division can do no more than encourage the producer to implement certain best management practices that may reduce odors in the area.

The department does not regulate odors for two reasons. First, although air quality and air pollution sources are regulated in South Dakota, the department does not have the statutory authority to regulate odor. Second, because each individual has a different impression of an offensive odor, there is no good scientific basis at this time upon which to measure odors.

The federal EPA is currently reviewing the results of their National Air Emissions Monitoring Study which may lead to additional requirements in the future.

Per the response to Comment #1, the general permit requires operators to consider several conditions when siting, building, and operating a CAFO and recommends several best management practices (BMP's) to reduce odor, flies, dust, noise, and other nuisances. These include considering the distance to neighboring homes, public buildings, residential areas, and recreational areas, and the prevailing wind direction. Planting shelterbelts and adding other aesthetically pleasing controls are also recommended but not required. These Best Management Practices are not required, because many of these issues are normally handled at the county level through land use decisions ordinances.

Comment #3. Comments were received regarding the elimination of family farms and South Dakota Codified Laws, Chapter 47-9A, Corporate Farming Restrictions.

Response #3. Section 47-9A-11 indicates livestock feeding is exempt from this Chapter and § 47-9A-13.2 indicates pork production is subject to the same provisions as other operations. These laws are not implemented by the department.

Comment #4. Several comments express concern about the use of trucks and heavy equipment at the facility relative to potential whooping crane impacts and harm other wildlife. One comment indicates

the landowner should be required to live at the site and only recently purchased this land in comparison to neighbors who have owned their property for much longer.

Response #4. The department has no authority to regulate this activity. The permit the operation applied for is a water pollution control permit.

Comment #5. A comment was received that expressed concern about land application occurring in the fall during a time of high public use of the nearby areas when hunting occurs.

Response #5. Producers have a short window after harvest in the fall to land apply manure and process wastewater to ensure they have adequate capacity in their manure management systems through the winter. The department has no authority to restrict land application in the fall.

Comment #6. There were comments asking the department to revise the land application locations and develop appropriate buffers for the land application sites. Photos of the area and NMP fields were submitted by the public.

Response #6. If the initial nutrient management plan meets the requirements of the general permit, the department cannot require the land application locations be revised. The general permit contains setback requirements between land application fields and non-farmed drainages and wetlands. These setbacks to protect surface water were established in federal regulations adopted by the US Environmental Protection Agency, which DENR has adopted. State law does not allow the department to adopt a regulation more stringent than a corresponding federal law, rule, or regulation governing an essentially similar subject or issue. The general permit contains setbacks between land application areas and wells that match the department's Water Rights rules for well drillers.

The general permit includes nutrient management planning requirements based on the U.S. EPA's regulations, South Dakota Natural Resource Conservation Service's (NRCS) technical standards, and South Dakota State University's *Fertilizer Recommendation Guide* to ensure manure is properly land applied for its nutrient value and includes manure and soil testing, rate calculation, and record keeping requirements to ensure that nitrogen is not applied in excess of the crop's nitrogen need. The general permit requires the collection and containment of all manure and process wastewater to protect the surface waters and aquifers of the state. Also, the general permit requires CAFOs to use the nutrients in the manure for the purpose of fertilizing growing crops to prevent the runoff of nutrients that cause water pollution. An initial nutrient management plan is required to be submitted as part of the permit application, and the producer is required to develop an annual nutrient management plan. This is done by calculating appropriate nutrient application rates based on soil sampling, manure sampling, crop rotations, and expected crop yields. The initial nutrient management plan includes documentation that the producer has an adequate number of acres under contract or ownership to land apply the anticipated nitrogen and phosphorus generated at the CAFO and that it will be land applied at agronomic rates.

Best Management Practices are included in Section 1.4.4.1. of the general permit to ensure nutrients are properly land applied and do not cause pollution to waters of the state. Examples of BMP's that are applicable to areas near water of the state are listed below. Items with the word "shall" are required and items with the word "should" are recommended.

- 1.4.4.1.g - A 100-foot buffer zone or 35-vegetated buffer shall be required between any manure land application areas and surface waters of the state.

