



November 10, 2017

File Ref: R-2017-0154B  
WD PES Permit # WI-0059315

Todd Tuls  
Emerald Sky Dairy  
2670 D Road  
Rising City, NE 68658

Subject: Conditional Approval of Plans & Specifications for a Feed Storage Facility, Feed Leachate & Runoff Collection Systems, & Animal Lot Runoff Collection Systems, & Abandonments of an Animal Lot (Calf Hutch Lot) & a Tank (Heifer Barn Tank) at Emerald Sky Dairy, 2487 County Rd. G, Emerald, Sec. 22, NE¼ of NE¼, T30N, R16W, Town of Emerald, St. Croix County

Dear Mr. Tuls:

The Division of External Services of the Wisconsin Department of Natural Resources (DNR) hereby issues a partial conditional approval of the above-referenced plans and specifications, submitted by Ronnie Williams, P.E., Williams Engineering Services, LLC (WES) received August 14, 2017. The plans and specifications were deemed to be substantially complete as of the received date. DNR also reviewed additional information requested by St. Croix County, received by DNR October 5, 2017.

Other portions of the project were approved October 11, 2017 (DNR Project# R-2017-0154A) including abandonment of an existing Waste Storage Facility (WSF), two new WSFs, abandonment of certain existing Transfer Systems, and a new Solids Stacking Pad, all to have been completed in fall 2017.

Construction is approved to commence for a period of two years from the approval date. If work will commence later, or will occur over a longer period without continuous work (other than due to weather) a new written approval must be obtained. Questions may be directed to DNR animal waste specialist Leah Nicol, or DNR review engineer Gretchen Wheat. (Contact information is at the end of this letter.)

**COMPLIANCE & PROJECT SUMMARY:** DNR review was performed in accordance with s. 281.41 Wis. Stats., and s. NR 243.15, Wis. Adm. Code. NRCS Standards and Construction Specifications are referenced in the plans and specifications are therefore part of this approval, although only primary NRCS Standards may be referenced herein. Clean stormwater will be routed around waste handling areas.

**Proposed West Feed Storage Area (FSA):** The proposed West FSA consists of water-tight concrete slabs and walls, with embedded water-stop in all joints, designed in accordance with NRCS 629 (1/17). This will comply with s. NR 243.15(9), Wis. Adm. Code (Feed Storage) if adequate storage is provided for all process wastewater and collected runoff, and the following criteria regarding feed leachate and runoff control are met.

Feed leachate and contaminated runoff must be managed to prevent pollutants from reaching navigable surface waters (up to the 25-yr, 24-hr storm) and prevent exceedances of groundwater quality standards, as required by ss. NR 243.13(1) and (2)(a), Wis. Adm. Code. (The method by which this requirement is complied with is described in Proposed Runoff Collection Systems, below.)

The proposed West FSA will be constructed in the southwest area of the site, immediately west of the new HDPE lined WSF. The site also has an existing FSA (East FSA, located in the northeast corner of the site).

**Proposed Runoff Collection Systems:** Three runoff collection systems are proposed (described in #1-3, below). The proposed runoff collection systems are comprised of waste transfer components which are designed in accordance with NRCS 634 (1/14). This complies with s. NR 243.15(4), Wis. Adm. Code (Transfer Systems).

From the animal lots (calf hutch lot and heifer lot) all manure and runoff (up to the 25-yr, 24-hr storm) will be collected; from the proposed and existing FSAs, all feed leachate and runoff (up to the 25-yr, 24-hr storm) will be collected; and collected waste will be stored in the new WSFs, and will be land applied in accordance with an approved Nutrient Management Plan. This complies with ss. NR 243.15(2) and 243.15(9), Wis. Adm. Code (Runoff Control, and Feed Storage).

