

**North Dakota Department of Environmental Quality Public Notice
Issue of an AFO Permit**

Public Notice Date: 5/30/2019

Public Notice Number: ND-2019-008

Purpose of Public Notice

The Department intends to take public comment to ensure the following Animal Feeding Operations AFO Permit follows the authority of Section 61-28-04 of the North Dakota Century Code.

Permit Information

Application Date: 4/3/2019

Application Number: NDAFO0878

Applicant Name: Tracy Hoherz

Mailing Address: 4602 Shoreview Place, Mandan, ND 58554

Telephone Number: 702.400.9011

Proposed Permit Expiration Date: 6/30/2024

Facility Description

The application is for a beef confinement facility that is located 3 miles northwest of Stanton, ND, in NE 1/4 of the NE 1/4 of Section 36, Township 145N, Range 85W, in Mercer County. The application indicates the facility will have a maximum of 1,999 beef cattle with an average weight 1,000 lbs.

Tentative Determinations

The submitted application and supporting documentation have been reviewed by the Department. They assure that State Water Quality Standards will be protected and the system will be constructed and can be operated in compliance with the North Dakota state requirements for storage and handling of manure and wastewater for an Animal Feeding Operation.

Information Requests and Public Comments

Copies of the application, draft permit, and related documents are available for review. Comments or requests should be directed to the ND Dept of Env Quality, Div of Water Quality, 918 East Divide Ave, Bismarck ND 58501-1947 or by calling 701.328.5210.

All comments received by June 29, 2019 will be considered prior to finalizing the permit. If there is significant interest, a public hearing will be scheduled. Otherwise, the Department will issue the final permit within sixty (60) days of this notice. If you require special facilities or assistance relating to a disability, call TDD at 1.800.366.6868.

**FACT SHEET FOR STATE AFO PERMIT
NDAFO-0878**

**TRACY HOHERZ
STANTON, ND**

DATE OF THIS FACT SHEET – APRIL 3, 2019

INTRODUCTION

The North Dakota Department of Environmental Quality has the statutory responsibility to control the pollution of surface waters, groundwaters, and the air of the state. Water Quality Standards have been developed and adopted for the surface waters of North Dakota. An extensive Water Pollution Control Act, addressing among other things the control of livestock waste, was adopted by the 1967 state legislature. The Rules and Regulations for the Control of Pollution from Certain Livestock Enterprises were first issued in 1972 and updated in 1989, 2005, and 2018.

The following rules or regulations apply to feedlot operations permits:

- Operations requiring a permit (NDAC chapter 33.1-16-03.1-05),
- Authority for issuing Feedlot Permits (NDAC chapter 33.1-16-03.1-01),
The Department of Environmental Quality has been authorized to provide and administer this chapter relating to the control of pollution from animal feeding operations under the provisions of North Dakota Century Code section 61-28-04.
- Procedures the department follows for issuing Feedlot permits (NDAC chapter 33.1-16-03.1),
- Standards of Quality for Waters of the State (NDAC chapter 33.1-16-02.1)
- Control, Prevention, and Abatement of pollution of surface waters (NDCC 61-28-01)

According to the North Dakota Administrative Code (NDAC) section 33.1-16-03, if the department determines a significant degree of public interest exists regarding new or expanding facilities, it shall issue a public notice requesting comment on applications for both individual permits and general state animal feeding operation permits. The department shall provide a period of not less than thirty days during which time interested persons may submit comments. The period of comment may be extended at the discretion of the department. In making its final decision on the application or draft permit, the department shall consider all comments submitted within a time frame specified in the public notice and all comments received at any public hearing. Within twenty days of the close of the public comment period, the applicant, if any, may submit a written response to the public comments. The department shall consider the

applicant's response in making its final decision. Pursuant to the requirements of this chapter (NDAC 33.1-16-03. 8.) and within sixty days of the applicant's response to the public comments, the department shall make a final determination as to whether the permit should be approved, approved with conditions, or denied. The department shall notify the applicant in writing of its final determination and provide to the applicant a copy of the final permit, if issued. Upon request, other interested individuals may also obtain copies of the final permit. (NDAC 33.1-16-03)

For more information regarding preparing and submitting comments about the fact sheet and permit, please see **Appendix A – Public Involvement**. Following the public comment period, the department may make changes to the draft feedlot permit. The department will summarize the responses to comments and changes to the permit in **Appendix D – Response to Comments**.

DRAFT

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DRAFT

BACKGROUND INFORMATION**Table 1 – General Facility Information**

Applicant:	Tracy Hoherz
Facility Name and Address:	Tracy Hoherz 4200 Co Rd 18 Stanton, ND 58571
Permit Number:	NDAFO-0878
Permit Type:	CAFO
Hydrologic Code:	10130201 - Knife

FACILITY DESCRIPTION

The Tracy Hoherz farm is located 3 miles northwest of Stanton, ND, in NE ¼ of the NE ¼ of Section 36, Township 145N, Range 85W or Latitude 47.341364°N and Longitude - 101.443589°W, in Mercer County.

An application submitted to the department on April 3, 2019 indicates the facility will be permitted for a maximum of 1,999 beef heifers with an average weight of 1,050 lbs. The application indicates the owner is planning to build a confinement barn with deep pit manure storage.

GROUNDWATER AND SURFACE WATER**Geology:**

The site lies in the Missouri Slope Upland region of the Great Plains physiographic province that is characterized by a rolling to hilly plain with long simple slopes, local relief of 300 to 500 feet per mile, and well integrated drainage.

