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11-022

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Narrative Rate Approach Nutrient Management Plan Outline

Below is an outline to follow when developing a narrative rate approach nutrient management plan. The outline provides the items needed in each section of the plan and refers to specific references in Title 130 Livestock Waste Control Regulations.

All citations listed reference [Title 130, Chapter 14](#) unless otherwise noted.

Application Information	Section 1
Form B	
Form C	
Citizenship Attestation	
Introduction	Section 2
Operation Topographical Map (2000-ft radius map).....	(001.01F)
Location and description of the water supply source(s).....	(001.01C)
Waste Control Facilities Overview	Section 3
Detailed Operation Site Plan	(001.01A -D)
Construction Quality Assurance Plan	(Chapter 4 , 001.06)
Description of Existing Waste Control Facilities	(001.01E)
Description of Proposed/Modified Waste Control Facilities	(001.01E)
Description and Sizing of Clean Water Diversions.....	(002.03)*, (001.05)
Waste Production Calculations by Facility	(001.02) (001.04)
Waste Storage Sizing	(002.01)* (001.05) Chapter 8
Operation and Maintenance Plan Information	Section 4
Overall Operation Narrative Design Report.....	(001.03)
Stage/Storage Tables	(001.01E) (001.06)
Staff Gauge Details.....	(Chapter 8 , 008)
Animal Mortality Management	(002.02)* (001.07) (Chapter 12 , 003)
Chemical Management Information	(002.05)* (001.08)
Inspections	(Chapter 12 , 001)
Maintenance	(Chapter 12 , 002)

Land Treatment Section 5

Field Application Table

- › Application site name or #, usable acres, land use, slope, dominant soil, legal description, owner/address, application agreement, shared manure application agreement? (001.10A) (001.10B) (001.10D)

Field Application Identification Maps

- › Legal's, usable acres, boundaries, waters of state..... (00 1.1A) (001.10C)

Field Application Specific Soil Type Maps

- › Setbacks and buffers.....(001.10b) (001.10C) (001.13) (002.06)*

Soil descriptions

Field Specific Phosphorus Risk Assessment

- › Per field (001.14) (003.02.A1)*
- › Description of process..... (cite version of UNL P-Index)

Field Specific Nitrogen Risk Assessment

- › Specific sites with high leach soil and high water tables, high nitrate levels (003.02A1)*, (001.09A)

Field Specific Conservation Practices Tables

- › Table listing fields, usable acres, slope, dominant soil, conservation practices, [terraced, tile, ww, tillage, irrigated, etc], description of setbacks and buffers (001.10B), (001.13), (001.14), (002.06)*, (003.02A1)*

Field Specific Setbacks

- › Narrative of how setbacks derived and locations if not already noted (001.13), (002.06)*

Field Specific Phosphorus Best Management Practices

- › Field and narrative BMP if practice is needed, narrative of BMP if needed in future

Field Specific Nitrogen Best Management Practices

- › Field and narrative BMP if practice is needed, narrative of BMP if needed in future

Nutrient Management (narrative rate approach) Section 6

Nutrient Planning - Nutrient Production and Availability (Book Values)

- › Operational maximums for animal type ,weight, and # (001.04)
- › Estimates of annual operational manure/wastewater and how it was estimated (001.02)

Nutrient Management Protocol

- › Narrative description of process (001.09,A,B,C) (003 fulfills 001.09)

Manure Nutrient Management

- › Waste sampling protocol and analytical methods.....(001.10E), (001.11A), (001.11E), (002.07)*

Soil Nutrient Management

- › Soil sampling protocol and analytical methods(001.10E), (001.11B), (001.11C), (001.11E), (002.07)*

Irrigation Nutrient Management

- › Irrigation sampling and protocol.....(001.11D) (002.07)*
- › Statement to not exceed (001.12)

Crop Management

- › Crops in operation*
- › Rotation(s)
- › Fields with similar management practices grouped into similar rotation
- › Alternative crops (including cover crops)*
- › Average yield goal determination explanation of all crops
- › Explanation of nitrogen and phosphorus recommendations for all crops
- › Table listing
- › Rotation(s) distinction
- › Field(s) distinction
- › Crop and alternative crop(s) (alternative crops do not need to be listed by rotation, acres or field)*
- › Usable acres
- › Crop and alternative crop yield goal*
- › Crop and alternative crop nitrogen and phosphorus recommendations*
- › formulation of crop nitrogen and phosphorus needs based on soil and yield in Lbs/acre*
- › Outcome of N & P risk assessment* (001.10B), (003.02.A1)*, (003.02.A2)*, (003.02.A3)*, (003.02.A4)*, (003.02C)*

Methodology of Nutrient Removal*.....(003.02B)

- › Nitrogen and Phosphorus transport
- › A field (rotation designation) accounting of:
 - › Soil test results.....(003.02B1)
 - › Plant available nitrogen credits(003.02B2)
 - › Amount of N & P in manure, litter, wastewater to be) applied(003.02B3)
 - › A consideration of multi-year P application.....(003.02B4)
 - › Plant additions of available N & P(003.02B5)
 - › Form and source of manure, litter, and wastewater(003.02B6)
 - › Timing and method of land application(003.02B7)
 - › Volatilization of N and mineralization of organic N(003.02.B8)
 - › Computation of crop nutrient removal in each field (rotation designation)
 - › Equation for utilization of N and P in each field (rotation designation) and acreage use taking into account all methodology

Strategic Nutrient Planning (5 year) Projection - (book values)

- › Form, source, amount, timing, land application, rotation N & P recommendations, using Equation described in Methodology of Nutrient Removal(004.01 All)

Best Management Practices for Odor Section 7

- › Production Area
- › Waste Control Facilities
- › Land Application Sites([Chapter 4](#), 001.09A, B, C, D)

Emergency Response Information Section 8
 > ([Chapter 11](#), 009)

Closure Information..... Section 9
 > ([Chapter 11](#), 011)

Land Application Agreements Section 10
 > Statement of use of fields for nutrient management
 > Signed application agreements with field legal description.....(001.10D),
 (002.09)*

Manure Transfer Information..... Section 11
 > (001.10F)

Effluent Distribution & Solids Handling Section 12
 > Effluent irrigation maps ([Chapter 10](#), 001)
 > Description of irrigation system..... ([Chapter 10](#))
 > Description of solids equipment..... ([Chapter 11](#), 004)
 > Description of liquid land application equipment (Map) ([Chapter 11](#), 004)

Agronomic Implementation Section 13
 > Protocols of goal of implementation of NMP discussing machinery,
 conservation techniques,
 > BMP’S, economics, and integration of each into a whole plan (002.08)*
 > Summary of Nutrient Management Plan

Record Keeping Requirements..... Section 14
 Listing and examples of all required records with time frames (002.09)

Production Area and Waste Control Facilities
 > All Permittees ([Chapter 12](#), 001)

Large AFOs (additional)([Chapter 12](#), 004.01 thru 004.04, 004.06)

Land Application Records

Large AFOs..... ([Chapter 12](#), 004.04 thru 004.018)

Annual Nutrient Removal Analysis

- › Applying equation described in Sec 6- Nutrient Management / Methodology of Nutrient Removal, an annual accounting of nutrient removal using records of annual soil sampling, manure sampling and all other nutrients to achieve yield goal in specific rotation and field (004.02 all)

Actual annual yield of crop in its rotation/field

Annual Report Record Keeping Requirements* ([Chapter 5](#), 007.06)

***Permit Terms**

Questions?

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