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August 5, 2020

FILE REF: R-2020-0089
WPDES Permit #: WI-

Howard Roth
Roth Feeder Pig II
31961 Hummingbird Lane
Wauzeka, WI 53826

Subject: Conditional Approval of Plans & Specifications for three under barn storages, waste transfer and a mortality compost building at SW¼, Sec 20, T8N, R4W, Marietta Township, Crawford County

Dear Mr. Rost:

This letter is to inform you that the Wisconsin Department of Natural Resources (Department) has reviewed and conditionally approves the above referenced plans and specifications, submitted by Robert Pofahl, P.E., Resource Engineering Associates Inc. and received on April 30, 2020 with revisions received on July 27, Aug. 3, 4, and 5, 2020. A 7 day review period extension was requested on July 29, 2020. The review was conducted in accordance with s. 281.41 Wis. Stats., chs. NR 151 and NR 243, Wis. Adm. Code, and applicable NRCS Standards. The attached Engineering Report describes the project, lists standards that apply and provides compliance analysis. Questions may be directed to the regional office, or the review engineer Bernie Michaud, DNR Madison Office (contact information is at the end of this letter).

Proposed Project: The proposed project is a new swine farrowing facility. There will be underbarn storages below the farrowing barn, gestation barn and the gilt development unit (GDU) barn. There will be a waste transfer pipe between the farrowing barn and gestation barn storages. There will be a mortality composting building.

Conditions of Approval: The plans and specifications for project number R-2020-0089 are hereby approved and subject to chs. NR 151 and NR 243, Wis. Adm. Code, and the conditions listed below:
Construction:

1. Farrowing Barn Construction: The Farrowing Barn manure tanks should be constructed with embedded waterstop which meets the requirements of NRCS Specification 4-WS (5/2018).
2. Revisions: If revisions are made to the approved plans and specifications, revised plans and specifications shall be submitted for approval modification, in accordance with ss. NR 108.03 and NR 108.04, Wis. Adm. Code, and s. 281.41(1)(c), Wis. Stats. Submit revised plans and specifications via the Department's e-Permitting System. Note: This includes revisions for local permitting. If a formal approval modification may not be warranted, contact the review engineer to confirm.
3. Approval Period: In accordance with ss. NR 243.15(1)(a)1., and NR 108.04(2)d., Wis. Adm. Code, if construction is not commenced within 2 years from the approval date, the approval is void, and a new approval must be obtained prior to commencing construction.
4. Notification: Prior to construction and when construction is complete, notify the DNR regional contact and county contact provided a copy of the approval (contact information is at the end of this letter).
5. Inspection: During the construction of critical components, inspection shall be performed by a Wisconsin registered professional engineer or other qualified third party (excludes the owner and construction contractor and their employees).
6. Post-Construction Documentation: In accordance with the permit, a post-construction report must be submitted to the DNR's e-Permitting website (http://dnr.wi.gov/permits/water) within 60 days of

completing construction. The report must include documentation specified by s. NR 243.15(10), Wis. Adm. Code.

Limitation of Approval: The DNR reserves the right to order changes or additions should conditions arise making this necessary. This approval is not to be construed as a DNR determination on the issuance of a Wisconsin Pollutant Discharge Elimination System Permit or opinion as to the ability of the proposed system to comply with effluent limitations in such a permit, approval of an Environmental Impact Statement that may be prepared, or approval for any activities requiring a permit under chs. 30 or 31, Wis. Stats. Where necessary, plans and specifications should be submitted to the Department of Safety and Professional Services (formerly Department of Commerce) or other state or local agencies to ensure conformance with applicable codes or regulations of such agencies.

Tax Treatment: Tangible personal property, that becomes part of a waste treatment of pollution abatement plant or equipment, may be exempt from sales tax under s. 77.45(26), Wis. Stats. Similarly, property purchased or constructed as a waste treatment facility and used for industrial waste treatment may be exempt from general property taxes under s. 70.11(21), Wis. Stats. A prerequisite to exemption is filing a statement on prescribed forms. To obtain the forms, and information about this sales tax exemption, please contact the Department of Revenue, P.O. Box 8933, Madison, WI 53708, or check their website http://www.revenue.wi.gov/.