Topography:

The site lies in the alluvial valley of the Knife River that served as a glacial meltwater channel. The Knife River Valley lies about 40 feet lower than the surrounding uplands of inter-bedded silt, clay, and lignite deposited as the Sentinel Butte Formation.

Slope:

The slope is 5% for the site.

Runoff:

There will be no runoff captured at this site.

Elevation:

1,705 feet (Approximately, based on United States Geological Survey Quadrangle maps)

Site Drainage:

The facility drains south toward Knife River. The Knife River is at an elevation of 1,609 feet. This is a difference of 96 feet over a distance of 2,604.3 feet.

Water Bodies: Knife River

Soils:

The primary soils at the site, as indicated by NRCS soil survey, including Straw loam, and Straw silt loam. These soils consist mostly of CL, ML-CL, ML, and SM materials. The water table is greater than six feet deep. (See Appendix C, Table 8)

Aquifers: Missouri River Aquifer

Public Wells:

There are 22 irrigation well(s), zero public wells, and 11 observation well(s) located within two miles of the site. (Appendix C, Table 7)

Private Wells:

Within two miles of the site there are 72 well(s) identified. Wells in the general area are from 22 feet to 1,070 feet deep.

MANURE HANDLING AND DISPOSAL

Facility Operation:

The facility will incorporate a confinement barn with a deep pit constructed under the barn. All the manure from the livestock will be stored in the deep pit until it is utilized during land application. The runoff from the feed storage area will be collected in a runoff containment pond. Livestock are planned to be confined at this site year around in the confinement barn.

Manure Handling:

Manure from the livestock will be contained in the concrete deep pit located below the confinement barn. Slatted floors will be installed in the barn. The concrete deep pit will be 12 feet deep.

Expected Manure Quantities:

Table 2- Manure quantities from design plans

Number of Head	1,999 beef feeders
Average Weight	1,000 lbs
Manure Production	1 ft ³ /day
Total Volume Needed for Manure Storage	729,635 ft ³ /yr or 5.46 Mgal

Mortality Disposal:

The owners have chosen burial for the facilities disposal method. Mortality will be buried on the owner's property and be at least four feet below the ground level and covered with dirt to that depth. They shall not be buried in an area where there could be a surface or ground water impact such as along river banks or in sandy soils with high water tables. The best locations for burying are on higher areas with heavy clay soil that are away from water and drainage ways.

This site appears to be a clay silt type soil-5 Dimmick silty clay, which was indicated by Web Soil Survey to be suitable to be used as a large animal carcass burial location.

ODORS

Potential Sources:

A source of potential odors appears to be the barn and runoff containment pond. Odors from the lots may be minimized with good house-keeping practices. Land application may present a source of short term odor events. The county regulates the nature, scope, and location of this operation, so the state setbacks do not apply. The nearest residence is 0.63 miles from the feedlot.

SPECIFICATIONS

Manure Storage Structures:

Table 3-Required manure storage

Type: Manure Deep Pit	
Deep Pit Dimensions	
Top liquid area	63,604 ft ²
Bottom surface area	63,604 ft ²
Design volume	731,452 ft ³ or 5.47 Mgal
Manure Storage Depth	11.5 ft
Total Depth	12 ft
The facility has the capacity to store the manure generated.	

Table 4-Feed storage runoff containment

Type: Runoff Containment Pond	
Pond Dimensions	
Design surface area	34,100 ft ²
Top liquid area	20,315 ft ²
Bottom surface area	10,184 ft ²
Design volume	60,998 ft ³ or 0.46 Mgal
Depth	6 ft
The facility has the capacity to store the designed runoff from the 2.48-acre feed storage area.	

Soil Summary:

The proposed location appears suitable based on soil survey and ground water survey information. The borings indicate that the Unified classification for the subsoil at the site is generally CL to a depth of about 18 feet. The bottom of the manure deep pit is proposed to be at a relative elevation of 92 feet. (Appendix C, Table 9)

Clay Liner Construction Testing:

A clay liner is not required since in situ soils meet the department's requirements in the North Dakota Livestock Program Design Manual (NDLPDM). However, if unsuitable material is located under a portion of the pond, the engineer has indicated this area will be over excavated and replaced with two feet of compacted clay material.

Manure Transfer Components:

Manure Storage Structure Considerations:

The facility has incorporated 32 pump-out ports into the design. There will be 10 ports located on the north side of the barn and 10 ports located on the south side of the barn. There will also be 12 ports located down the center of the barn.

Concrete & Rebar:

The confinement barn concrete and rebar specifications follow the guidelines of the American Concrete Institute's publication "Building Code Requirements for Structural Concrete", ACI 318. The design also references to the NRCS Standard 313, Waste Storage Facility. Concrete will be air entrained ranging from 4%-7%. The compressive strength of the concrete for the precast components will be 5,000 psi. The compressive strength of the concrete for the base slab and footings will be 3,500 psi. The steel reinforcing shall be Grade 60 throughout the building in accordance with ACI 318-83.

Foundation Drain:

Drain tile will be placed around the perimeter, outside the foundation base of the deep pit of the confinement barn. The tile collects clean water from outside water sources that apply pressure to the walls which will help extend the life of the facility. The tile will outlet to the southwest, away from the facility.

Earth Fill:

The design plans indicate vegetation and organic material will be stripped and removed from the footprint of the embankment. Organic materials or frozen soil will not be used in fill material. Appropriate topsoil as deemed by the engineer will be used as cover material on the outside slopes of the embankment. The embankment will be seeded to a shallow rooted perennial grass.