- 1.4.4.1.h - Depending upon the results of a producer's soil phosphorous test and estimated field erosion, a 100-foot vegetated buffer zone shall be required if the producer wants to apply manure based on the nitrogen need of the crop and not crop removal of phosphorous (see Table 2 on page 34 of the general permit which was developed by South Dakota State University and Natural Resources Conservation Service soil experts);
- 1.4.4.1.j - Land to be irrigated or receive manure should have a slope less than 6 percent;
- 1.4.4.1.k - Highly erodible soils due to water erosion should be avoided;
- 1.4.4.1.l - Manure and process wastewater land application practices should be managed to prevent ponding of wastewater on the land application site and shall be managed to prevent runoff of manure or process wastewater beyond the edge of the field.; and
- 1.4.4.1.n - The producer shall inject or incorporate any liquid manure or wastewater within 24 hours of application to non-vegetated cropland. If the process wastewater/liquid manure is surface applied, sprinkled, or spray irrigated to cropped fields, grass, alfalfa, pasture land, or no till cropland, incorporation is not required.

An operation with coverage under the general permit is required to determine the appropriate agronomic application rates of manure and process wastewater, prior to application, based on a soil and manure test, nitrogen credits, the crop to be grown, and the expected yield. Table 2 on page 34 of the general permit has requirements for application based on a current soil phosphorous test, sheet and rill erosion values for each field, and vegetated buffers. These requirements determine whether application can be based on nitrogen need, phosphorous crop removal, or is not allowed.

Comment #7. The U.S. Fish and Wildlife Service (USFWS) requested the department require an analysis of the runoff risks, potential effects and develop and implement a water quality assessment and long-term water quality monitoring of the Calahan WPA to include mitigation measures. Comments were also received about allowing access to this Waterfowl Production Area.

Response #7. The U.S. Environmental Protection Agency considered runoff risks when they developed their federal regulations for nutrient management planning. The general permit meets those requirements. The department has no authority to require the additional requirements the USFWS requests. If the USFWS can require these items, it is free to do so. The general permit has no authority to address access to the Waterfowl Production Area.

Comment #8. Comments were received concerning water usage at the operation and requesting a water balance of the adjacent wetland because low water levels in the wetland will result in negative impacts to the quality of the remaining water. Comments were also received indicating the operation has dug two test wells and when in operation, the operation potentially impacting an existing private well or cause a neighbor's well to go dry.

Response #8. The cover letter for the engineering plans indicates the producer is aware of the department's water rights requirements. Section 1.4.8.1. on page 40 of the general permit requires the operation to obtain a water right permit if the operation uses more than 25,920 gallons per day (18 gallons per minute) or if the combined maximum pump capacity exceeds 25 gallons per minute. This water usage is for the well only and does not include any water supplied by rural water. This section also requires the operation to install a flow meter between the water source(s) and the first water use location if the operation does not have a water right and gets its water from a well. Flow

documentation shall be maintained on-site for review during DENR inspections to verify a water right is not required. The general permit has no authority to require a water balance for the adjacent wetland.

The department's Water Rights Program can investigate complaints of impacts on private wells. For more information contact the Water Rights Program at (605) 773-3352.

Comment #9. The USFWS requested the department require that the NRCS' SPAW model be used to evaluate the nutrient management plan.

Response #9. The general permit's nutrient management planning requirements do not require the use of the SPAW model to evaluate nutrient management planning fields. Because of this, the department cannot require this modelling.

Comment #10. The USFWS asked that an individual permit be required.

Response #10. General permits are written for the same or similar types of operations that have the same permit conditions or standards. Ratio, LLC will have a manure containment system designed, constructed, operated, and maintained, and a nutrient management plan meeting both the state and federal requirements for a swine feeding operation. Our general permit is the most appropriate way to regulate this operation. The USFWS letters ask the department to go above and beyond the items required in federal EPA and DENR rules, which we would not be able to do when issuing an individual permit.

Comment #11. A comment asks who will be liable for pollution of ground water and wells.

Response #11. Once permitted, and in operation, Ratio, LLC will be responsible for operating and maintaining its manure management system in compliance with the requirements of the general permit, and its permit application. The general permit contains specific design criteria to protect surface waters and shallow aquifers and requirements for operations located over shallow aquifers as defined in SDCL 34A-3A-24. If an operation is located over a shallow aquifer the operation is required to either obtain a ground water discharge permit or install monitoring wells to ensure the shallow aquifer is not being impacted. The *First Occurrence of Aquifer Materials in Hand County, South Dakota* map, local well logs, and the on-site soil borings submitted with the plans and specifications indicate the top of the aquifer at the proposed manure containment structures is greater than 50 feet below ground surface with a sufficient thickness of low to extremely low permeability material. Therefore, according to SDCL 34A-3A-24, and the general permit this site does not overlie a shallow aquifer.