**#1 – Proposed West Runoff Collection System (for proposed West FSA & new Calf Hutch Lot):** A proposed pipe and pump will be used in conjunction with the existing Transitional Management Facility Tank (TMF Tank). From the proposed West FSA and new Calf Hutch Lot, runoff will gravity flow to the TMF Tank (north of the TMF barn) and be pumped through a new 12 inch ASTM F714 polyethylene pipe to the new concrete lined WSF. The new Calf Hutch Lot will consist of a water-tight concrete slab. The Calf Hutch Lot size is presented as an east area (32,424 ft<sup>2</sup>) and a west area (23,740 ft<sup>2</sup>) sloped toward each other, to drain out the middle. The existing Calf Hutch Lot is located southeast of the TMF barn, and will be abandoned. (See Abandonment, below.)

**#2 – Proposed East Runoff Collection System (for Existing East FSA):** The system will consist of a proposed pipe and tank (East FSA Tank). From the existing East FSA, runoff will gravity flow to the East FSA Tank, and then will gravity flow through a new 24 inch ASTM F714 polyethylene pipe to the new concrete lined WSF.

**#3 – Proposed Heifer Lot Runoff Collection System (for Existing Heifer Lot):** The system consists of a proposed pipe, pump and tank (Heifer Lot Tank). From the existing Heifer Lot (6,600 ft<sup>2</sup>) runoff will gravity flow to the Heifer Lot Tank and be pumped through a new 8 inch diameter ASTM F714 polyethylene pipe to the new concrete lined WSF1. The existing Heifer Lot will remain in its current location, adjacent to the existing Heifer Barn, and the proposed Heifer Lot Tank will be located west of the Heifer Barn. The Heifer Lot Tank will serve both the Heifer Lot and Heifer Barn, and will be constructed in a wedge-shape of cast in-place reinforced concrete. The existing Heifer Barn Tank will be abandoned. (See Abandonment, below.)

**Abandonment of Existing Facilities:** The existing Calf Hutch Lot and existing Heifer Lot Tank will be abandoned. The submittal references NRCS 360 (3/13) for abandonment. This complies with s. NR 243.17(7)(a), Wis. Adm. Code.

**Days of Storage for Manure & Co-Mingled Wastewater:** After completion of the entire project (approved herein, and on October 11, 2017) the farm will have increased waste collection, and increased waste storage capacity. The new waste collection areas consist of the following:

- #1 – Proposed West FSA (88,993 ft<sup>2</sup>) and new Calf Hutch Lot (56,164 ft<sup>2</sup>).
- #2 – Existing East FSA (176,159 ft<sup>2</sup>).
- #3 – Existing Heifer Lot (6,600 ft<sup>2</sup>).
- Previously approved new Solids Stacking Area (8,790 ft<sup>2</sup>).

The total waste generation is estimated at 30.0 million gallons per year. The two new WSFs will have a combined total of 33.1 million gallons capacity to the top, and 30.0 million gallons to the maximum operating levels (MOLs), which will provide approximately 1 year of storage. DNR did not confirm the specific reported days of storage, but did confirm the farm will have far greater than 180 days of storage. This complies with s. NR 243.15(3)(i) to (k), Wis. Adm. Code.

**BACKGROUND:** This is an existing livestock operation that houses greater than 1,000 Animal Units, and has a Concentrated Animal Feed Operation (CAFO) WPDES Permit which was re-issued July 1, 2015. The farm recently came under new ownership. Currently the site has 1,500 milking cows, 200 dry cows, 250 heifers and 350 calves. A minor expansion is under consideration, but the previously proposed significant expansion is no longer being planned at this time. The plans and specifications for the portions of the project approved herein are intended to address compliance concerns identified by the owner, and improve overall operation, and were not submitted in response to permit schedule requirements or enforcement.

**SITE DESCRIPTION:** The production area is on an approximately 310 acre site. Site surface water drains primarily south and southwest. Much of the stormwater runoff from the site flows to an existing stormwater runoff pond located near the southern part of the facility via swales and constructed embankments. The stormwater pond currently receives contaminated runoff from the feed pad and calf hutch area.