Groundwater Monitoring Plan:

The proposed facility overlies a designated sensitive groundwater area and the Missouri River defined surficial aquifer. There are multiple active Domestic/Stock wells within a 2-mile radius of the site. Two domestic/stock wells are located at the facility location; one is screened at a depth of 40-50 feet and the other is screened at a depth of 30-40 feet. The facility does not overlie any Wellhead Protection Areas (WHPA). Soils are primarily silty loams.

Runoff will be contained in an earth pond. The water level is shallow, with a static water level recorded at 21 feet. According to the well log at the facility, brown sand was encountered at a depth of 0-18 feet. Brown clay was encountered at 18-20 feet, and blue-grey sand at 20-40 feet.

It is required that three monitoring wells be placed in the standard configuration of one up-gradient (north) and two down-gradient (south/southwest) of the facility.

Operation and Maintenance Plan:

The operation and maintenance plan calls for cleaning of settling areas and repair as needed to maintain original condition. Earth work and concrete must be inspected annually and repaired as needed. Drains and diversions shall be mowed and maintained when soil is dry and firm. Sediment buildup or erosion in drainage ways shall be cleaned and re-graded to original condition. Accumulated manure shall be removed annually and applied in accordance with the nutrient management plan.

NUTRIENT MANAGEMENT PLAN AND MANURE APPLICATION

General Conditions:

Managing and applying manure to ensure surface waters are not impacted and minimize nuisance concerns for nearby residents is a requirement. Factors to consider when choosing methods of management and application include but are not limited to: the volume of manure, the topography, location of surface and ground water sources, and distance from neighboring residents.

Application Rates:

Manure will be pumped from the deep pit; and slurry spread in the fall after harvest. Manure will be land applied at a rate not to exceed phosphorus levels recommended for the crop of the following production year.

Record Keeping:

The facility must make the following records available to the department for review upon request for a minimum of 5 years from the date they are created:

- Document routine visual inspections of the production area and containment structures.
- How, when, and where the manure, litter, or process wastewater was reused or disposed.
- Weather conditions at the time and 24 hours prior to manure application.
- Mortalities management and practices used.
- The date, time and estimated volume of any overflow outside of the containment area.
- Annual nutrient sampling of: manure, litter and/or process wastewater and soil samples where manure has been applied that year.
- An explanation of how the manure application rates were determined with calculations of the planned and actual total nitrogen and phosphorus to be applied to each field.
- The crops grown and crop yields for all fields where manure was applied.
- If manure, litter, or process wastewater is transferred to other persons or entities; the recipient's name and address, approximate amount transferred, and the date of the transfer should be documented.
- Any actions taken to correct deficiencies.

Table 5-Expected Manure Volumes and Nutrients

	Daily	365 Days
Volume of animal manure	12,261.07 gal/day 1,639.18 cu ft	4.5 Mgal 598,301 cu ft
Nitrogen (N)	599.7 lb/day	218,891 lb
Phosphorus (P2O5)	429.8 lb/day	156.872 lb
Potassium (K2O)	505.7 lb/day	184,598 lb
Storage	25%	
Land apply method	20%	

Land Application of Manure:Estimate of land needed for manure application:

If the nutrient management plan's phosphorus risk assessment indicates a medium to low risk of movement of phosphorus, facilities are allowed to apply at agronomic nitrogen rates in accordance with the phosphorus index.

If the nutrient management plan's phosphorus risk assessment indicates a high potential for movement or if soil test show phosphorus levels in the high range, the facility is required to apply the manure at agronomic phosphorus rates.

Table 6-Nutrients and Rates

Nutrient	Rate
Phosphorus (with no losses)	40 lb P2O5/acre
Nitrogen (with 47.5% losses)	100 lb N/acre

Anticipated crop grown: corn silage, wheat, corn grain, soybean

Risk assessment for phosphorus: low

Amount of land estimated for spreading at agronomical rates: 3,137.43 acres

Amount of land identified by applicant for land application: 3,262.9 acres

The department realizes that the nitrogen in manure is not all available to the crop the first year and therefore the manure will typically be applied at rates higher than the rates listed above. However, the organic nitrogen becomes available the following year(s) so the manure cannot be applied at the same rate subsequent years. These figures are used to estimate the total acres that would be needed over several years of application using proper rotation of crop-land and/or calculating nitrogen that is carried over to the following years.

Disclaimer:

This design review is intended to assess a livestock facility's ability to contain, divert, store and properly apply manure and/or runoff water to meet department requirements, to prevent detrimental impacts the quality of waters of the state, and to minimize the potential for odor concerns from livestock facilities. It does not include an assessment of the structural integrity of livestock facilities or manure handling structures such as those made of concrete, metal, wood, plastic, or other material.

PERMIT ISSUANCE PROCEDURES

PERMIT ACTIONS

This permit may be modified, revoked and reissued, or terminated for cause. This includes the establishment of limitations or prohibitions based on changes to Water Quality Standards, the development and approval of waste load allocation plans, the development or revision to water quality management plans. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

PROPOSED PERMIT ISSUANCE

This proposed permit application meets all statutory requirements for the department to authorize a State Animal Feeding Operation Permit. The permit includes limits and conditions to protect human health and aquatic life, and the beneficial uses of waters of the State of North Dakota. The department proposes to issue this permit for a term of five (5) years.

APPENDIX A – PUBLIC INVOLVEMENT INFORMATION

The department proposes to issue a permit to **Tracy Hoherz**. This fact sheet describes the facility and the department's rationale for requiring permit conditions.