NOTICE OF APPEAL RIGHTS

If you believe that you have a right to challenge this decision, you should know that the Wisconsin statutes and administrative rules establish time periods within which requests to review Department decisions must be filed. For judicial review of a decision pursuant to WIS. STAT. §§ 227.52 and 227.53, you have 30 days after the decision is mailed, or otherwise served by the Department, to file your petition with the appropriate circuit court and serve the petition on the Department. Such a petition for judicial review must name the Department of Natural Resources as the respondent.

To request a contested case hearing pursuant to WIS. STAT. § 227.42, you have 30 days after the decision is mailed, or otherwise served by the Department, to serve a petition for hearing on the Secretary of the Department of Natural Resources. All requests for contested case hearings must be made in accordance with WIS. ADMIN. CODE § NR 2.05(5), and served on the Secretary in accordance with WIS. ADMIN. CODE § NR 2.03. The filing of a request for a contested case hearing does not extend the 30-day period for filing a petition for judicial review.

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
For the Secretary

Bernie Michaud

Bernie Michaud, P.E.
CAFO Engineer Supervisor
Watershed Management Program

Enclosures: State of Wisconsin Engineering Report

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WISCONSIN DEPARTMENT OF NATURAL RESOURCES ENGINEERING REPORT

GENERAL INFORMATION

Farm Name: Roth Feeder Pigs II **WPDES Permit#:** WI-

Location Address: 31961 Hummingbird Ln, Wauzeka, WI 53826 **DNR Project #:** 2020-0089

Project Status: Design and Planning – Proposed Construction in 2021

Engineering Plans Certified by:	Initial Submittal:	Revised Submittal(s):
Robert Pofahl, P.E.	April 30, 2020	July 27 and Aug. 3, 4 and, 5 2020

Site Assessment: The proposed production area is on top of a hill. There is an intermittent stream approximately 1500 ft. south of the southernmost building; this stream drains approximately 5,600 ft to Leggett Creek. The nearest wetland is approximately 3000 ft to the northwest adjacent to the Kickapoo River.

Karst features were screened for using a lidar hill shade relief map provided by the Wisconsin Geological and Natural History Survey. The only depression on this map is to the northwest of the project area and is a constructed pond adjacent to a residence. This map also shows a berm crossing the head of a gully on the southwest side of the production area. This berm has a pipe going through it and was likely constructed as an NRCS type grade control structure. Mapping of springs provided by Crawford County shows springs along the banks of the Kickapoo River, with the nearest one approximately 2500 ft to the northwest. No karst features were found within 1,000 ft of the proposed facilities or systems.

No ground water supply wells are located within 250 feet of the proposed facilities or system. Well construction reports for adjacent properties show the groundwater is at a depth of 215 ft and 346 ft deep.

The project site will have a clean storm water collection system which will pipe storm water to storm water basins on the east and west side of the project area. The pipes are sized to convey the 25-yr peak flow. The storm water basins are sized for the 100-yr storm.

Twenty three soil test pits were conducted in the project area. Soil observations in the area generally indicate the following soil profile: topsoil, silty clay, fat clay, some test pits had sand to silty gravel, and then bedrock. A soils analysis on three samples show the percent fines ranging from 69 to 91 and the plasticity index ranging from 7 to 31. Saturation was not found in the test pits.

The site is at the top of a hill and the bedrock depth in the test pits encountered bedrock at depths ranging from 5.5 ft to 18.5 ft. The bedrock was generally dolomite and two test pits indicated sandstone. The Bedrock Geologic Map of Wisconsin showed the project area to be in the Prairie du Chien Group bedrock unit. Excavation of bedrock will be required under the Farrowing Barn and GDU Barn in order to provide the required separation below the bottom of the liquid waste structures.