The submittal reports no karst or sinkhole features were located during field observation, or upon review of available geological maps and GIS maps produced by WES utilizing current DNR and St. Croix County ArcGIS layers. There are two on-site groundwater supply wells, both of which are greater than 250 feet from the proposed facilities and systems.

A wetland delineation of the site was completed by a DNR Assured Wetland Delineator (Timothy D. King). Mapped wetlands exist immediately west and southwest of production area, and influenced the choice to locate proposed facilities in the east portion of the site. The submittal reports one mapped wetland in the production area was filled. The proposed facilities are not within the existing or filled wetland areas.

**SOIL INVESTIGATIONS:** In July 2017, WES performed test pits at the site. The site topsoil is primarily silt loam. Subsoils are varied from fine to coarse grained. Bedrock was not observed in any of the test pits. No saturation was observed in the test pits in the area of the proposed facilities approved herein. Sufficient separation from saturation and bedrock is demonstrated for the proposed facilities approved herein.

**CONDITIONS OF APPROVAL:** The plans and specifications for DNR Project# R-2017-0154B are hereby approved, subject to chs. NR 151 and NR 243, Wis. Adm. Code, and the conditions listed below.

1. **Notification:** Prior to construction and when construction is complete, notify the DNR regional contact and county contact. (Contact information is in the cc list at the end of this letter.)
2. **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). NRCS Standards and Wisconsin Construction Specifications contain certain third party inspection requirements.
3. **Post-Construction Documentation:** Within 60 days of completing construction, submit to the DNR e-Permit website (<http://dnr.wi.gov/permits/water>) the post-construction report, and send one paper copy to the DNR regional contact. The report shall comply with s. NR 243.15(10), Wis. Adm. Code. The post-construction report shall include scaled drawings of the constructed facility, and documentation that construction has complied with the approved plans and specifications, and applicable design standards.

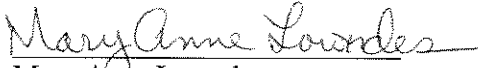
*Note: Design change without prior approval is a violation of ch. NR 243 and the WPDES Permit. If the owner is contemplating design changes, please contact the DNR review engineer.*

**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 or other state or local agencies to ensure conformance with their requirements.

**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 forms and information, please contact the Department of Revenue, P.O. Box 8933, Madison, WI 53708, or check their website <http://www.revenue.wi.gov/>.

**APPEAL NOTICE:** 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 ss. 227.52 and 227.53, Wis. Stats., 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 s. 227.42, Wis. Stats., 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 s. NR 2.05(5), Wis. Adm. Code, and served on the Secretary in accordance with s. NR 2.03, Wis. Adm. Code. 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



Mary Anne Lowndes  
Chief, Runoff Management Section  
Bureau of Watershed Management



Gretchen Wheat, P.E.  
Engineer, Runoff Management Section  
Bureau of Watershed Management

Email cc: Ronnie Williams, P.E. – WES  
[wes@chipvalley.com](mailto:wes@chipvalley.com); (715) 286-3231  
Steve Olson – St. Croix County LCD  
[steve.olson@co.saint-croix.wi.us](mailto:steve.olson@co.saint-croix.wi.us); (715) 531-1909  
Matthew Woodrow, P.E. – DATCP  
[matthew.woodrow@wisconsin.gov](mailto:matthew.woodrow@wisconsin.gov)

Leah Nicol – DNR Eau Claire  
[leah.nicol@wisconsin.gov](mailto:leah.nicol@wisconsin.gov); (715) 839-3730  
Gretchen Wheat, P.E. – DNR Madison  
[gretchen.wheat@wisconsin.gov](mailto:gretchen.wheat@wisconsin.gov); (608) 264-6273  
Joe Baeten – DNR Green Bay  
[joseph.baeten@wisconsin.gov](mailto:joseph.baeten@wisconsin.gov); (920) 662-5191