The department will place a Public Notice of Draft on 5/30/2019 in the **Mercer County Record** to inform the public and to invite comment on the proposed draft North Dakota State AFO Permit and fact sheet.

The Notice-

- Indicates where copies of the draft Permit and Fact Sheet are available for public evaluation.
- Offers to provide assistance to accommodate special needs.
- Urges individuals to submit their comments before the end of the comment period.
- Informs the public that if there is significant interest, a public hearing will be scheduled.

You may obtain further information from the department by telephone, 701.328.5210, or by writing to the address listed below.

North Dakota Department of Environmental Quality
Division of Water Quality
918 East Divide Avenue, 4th Floor
Bismarck, ND 58501

The primary author of this permit and fact sheet is Rachel Strommen.

**North Dakota Department of Environmental Quality Public Notice
Issue of an AFO Permit**

Public Notice Date: 5/30/2019

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Purpose of Public Notice

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Permit Information

Application Date: April 3, 2019 Application Number: NDAFO0878

Applicant Name: Tracy Hoherz

Mailing Address: 4602 Shoreview Place, Mandan, ND 58554

Telephone Number: 702.400.9011

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Facility Description

The application is for a beef feedlot facility that is located 3 miles northwest of Stanton, ND, in the NE ¼ of NE ¼ of Section 36, Township 145N, Range 85W, in Mercer County. The application indicates the facility will have a maximum of 1,999 beef feeders 1,000 lbs.

Tentative Determinations

The submitted application and supporting documentation have been reviewed by the Department. They assure that State Water Quality Standards will be protected, and the system will be constructed and can be operated in compliance with the North Dakota state requirements for storage and handling of manure and wastewater for an Animal Feeding Operation.

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All comments received by **June 29, 2019** will be considered prior to finalizing the permit. If there is significant interest, a public hearing will be scheduled. Otherwise, the Department will issue the final permit within sixty (60) days of this notice.

APPENDIX B – DEFINITIONS

DEFINITIONS Standard Permit (BP 2019.04.05)

1. “Animal feeding operation” means a lot or facility, other than an aquatic animal production facility, where the following conditions are met:
 - a. Animals, other than aquatic animals, have been, are, or will be stabled or confined and fed or maintained for a total of forty-five days or more in any twelve-month period; and
 - b. Crops, vegetation, forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility.
2. “Bedding material” means an absorbent substance applied to dirt or concrete flooring systems, including wood shavings, wood chips, sawdust, shredded paper, cardboard, hay, straw, hulls, sand, and other similar, locally available materials.
3. “Best management practices” means schedules of activities, prohibitions of practices, conservation practices, maintenance procedures, and other management strategies to prevent or reduce the pollution of waters of the state. Best management practices also include treatment requirements, operating procedures, and practices to control production area and land application area runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.
4. “Concentrated animal feeding operation” means an animal feeding operation that is defined as a large, medium, or small concentrated animal feeding operation or any animal feeding operation designated as a concentrated animal feeding operation under section 33.1-16-03.1-04. For purposes of determining animal numbers, two or more feeding operations under common ownership are considered to be a single animal feeding operation if they adjoin each other or if they use a common area or system for the disposal of wastes.
5. “Earthen storage pond” or “pond” means a topographic depression either below or above ground level, manmade excavation, or diked area formed primarily of earthen materials, although it may be lined with man-made materials or other seepage control materials, and used to store manure, process wastewater and runoff from the production area of a facility.
6. “Engineer” means a professional engineer registered to practice in the state of North Dakota.
7. “Facility” is an animal feeding operation.
8. “General permit” means a general state animal feeding operation permit. This is a permit issued to cover multiple facilities of the same or similar type, without requiring each facility to be covered under an individual permit.

9. “Large concentrated animal feeding operation” means any animal feeding operation that stables or confines as many as or more than the numbers of animals, not including unweaned young, specified in any of the following categories:
 - a. Seven hundred mature dairy cows, whether milked or dry;
 - b. One thousand veal calves;
 - c. One thousand cattle other than mature dairy cows or veal calves. “Cattle” includes, but is not limited to, heifers, steers, bulls, and cow/calf pairs;
 - d. Two thousand five hundred swine, each weighing 55 pounds or more;
 - e. Ten thousand swine, each weighing less than 55 pounds;
 - f. Five hundred horses;
 - g. Ten thousand sheep or lambs;
 - h. Fifty-five thousand turkeys;
 - i. Thirty thousand laying hens or broilers, if the animal feeding operation uses a liquid manure handling system;
 - j. One hundred twenty-five thousand chickens (other than laying hens), if the animal feeding operation uses other than a liquid manure handling system;
 - k. Eighty-two thousand laying hens, if the animal feeding operation uses other than a liquid manure handling system;
 - l. Thirty thousand ducks, if the animal feeding operation uses other than a liquid manure handling system; or
 - m. Five thousand ducks, if the animal feeding operation uses a liquid manure handling system.
10. “Litter” means a mixture of fecal material, urine, animal bedding material, and sometimes waste feed.
11. “Manure” means fecal material and urine, animal-housing wash water, bedding material, litter, compost, rainwater, or snow melt that comes in contact with fecal material and urine, and raw or other materials commingled with fecal material and urine or set aside for disposal.
12. “Manure handling system” means all of the water pollution control structures used at the production area of a facility.
13. “Manure storage pond” means an earthen storage pond that stores liquid manure and process wastewater from indoor confined animal feeding operations.