Comment #12. A commenter indicated there is an old creek bed that runs through the proposed area that has been plowed over, and water still drains through there.

Response #12. The site plan shows drainage ditches and culverts designed to divert clean water away from the operation.

Comment #13. One commenter indicated there are limitations of the proposed land application areas based on a NRCS soils rating of "somewhat limited" and "very limited" for manure application. Commenters were concerned as the submitted soil maps and local topography indicate high risk for

runoff, and the nutrient management plan fields are not planted this year due to many sloughs and wetlands and will runoff.

Response #13. The general permit requires runoff risk be evaluated as part of the requirements in the Nitrogen Need/Phosphorous Crop Removal Manure Application Determination Table (page 34).

The department has received similar comments regarding the use of the NRCS soil survey in the past. Based on those comments, we consulted with South Dakota NRCS staff. The Natural Resources Conservation Service explained the limiting factors associated with the “somewhat limited” rating. These include low permeability or slow water movement, moderate slopes, and water present in the soil profile at a depth greater than two feet. The recommended method of overcoming the slow water movement and moderate slopes is injecting or incorporating the manure or reducing application rates. The recommended method of overcoming water present in the soil profile is reducing application rates. Natural Resources Conservation Service indicated the DENR requirement for a nutrient management plan addresses the limitations of those soils with “somewhat limited” rating.

A large percentage of the areas identified in the comments as areas that with the “very limited” rating are included within the setback areas identified on the land application maps where land application will not occur or in the Cahalan WPA lake. NRCS explains the most common “very limited” rating in the area is due to the filtering capacity of the soils. These “very limited” areas are not included as land application sites and no land application of manure or process wastewater will occur in these areas. The concern is the high permeability of the soils. According to the Agricultural Waste Management Field Handbook, the recommended method of overcoming this limitation is split applications of waste and reduced application rates. The Natural Resources Conservation Service states the general permit addresses the “very limited” ratings associated with high permeability and potential nitrate leaching by techniques such as soil and manure testing and application rate monitoring. The department reviews the geology and soils of every proposed land application site in the nutrient management plan to determine if it is over a shallow aquifer. If it is, deep soil sampling is required or after harvest testing is mandated to monitor residual nitrates in the soil profile. In addition, application rate calculations are based on realistic yield goals. The department’s review determined none of the proposed land application sites overlie a shallow aquifer.

The Natural Resources Conservation Service indicated if manure applications are properly performed in accordance with the requirements of DENR’s General Water Pollution Control Permit, the requirements of the General Water Pollution Control Permit should mitigate the “very limited” soil properties.

The department agrees with NRCS’ assessment. The department worked cooperatively with soil scientists in the Natural Resources Conservation Service and fertility experts with the South Dakota State University Cooperative Extension Service to develop the nutrient management plan requirements in the general permit. These requirements have been in place for nitrogen since the first general permit in 1997, the phosphorus requirements since 2003, and some changes were made in 2017 to reflect changes to the most recent South Dakota 590 standard. The record keeping required by permitted producers, inspections of those records by the department, and the extensive experience of the Natural Resources Conservation Service and the Cooperative Extension Service in nutrient management planning and soil fertility has shown the general permit nutrient management plan requirements result

in the nutrients being used to raise crops. This not only reduces runoff of nitrogen and phosphorus, it is reducing the total amount of those nutrients used on cropland through commercial fertilizer.

Comment #14. A comment recommending fields with subsurface tile drainage not be used for the application of manure was received.

Response #14. The legislature has given the authority to regulate drainage to local government not to DENR. The general permit does not restrict the use of tile lines in manure land application fields and the department has no way to determine if tile lines are present in a field. Producers must still follow setbacks from tile surface inlets and all other nutrient management planning requirements when land applying manure. The general permit contains recommended best management practices for tiled fields.

Comment #15. One comment recommended the department contact the South Dakota Department of Game, Fish and Parks (GF&P) to request an environmental review to determine if new or expanding concentrated animal feeding operations (CAFOs) may have an impact on state-listed species or species identified as vulnerable, imperiled, or critically imperiled.

Response #15. GF&P has never submitted comments to the department on any public noticed CAFO permit application. If GF&P has concerns or comments, they have the opportunity to provide those comments during the public notice period for an application for a new operation or an operation increasing its maximum animal numbers.

Comment #16. One comment asked that detailed documents on the proposed facility including the nutrient management plan and application be made available by DENR online before a public notice is issued. The commenter also referenced draft permits and Statements of Basis which are public noticed.