Proposed Facilities:

GDU Barn Waste Storage The proposed design was submitted to meet NRCS 313 (10/17R), NRCS 522, Table 2, Column A and Table 3, Column A(10/17R)). The design is in compliance with s. NR 243.15(3), Wis. Adm. Code. The GDU barn will be located on the east side of the production area. Below is a summary of what is proposed.

Analysis: The proposed vertical walled rectangular shaped waste storage under the GDU Barn will be 69 ft x 312 ft x 10 ft deep. The liner will be cast in place concrete with embedded waterstop in the wall to foundation joints and the wall control joints (which carry through the slab). The walls will be 10-inches thick and the floor will be 6-inches thick. A perimeter draintile will be installed along the base of the wall to remove excess site moisture. The draintile outlet will be monitored for potential leakage.

The floor slab is designed according to the NRCS 522, Table 3, Column A, which allows for a separation distance to bedrock of 1.5 ft. This table is for waste storage facilities in Sensitive Environmental Settings (SES), as defined in NRCS 313. The project area is considered an SES site in places because the typical bedrock separation requirments are not met. Soil test pits indicate that bedrock excavation will be required for this facility. The walls are designed according to NRCS 522, Table 2, Column A, which has a bedrock separation requirement of 2.5 ft. which is achieved.. Below the floor slab will be a soil liner layer 1 ft thick with a P200 > 20% and a PI >7.

The proposed storage will have a maximum operating level (MOL) volume of 1.24 MG and will provide the GDU Barn a total of 299 days of storage. The floor elevation will be 994.5 ft and the MOL elevation will be 1003.5 ft.

Gestation Barn Waste Storage The proposed design was submitted to meet NRCS 313 (10/17R), NRCS 522, Table 2, Column A and Table 3, Column A(10/17R)). The design is in compliance with s. NR 243.15(3), Wis. Adm. Code. The Gestation barn will be located on the south side of the production area. Below is a summary of what is proposed.

Analysis: The proposed vertical walled rectangular shaped waste storage under the Gestation Barn will be 170 ft x 557 ft x 10 ft deep. The liner will be cast in place concrete with embedded waterstop in the wall to foundation joints and the wall control joints (which carry through the slab). The walls will be 10-inches thick and the floor will be 6-inches thick. A perimeter draintile will be installed along the base of the wall to remove excess site moisture. The draintile outlet will be monitored for potential leakage.

The floor slab is designed according to the NRCS 522, Table 3, Column A, which allows for a separation distance to bedrock of 1.5 ft. This table is for waste storage facilities in Sensitive Environmental Settings (SES), as defined in NRCS 313. The project area is considered an SES site in places because the typical bedrock separation requirments are not met. Soil test pits indicate that bedrock excavation may not be necessary but this design criteria was applied to this slab anyway. The walls are designed according to NRCS 522, Table 2, Column A, which has a bedrock separation requirement of 2.5 ft. Below the floor slab will be a soil liner layer 1 ft thick with a P200 > 20% and a PI >7.

The proposed storage will have a maximum operating level (MOL) volume of 5.4 MG and will provide the Gestation and Farrowing Barns a total of 251 days of storage. The floor elevation will be 994.5 ft and the MOL elevation will be 1003.5 ft.

Farrowing Barn Waste Storage The proposed design was submitted to meet NRCS 313 (10/17R), NRCS 522, Table 2, Column A and Table 3, Column A(10/17R)). The design is in compliance with s. NR 243.15(3), Wis. Adm. Code. The Farrowing Barn will be located to the north of the Gestation Barn. Below is a summary of what is proposed.

Analysis: The Farrowing Barn Waste Storage consists of 64 narrow, shallow tanks covered with slatted floors. The tanks are 6-ft 2-inches wide, approximately 84 ft long and 2 ft deep. The tanks share a common 6-inch thick concrete slab with waterstop floor and are separated by elevated walkways constructed of concrete. The tanks are flushed frequently into their individual riser pipes which convey the manure to the Gestation Barn Waste Storage. The floor elevation will be 1004.5 ft and the top of the tank will be 1006.5 ft. These tanks are considered reception tanks, not liquid waste storage facilities

because they are not used for long term storage and waste will not accumulate more than 1 ft deep. Nevertheless, the tanks were designed according to the NRCS liquid waste storage design criteria.