14. "Manure storage structure" means any water pollution control structure used to contain or store manure or process wastewater. It includes earthen manure storage ponds; runoff ponds; concrete, metal, plastic, or other tanks; and stacking facilities.
15. "Medium animal feeding operation" means any animal feeding operation that stables or confines the numbers of animals, not including unweaned young, specified within any of the following ranges:
 - a. Two hundred to six hundred ninety-nine mature dairy cows, whether milked or dry;
 - b. Three hundred to nine hundred ninety-nine veal calves;
 - c. Three hundred to nine hundred ninety-nine cattle other than mature dairy cows or veal calves. "Cattle" includes, but is not limited to, heifers, steers, bulls, and cow/calf pairs;
 - d. Seven hundred fifty to two thousand four hundred ninety-nine swine, each weighing 55 pounds or more;
 - e. Three thousand to nine thousand nine hundred ninety-nine swine, each weighing less than 55 pounds;
 - f. One hundred fifty to four hundred ninety-nine horses;
 - g. Three thousand to nine thousand nine hundred ninety-nine sheep or lambs;
 - h. Sixteen thousand five hundred to fifty-four thousand nine hundred ninety-nine turkeys;
 - i. Nine thousand to twenty-nine thousand nine hundred ninety-nine laying hens or broilers, if the animal feeding operation uses a liquid manure handling system;
 - j. Thirty-seven thousand five hundred to one hundred twenty-four thousand nine hundred ninety-nine chickens (other than laying hens), if the animal feeding operation uses other than a liquid manure handling system;
 - k. Twenty-five thousand to eighty-one thousand nine hundred ninety-nine laying hens, if the animal feeding operation uses other than a liquid manure handling system;
 - l. Ten thousand to twenty-nine thousand nine hundred ninety-nine ducks, if the animal feeding operation uses other than a liquid manure handling system; or
 - m. One thousand five hundred to four thousand nine hundred ninety-nine ducks, if the animal feeding operation uses a liquid manure handling system.
16. "Medium concentrated animal feeding operation" means a medium animal feeding operation that meets either one of the following conditions:

- a. Pollutants are discharged into waters of the state through a manmade ditch, flushing system, or other similar manmade device; or
 - b. Pollutants are discharged directly into waters of the state which originate outside of and pass over, across, or through the facility or otherwise come into direct contact with the animals confined in the operation.
17. “North Dakota Livestock Program Design Manual” means the guidelines established for use by the department in the review and permitting process for animal feeding operations.
18. “Nutrient management plan” means a written description of the equipment, methods and schedules by which:
 - a. Manure, litter, and process wastewater is beneficially reused in an environmentally safe manner such as being applied to land at appropriate agronomic rates as nutrients or fertilizers; and
 - b. Water pollution and air pollution, including odors, are controlled sufficiently to protect the environment and public health.
19. “Open lot” means livestock pens, feeding or holding areas at the production area of an animal feeding operation which are outside and not under roof, and where rain can fall directly on the lot area.
20. “Open manure storage structure” means an earthen pond or storage tank for holding liquid manure which is not covered so rainfall can fall directly into the pond or tank.
21. “Operation and maintenance plan” means a written description of the equipment, methods, and schedules for:
 - a. Inspection, monitoring, operation, and maintenance of the animal feeding operation, including manure storage structures, water pollution control structures, and the production area; and
 - b. Controlling water pollution and air pollution, including odors sufficient to protect the environment and public health. It includes emergency response actions for spills, discharges or failure of a collection, storage, treatment, or transfer component.
22. “Operator” means an individual or group of individuals, partnership, corporation, joint venture, or any other entity owning or controlling, in whole or in part, one or more animal feeding operations.
23. “Overflow” means the discharge of manure or process wastewater resulting from the filling of wastewater or manure storage structures beyond the point at which no more manure, process wastewater, or storm water can be contained by the structure.
24. "Pollutant" means "wastes" as defined in North Dakota Century Code section 61-28-02, including dredged spoil, solid waste, incinerator residue, garbage, sewage, sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or

discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water.

25. "Process wastewater" means water directly or indirectly used in the operation of the animal feeding operation for any or all of the following: spillage or overflow from animal or poultry watering systems; washing, cleaning, or flushing pens, barns, manure pits, or other animal feeding operation facilities; direct contact swimming, washing, or spray cooling of animals; or dust control. Process wastewater also includes any water which comes into contact with any raw materials, products, or byproducts, including manure, litter, feed, milk, eggs, or bedding material.
26. "Production area" means those areas of an animal feeding operation used for animal confinement, manure storage, raw materials storage, and waste containment. The animal confinement area includes open lots, housed lots, feedlots, confinement houses, stall barns, free stall barns, milking rooms, milking centers, cattle yards, barnyards, medication pens, walkers, animal walkways, and stables. The manure storage area includes lagoons, runoff ponds, storage sheds, stockpiles, under-house or pit storages, liquid impoundments, static piles, and composting piles. The raw materials storage area includes feed silos, silage bunkers, and bedding materials. The waste containment area includes settling basins, areas within berms, and diversions which separate uncontaminated storm water. Also included in the definition of production area is any egg washing or egg processing facility and any area used in the storage, handling, treatment, or disposal of mortalities.
27. "Runoff" means rainwater or snow melt that comes in contact with manure at an open lot or open manure storage area and, therefore, is defined as manure.
28. "Runoff pond" means an earthen storage pond that is used to collect and store runoff from an open lot or from a manure storage area.
29. "Seepage" means the volume of flow through a manure storage structure.
30. "Sensitive groundwater area" means vulnerable hydrogeologic settings as determined by the department such as glacial outwash deposits or alluvial or aeolian sand deposits that are critical to protecting current or future underground sources of drinking water. Areas designated as sensitive groundwater areas by the department include alluvial or aeolian sand deposits shown on Geologic Map of North Dakota (Clayton, 1980, North Dakota geological survey) and glacial drift aquifers listed in North Dakota Geographic Targeting System for Groundwater Monitoring (Radig, 1997, North Dakota department of health), or most recent editions of these publications, with DRASTIC scores greater than or equal to 100 based on methodology described in DRASTIC: A Standardized System For Evaluating Groundwater Pollution Potential (Aller et al, 1987, United States environmental protection agency).
31. "Small animal feeding operation" means any animal feeding operation that stables or confines less than the numbers of animals specified for a medium animal feeding operation.