Response #16. Most department applications for coverage under a general permit are not public noticed. However, the general permit requires a public notice for new and expanding operations. These are public noticed in a local newspaper and on our one-stop website. Copies of the application are available to the public by paying a photocopy fee. This also allows program staff to provide any corrections or changes submitted to the application to those people who paid the fee. Draft permits and Statements of Basis are provided on our One-Stop Public Notice website when individual permits are public noticed. This was done when the General Water Pollution Control Permit for Concentrated Animal Feeding Operations was public noticed for reissuance. The general permit is already available on our website.

Comment #17. One commenter indicates the facility can discharge in a “25-year, 24-hour Storm Event, which is 4-inches in Hand County. One commenter indicates the department is making a decision to issue the operation state permit coverage and indicates a future tile pond has the potential to discharge.

Response #17. The producer makes the decision whether to apply for a state permit or a National Pollutant Discharge Elimination System (NPDES) permit under the general permit. The department makes sure the general permit’s requirements for the type of permit applied for are met. The producer has applied for state permit coverage which allows no discharge of solid or liquid manure, litter,

compost, raw material, or process wastewater from the animal feeding operation and the manure management system to waters of the state, even in a 25-year, 24-hour storm event. If certain criteria are met, the general permit requires an operation with state permit coverage, to get NPDES permit coverage. Those criteria have not been met.

In many states water from foundation tile can be discharged. In South Dakota, foundation tile, since it has the potential to be process wastewater must be contained. The site plan includes a potential tile water pond, but design information is not part of the application as it has not been determined if foundation tile will be needed to construct the barns. If the operation installs foundation tile and to construct a tile water pond, additional design information will need to be submitted to the department for approval. If a tile pond design is submitted and the operation wants to continue to have state permit coverage, they will need to include a Soil, Plant, Air, Water model run using the pond's design and 100 years of climactic data to show it is designed to not discharge.

Comment #18. No crop has been planted this year on the land application fields because of wet conditions. What requirements will be put into place to prevent the property from being used as a place to dump the waste from this facility without anything being planted to hold the soil in place and curb the runoff and erosion that will contaminate publicly owned property? Are absolute minimum setbacks around these public properties enough?

Response #18. The producer's initial and annual nutrient management plans set the requirements the producer is to follow to ensure the manure and process wastewater is used for its agronomic value. The nutrient management plan has more land than a producer needs for one year in the plan. The manure application rate is based on the crop expected to be grown. The general permit includes a process and requirements for adding fields to a producer's nutrient management plan. See response #6.

Comment #19. A commenter asked if the department will do surface and ground water quality testing before the facility is built to ensure that there are no negative effects done to public properties or above and below ground waters.

Response #19. Surface monitoring is not required as state permitted CAFOs are not allowed to discharge. Collecting surface water samples would provide information on water quality at that point but would not indicate the source of pollutants. Ground water monitoring is required if the operation is determined to be located over a shallow aquifer. See Response #11.

Comment #20. The application to Hand County for a Conditional Use Permit states that there are "no wells present", the hard copy photos that I submitted to DENR on 11/12/2019 clearly show otherwise. Is this in fact an attempt to avoid additional regulation or cost to the developer by providing incomplete information? A commenter also indicates there are old wells in the drainage path that were not plugged. There were comments about abandoned wells that were not properly plugged located in the nutrient management plan fields that will act as a direct conduit for pollution of ground water and neighboring wells with nitrates, organisms, and diseases.

Response #20. The general permit requires setbacks between wells and land application areas and liquid manure containment systems. Program staff looked at the photos provided and tried to find

where these wells were located on a map. Based on our review, areas shown in the photos are outside of land application fields or required setbacks for these wells are shown on the applicable field maps.

If you are aware of any abandoned wells that have not been properly plugged, please contact the Water Rights Program at (605) 773-3352.

Comment #21. A respected local producer stated that he has seen the proposed hog barn location under water during a spring snow melt. Are there protections in the design of this facility that will ensure the DENR standard of zero release of waste if and when this spring flooding event happens again?

Response #21. In her June 2019 Climate Outlook published June 7, Laura Edwards, SDSU Extension State Climatologist, said the 12 months from June 1, 2018, to May 31, 2019, was “the wettest 12-month period in 124 years of record-keeping” in South Dakota. This area is not flooded at this time. A review of aerial photos available to the department did not show any other times where the area where the barn will be constructed was inundated. The site plan includes information on culvert location and drainage to divert clean water away from the operation.