The floor slab is designed according to the NRCS 522, Table 3, Column A, which allows for a separation distance to bedrock of 1.5 ft. This table is for waste storage facilities in Sensitive Environmental Settings (SES), as defined in NRCS 313. The project area is considered an SES site in places because the typical bedrock separation requirments are not met. Soil test pits indicate that bedrock excavation will be required for this facility. The walls are designed according to NRCS 522, Table 2, Column A, which has a bedrock separation requirement of 2.5 ft. which is achieved. Below the floor slab will be a soil liner layer 1 ft thick with a P200 > 20% and a PI >7.

The structural design plans specified an older version of embedded waterstop which does not meet the current NRCS Specifications. To keep the design consistent with the NRCS 522 Standard, a conditon of approval to require waterstop to meet current NRCS specifications is recommended.

Transfer Pipe
Standard: Design is in compliance with NRCS Standard 634 (1/2014)
Standard: Design is in compliance with s. NR 243.15(4), Wis. Adm. Code
Analysis: The main transfer pipe is a 281 ft. long, 10-inch diam. PVC gravity flow pipe which runs from the north side of the Farrowing Barn and runs south under the barn to discharge into the Gestation Barn Storage. There are four lateral lines which run perpendicular to the main line collecting manure via riser pipes from each individual Farrowing Barn Waste Storage tank. These lateral lines are also 10-inch diam. PVC gravity flow pipe.

Composting Building(New)
Standard: Design is in compliance with NRCS Standards 313 (10/2017R) and NRCS 522, Table 2, Column A (10/2017R).
Standard: Design is in compliance with s. NR 243.15(8) and NR 502.12, Wis. Adm. Code
Analysis: The Composting Building is for composting mortalities and is located southwest of the Gestation Barn. It has a 6-inch thick cast in place concrete floor. In-situ soils below the floor exceed the requirements of at least 2 ft of soil with at least 20% fines.

DAYS OF AVAILABLE LIQUID WASTE STORAGE: The submitted information states that Roth Feeder Pig II will have a proposed 251 days of liquid waste storage in the Gestation Barn Waste Storage Facility and 299 days of liquid waste storage in the GDU Barn Waste Storage Facility. This is based on the volumes listed in the table below with respect to s. NR 243.15(3)(i) to (k), Wis. Adm. Code. The manure from; 960 sows with litter, 960 nursery pigs, 4184 gestation pigs, 48 boars, and 328 gilts will enter the Gestation Barn waste storage. The manure from 1680 gilts will enter the GDU waste storage.

Gestation Barn Annual Manure Volume	7,913,430 gal.
Gestation Barn WSF MOL Vol.	5,441,171 gal.
GDU Barn Annual Manure Volume	1,513,623 gal.
GDU Barn WSF MOL Vol.	1,240,008 gal.

PURPOSE OF THIS REPORT: This report documents review of plans and specifications for each structure or practice indicated below, including findings regarding the structure or practice's compliance with applicable standards. The reviewer considered if management and site assessment were conducted, documented, and reflected in the final design, and if proper construction and related plans (operation and

maintenance, inspection, erosion control if applicable) were provided, and demonstrated compliance with applicable rules standards.

DECISION RECOMMENDATION: Based on my review completed on May 21, 2020, the proposed plans and specifications meet ch. NR 243, Wis. Adm. Code, and applicable NRCS Standards. Therefore, I recommend the plans and specifications be conditionally approved (justification provided). The plans for the Farrowing Barn manure tanks show an older version of embedded waterstop which no longer meets the NRCS criteria. It is recommended that the Farrowing Barn manure tanks be constructed with embedded waterstop which meets the requirements of NRCS Specification 4-WS (5/2018) so the structure will be compliant with NRCS 522.

Bernie Michaud

Bernie Michaud, P.E.
Water Resources Engineer