32. “Small concentrated animal feeding operation” means a small animal feeding operation designated as a concentrated animal feeding operation under section 33.1-16-03.1-04.
33. “State animal feeding operation permit” means a permit issued by the department under this chapter to an animal feeding operation.
34. “Surface water” means waters of the state that are located on the ground surface, including all streams, lakes, ponds, impounding reservoirs, marshes, watercourses, waterways, and all other bodies or accumulations of water on the surface of the earth, natural or artificial, public or private.
35. “Unconfined glacial drift aquifer” means a glacial drift aquifer that does not have an impervious soil layer which acts to prevent or minimize movement of water into, through, or out of the aquifer.
36. “Water pollution control structure” means a structure built or used for handling, holding, transferring, or treating manure or process wastewater, so as to prevent it from entering the waters of the state. The term also includes berms, ditches, or other structures used to prevent clean water from coming in contact with manure.

APPENDIX C – DATA AND TECHNICAL CALCULATIONS**Table 7-Water Commission Well Data:**

Location	Use	Depth(ft)	Diameter(inches)	Aquifer
14408512B	Stock	98	5"	-
14408512ABD	Stock	80	4"	-
14408512ABD	Stock	80	4"	-
14408512DA	Domestic/Stock	104	4"	-
14408510DC	Stock	82	4.5"	-
14408511D	Stock	72	4"	-
14408509A	Irrigation	118	5"	-
14408508D	Domestic	162	4"	-
14408508B	Stock	138	4"	-
14408508CC	Domestic	57	4.5"	-
1440808CDC	Domestic	80	4.5"	-
14408508CCC	Domestic	55	4"	-
14408506DD	Irrigation	175	14"	-
14408506DB	Irrigation	193	14"	-
14408506CA	Irrigation	254	14"	-
14408506BAA	Domestic/Irrigation	60	5"	-
14408506AD	Stock	350	2"	-
14408505BC	Irrigation	60	4"	-
14408504A	Stock	500	5"	-
14408502DCB	Unknown	483	2"	-
14408502AA	Stock	85	4.5"	-
14408502A	Stock	85	8"	-
14408502	Stock	212	4"	-
14408501D	Domestic	123	4"	-
14408501DDA	Stock	35	4"	-
14408501	Irrigation	60	4.5"	-
14408501	Irrigation	75	4.5'	-

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14408501AAA	Stock	80	4"	-
14408501DD	Domestic	86	4"	-
14408501DAD	Domestic	64	4"	-
14408501AAA	Domestic	22	4"	-
14508421CD	Domestic	75	4"	-
14508421CDB	Domestic	70	5"	-
14508421	Domestic	73	5"	-
14508420DAB	Domestic	160	4"	-
14508420DAB	Domestic	486	4.5"	-
14508430D	Domestic	47	4.5"	-
14508430C	Domestic	52	4"	-
14508430CDB	Stock	473	4"	-
14508432B	Domestic	82	4"	-
14508432CDD	Domestic	76	4.5"	-
14508431AA	Irrigation	40	24"	-
14508522ABB	Domestic	106	4"	-
14508522AAD	Domestic/Stock	95	4.5"	-
14508522	Domestic	126	4.3"	-
14508522BCC	Domestic/Stock	268	4.5"	-
14508524DDD	Domestic/Stock	330	4.5"	-
14508525B	Unknown	36	4"	-
14508525CBC	Domestic	63	4.5"	-
14508525CBC	Domestic	63	4"	-
14508535AC	Irrigation	84	17.5"	-
14508535AAC	Irrigation	85	10"	-
14508535ABC	Irrigation	117	16"	-
14508535DD	Stock	100	4.5"	-
14508535ABC09	Irrigation	80	16"	-
14508536DDA*	Irrigation	120	16"	-
14508536AAD*	Stock	40	4.5"	-
14508536DA*	Irrigation	100	4"	-

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14508536DDD*	Domestic	60	4"	-
14508536B*	Domestic	460	5"	-
14508536B*	Domestic	80	4.5"	-
14508536AAD*	Domestic/Stock	50	4.5"	-
14508536DA*	Domestic	100	4"	-
14508536B*	Domestic	460	Unknown	-
14508536ADC*	Observation	230	2"	-
14408505AD	Domestic	740	Unknown	-
14408505BC	Domestic	60	4"	-
14408506DBA1	Observation	260	1.25"	-
14408506DBA2	Observation	60	1.25"	-
14408506AD	Stock	850	2"	-
14408506ABB2	Observation	60	2"	-
14408506DBD	Irrigation	280	14"	-
14408506CAD	Irrigation	254	14"	-
14408506DDC	Irrigation	178	14"	-
14408508CC	Domestic	70	4.5"	-
14408508B	Stock	138	4"	-
14408510CCA	Stock	900	2"	-
14408510AAA2	Observation	120	2"	-
14408511CCC2	Observation	120	2"	-
14508526CCB2	Observation	40	2"	-
14508420DDD2	Observation	112	2"	-
14408502CCA	Stock	433	2"	-
14408502DCC	Irrigation	150	12"	-
14408502CDAD	Irrigation	165	12"	-
14408503DAB	Stock	452	2"	-
14408504BBB	Observation	260	1.25"	-
14408504A	Stock	500	2.5"	-
14508525DCC	Observation	60	2"	-
14508524DDA	Stock	1070	Unknown	-

14508522CAC	Stock	903	0"	-
14508535DD	Stock	100	4.5"	-
14508535ABC09	Irrigation	80	12"	-
14508535AAC2	Irrigation	83	10"	-
14508535ABB	Observation	80	1.25"	-

*Wells closest to facility.

Table 8-Soil Survey Data:

Map unit	Name	Description	Bedrock depth	Seasonal water table	Unified soil class*	Perm in/hr	Lagoon Restrictions
E4161A	Straw loam, 0-2% slopes, rarely flooded	The Straw series consists of very deep, moderately well and well drained soils that formed in alluvium. These soils are on floodplains, stream terraces and drainageways.	0-60"	>6.0'	CL-ML, ML, CL, SM	0.6-2.0 0.6-2.0 2.0-6.0	Moderate: seepage.
E4165A	Straw silt loam, 0-2% slopes, rarely flooded	The Straw series consists of very deep, moderately well and well drained soils that formed in alluvium. These soils are on floodplains, stream terraces and drainageways.	0-60"	>6.0'	CL-ML, ML, CL, SM	0.6-2.0 0.6-2.0 2.0-6.0	Moderate: seepage.
CL-Clay of low plasticity, ML-Silt, SM-silty sand							

Table 9-Soil Boring Information:

	TP 1	TP 2	TP 3	TP 4
Elevation	100	100	99.5	98.5
0 to 1	TS	TS	TS	TS
1 to 2	SP-SM	SP-SM	SP-SM	SP-SM
2 to 3	SP-SM	SP-SM	SP-SM	SP-SM
3 to 4	SC-CL	SC-CL	CL	CL
4 to 5	SC-CL	SC-CL	CL	CL
5 to 6	SC-CL	SC-CL	CL	CL
6 to 7	SC-CL	SC-CL	CL	CL
7 to 8	SC-CL	SC-CL	CL	CL
8 to 9	SC-CL	SC-CL	CL	CL
9 to 10	SC-CL	SC-CL	CL	CL
10 to 11	SC-CL	SC-CL	CL	CL
11 to 12	SC-CL	SC-CL	CL	CL
12 to 13	SC-CL	SC-CL	CL	CL
13 to 14	SC-CL	SC-CL	CL	CL
14 to 15	SC-CL	SC-CL	CL	CL
15 to 16	SC-CL	SC-CL	CL	CL
16 to 17	SC-CL	SC-CL		
17 to 18	SC-CL	SC-CL		

TS-top soil, SP-poorly graded sand, SC-clayey sand.

APPENDIX D – RESPONSE TO COMMENTS

Comments received during the public comment period will be addressed and placed here.

DRAFT

STATE ANIMAL FEEDING OPERATION PERMIT

NDAFO-0878

In compliance with Chapter 33.1-16-03.1 of the North Dakota Administrative Code (NDAC) rules as promulgated under Chapters 61-28 and 23-25 of North Dakota Century Code (NDCC), authorization of the **Tracy Hoherz** facility located in the NE ¼ of the NE ¼ of Section 36, Township 145 N, Range 85 W, in Mercer County, North Dakota is granted provided the following conditions are met:

1. The application indicated the facility is a CAFO that will house **1,999 Feeders**. The department must be notified in writing if there is an expansion in the number of livestock, change in ownership of the facility, significant changes in the physical operation of the facility or if the lot area where livestock are concentrated is expanded. Changes may require an update to the approval or issuance of a new approval.
2. Operation and Maintenance plans and standard operating procedures must be followed as submitted to the department. Changes to the Operation and Maintenance plan must be reviewed by the department prior to being implemented. There must be regular and adequate maintenance and upkeep to prevent degradation of the structures, to ensure the system continues to operate as designed, to ensure the storage structures do not overflow, and to ensure manure or wastewater does not discharge into waters of the state. Operation and maintenance plans means a written description of the equipment, methods, and schedules for: inspection, monitoring, operation and maintenance of the animal feeding operation (manure storage structures, water pollution control structures, and the production area); and controlling water pollution and air pollution including odors to protect the environment and public health. (North Dakota Livestock Program Design Manual, 6.6)
3. Notice of Completion and all results of testing completed on the clay liner or the manure storage structures shall be sent to the department when construction is complete.
4. Mortality shall be disposed of in accordance with NDCC section 36-14-19, in a manner acceptable to the North Dakota Board of Animal Health, and so they will not impact waters of the state. Burial is the option for this facility. Mortality will be buried on the property and be at least four feet below the ground level and covered with dirt to that depth. Mortality shall not be buried in an area where there could be a surface or ground water impact such as along river banks or in sandy soils with high water tables. The best locations for burying are on higher areas with heavy clay soil that are away from water and drainage ways.
5. Land application of manure shall be in accordance with the nutrient management plan. Manure shall be applied in a manner so it will not be washed into waters of the state. The department requires incorporation of the manure within 8 hours of land application. A buffer distance should be maintained to prevent impacts to waters of the state or impacts from odors.
6. The following records pertaining to nutrient management shall be maintained for a minimum of 5 years. The crops grown and expected realistic crop yields; the date(s) manure, litter or process wastewater is applied to each field; weather conditions during application, 24 hours prior and following application; test methods used to sample and analyze manure, litter, wastewater and soil; results from annual testing of manure, litter, and process wastewater, and annual soil sample results for land where manure was applied that year; an explanation of how the application rates were determined in accordance with standards established by the department; calculations showing nutrients applied to each field, including other nutrient sources; total amount of nutrients actually applied to each field, including documentation of calculations for the total amount applied; method used to apply the manure, litter or process wastewater; inspection of manure application equipment including method, frequency, dates and repairs made if leaks were found; and setbacks, vegetated buffers or other alternative practices used when land applying manure near surface water or potential conduits to surface water. (North Dakota Livestock Program Design Manual, 7.7, section 2)
7. If manure is transferred to other persons or entities not associated with the facility, the following conditions shall apply: owners/operators shall provide the recipient of the manure, litter or process wastewater with the most current nutrient analysis prior to transfer; the analysis provided shall be consistent with the requirements of section 7.4 in design manual; and the owners/operators of the

CAFO shall retain records for five years after the transfer date documenting the recipient's name and address, the approximate amount of manure transferred, and the date the manure was transferred. (North Dakota Livestock Program Design Manual, 7.7, section 3)

8. The owner/operator of a CAFO shall conduct the following routine visual inspections of the production area: weekly inspections of all stormwater diversion devices, runoff diversion structures and devices channeling runoff to the manure storage structure; daily inspection of water lines, including drinking water or cooling water lines; and weekly inspections of the manure storage structures noting the level of liquid in the structure as indicated by the depth marker. Also, weekly inspections of the drain tile sump.
9. All open storage structures shall: maintain a depth marker which clearly indicates the minimum capacity necessary to contain the runoff and direct precipitation from a 25-year, 24-hour rainfall event.
10. Any deficiencies discovered during an inspection shall be corrected as soon as possible; chemicals or other contaminants handled on site shall not be disposed of in a structure used for storage or treatment of manure, process wastewater or stormwater unless it is specifically designed for that purpose; and the operator of a livestock facility requiring a permit should maintain a rain gauge at the production area and record measurable rainfall events. (North Dakota Livestock Program Design Manual, 6.2)
11. The owner/operator of a CAFO shall make the following records available to the department for review upon request: records documenting the visual inspections; weekly records of the depth of the manure and process wastewater in the liquid manure storage structure as indicated by the depth gauge in storage structure; records documenting any actions taken to correct deficiencies; deficiencies not corrected within 30 days must be accompanied by an explanation of the factors preventing immediate correction; records of management and practices used; record documenting current design of any manure storage structures, including solids accumulation volume, design treatment volume, total design volume and the approximate number of days of storage capacity; records of the date, time and estimated volume of any overflow; and records documenting the land application of manure. (North Dakota Livestock Program Design Manual, 6.5)
12. This permit shall in no way authorize the discharge of any objectionable odorous air contaminant which is in excess of the limits established in NDAC Chapter 33.1-15-16 of the North Dakota Air Pollution Control Rules. If the department determines odors from the facility exceed limits, steps shall be taken, within a reasonable time, to control and reduce odors from the facility site. This may include requiring the installation of a cover on the ponds or other odor control measures.
13. There must be regular and adequate maintenance and upkeep to prevent degradation of the structures, to ensure the system continues to operate as designed, to ensure the containment system does not overflow, and to ensure manure or wastewater does not discharge into waters of the state.
14. The department must be notified if there is a change in address or other contact information for the facility.
15. The operator shall install three monitoring wells at the facility, one up-gradient (north) and two down-gradient (south/southwest) of the facility. Annual groundwater monitoring shall be completed by the department during inspection. If groundwater monitoring indicates that the facility is detrimentally impacting groundwater, the facility will need to take corrective action to prevent groundwater impacts.

The above conditions are considered part of the proper operation of the facility. If any of the above conditions are not met, the department shall be notified in writing, within five (5) days. Any noncompliance with the permit conditions or with state rules and regulations must be reported to the department as soon as possible after the facility becomes aware of the noncompliance condition. Failure to meet these requirements may result in monetary fines and/or revocation of this permit to operate.

Construction may begin upon signature of this permit by the department. The permit is based on construction being completed as per the design plans reviewed by the department. If any structural changes are made that are different than these design plans, the department must be notified in writing and convenience obtained, prior to making these changes.

Authorized department personnel shall be permitted access to the facility to determine compliance with department

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rules and regulations. Department inspections will abide by all security measures implemented by the owner or operator to protect the health and safety of the workers and animals at the facility.

The owner/operator of this facility shall comply with all State and Federal environmental laws and rules, and shall also comply with all local building, fire, zoning and other applicable ordinances, codes, and rules.

Notice of Completion and results of testing completed on the clay liner or the manure storage structures shall be received by the department within 30 days of completion of construction.

I certify that I have read and understand the above information and agree to operate the facility in a manner that will meet all the conditions listed herein.

OWNER/OPERATOR CONSENT

FOR THE NORTH DAKOTA
DEPARTMENT OF
ENVIRONMENTAL QUALITY

By _____
(signature)

By _____

By _____
(print name here)

By Karl Rockeman, Director
Water Quality Division

Date _____

Date _____

