CNMP Tab 2

Regulatory Section

Heartland Model NMP

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United States Land Grant Colleges and Universities'

Heartland Regional Water Coordination Initiative

A Partnership of USDA CSREES & the Land Grant System

Heartland Focus for Regional Nutrient Management Plans

- Common Message to Livestock Producers
- Unique Collaboration on Compliance Issues
- Flexible, Transparent, Manageable

Common Message

Agencies

- **Regulatory – Compliance with Regs**

- **USDA – Compliance with Regs**
  - **Program compliance**

Producers – Operational Management
- **Stewardship**
- **Compliance**

Public - Need to Know

Key Considerations to Nutrient Plans – Narrative Model

1). Planning Tools to use for Long Term Strategic Plan (5 years)

2). Planning Tools to use for Annual Plan (1 year or one cropping season)

3). Producer Implementation Strategies

Strategic Plan Planning Tools

Establish Methodologies to Affect Changes

1) Inventory Resources, including facilities

1) AWM Software

1) Rate Calculation Methodology
   a. Manure and Nitrogen Application Rates
   b. Manure and Phosphorus Application Rates

1) Risk assessments
   a. RUSLE2
   b. Nitrogen Leaching Index
   c. Phosphorus Index

Rate Calculation Methodology *(Example for Beef Feedlot in*

Crop Nutrient Requirements

Calculations:

Net Nutrient Requirement = [Expected Crop Yield X Nutrient Usage/Removal Rate] - N

N Credits = Legume Credits + Past Manure Credits + Commercial Fertilizer Credit

P Credits = Commercial Fertilizer Credit

Expected Crop Yields are to be determined in accordance with State Regulation

For Example: Expected Crop Yield = most recent 3-year yield average x 1.1

Excerpt from Page 19

Establish Protocols for Annual Plan Renewals

Annual Plan for 2007 Cropping System's Nutrient Management

Part A. Individual Field Expected Yields and Nutrient Requirements

Part B. Crop Available Nutrients

Part C. Manure and Fertilizer Application Rates

Annual Component of NMP – Field Applications Records

Annual Component of NMP

Heartland Water Quality Project - **Annual Component of NMP**

Field Applications

2007: 08S – Bob's S – T3940-8s, Total Acres: 124.40 Manure Spreadable Acres:

Crops Planted: Corn, Yield Potential: 191 bu; Avg. Bray P1: 80.00; Avg. K2O: 504.0

Date	Source/Product	Quantity T.	Form	Per/ac
Fall '06	solid manure	2100	dry	17 T.

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Heartland “Report Card”

Follow up to Performance Measures Roundtable

August ‘07

Heartland NMP "Report Card"

Objective:

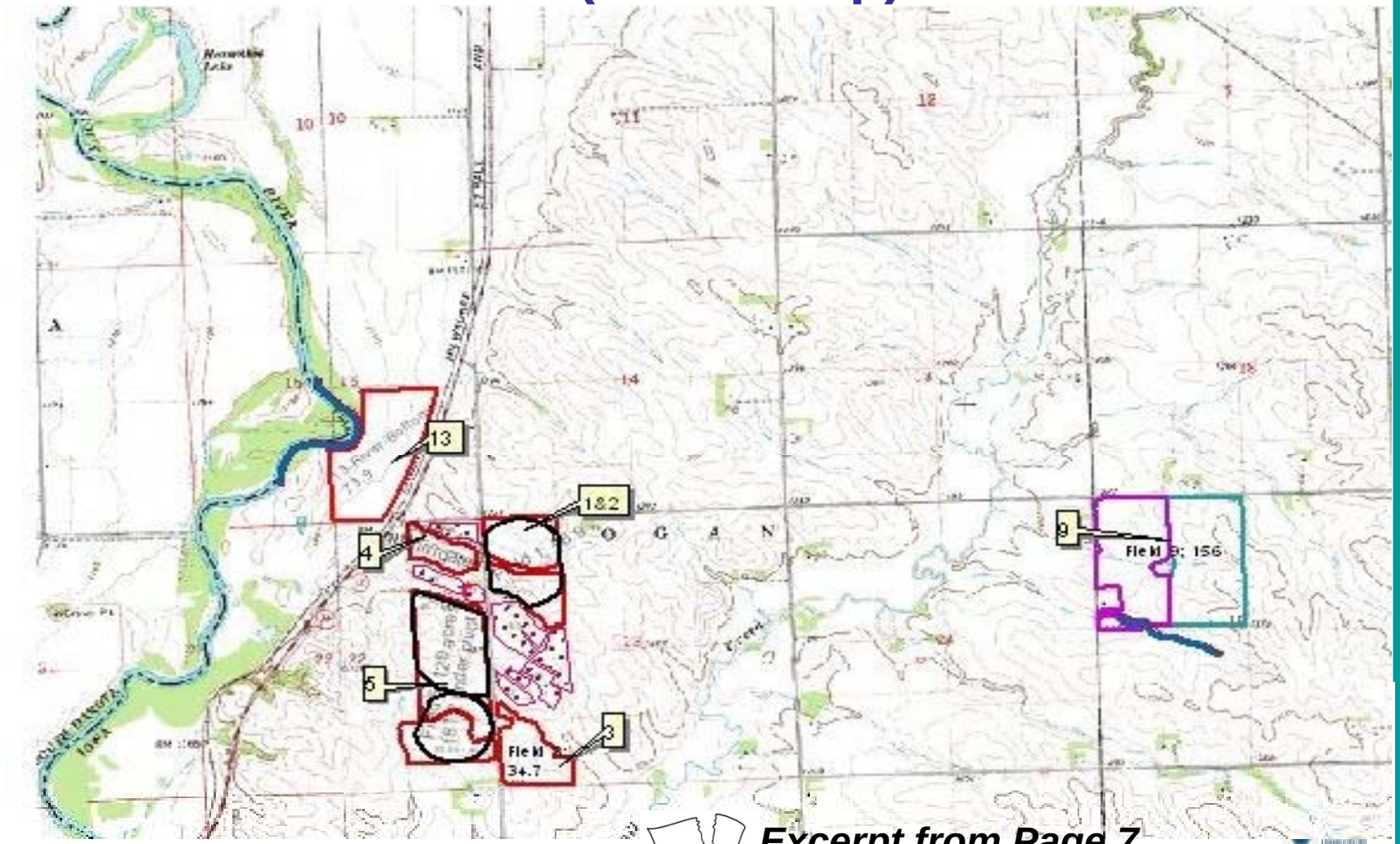
"Identify the key *Minimum* requirements that a NMP must address to meet EPA Requirements"

- Conservation
- Nitrogen
- Phosphorus
- Manure Analysis and Quantity
- General
- Storage Sufficiency

Heartland Web Site – NMP Narrative Model

http://www.heartlandwq.iastate.edu/NR/rdonlyres/44FA673E-F882-49B0-9F99-B531D44CB903/87927/HeartlandNarrativeModelNMP.pdf

Land Application Areas and Farm Headquarters (TOPO Map)



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NMP Input Data from AWM

Facility	Manure		Bedding	
	Tons	Gallons	Tons	Gallons
Storage Pond #1	NA	0	NA	0
Dry Stack (Uncovered) #1	10040	NA	0	NA
Annual Total	10040	0	0	0

Excerpt from Page 9

Volume Design Requirements

Table 1a – Storage Design The 24 hour, 25-year storm in Rival County is 5 inches.

Storage ID	Storage Type	Dimensions, Capacity
Basin # 1	Earthen berm	200' X14' X 500' = 11,506,000 gal.
Basin # 2	Earthen berm	200' X14' X 1000' = 16,152,000 gal.

Table 1b – Estimated Days of Storage

Storage ID	Storage Type	Capacity	Units	Annual Collected (wash water, rain, runoff if applicable)	Days of Storage
Basin # 1	Earthen berm	11,506,000	Gal	Normal 8,200,000	500
Basin # 2	Earthen berm	16,152,000	Gal	Normal 11,300,000	500

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Iowa Phosphorous Index

v. 7/1/2004

Field	Erosion												+
	Gross Erosion	x	Sediment Trap Factor	x	SDR	x	Buffer Factor	x	Enrichment Factor	x	STP Factor	=	Erosion PI
1, 06 - Bill's W – T1623-6	-2.90		1.00		0.37		1.00		1.10		2.04		2.41
3, East Feedlot-South	2.20		1.00		0.41		1.00		1.10		1.71		1.69
4, West Feedlot-North	2.70		1.00		0.33		1.00		1.10		2.20		2.18
5, West Feedlot-South	2.80		1.00		0.36		1.00		1.10		1.25		1.41
6, Bill Farmer West	1.40		1.00		0.75		1.00		1.10		1.51		1.76
7a Bill Farmer East	1.70		1.00		0.58		1.00		1.10		1.27		1.39
7b, Bill Farmer East	***3.80***		***1.00***		***0.46***		***1.00***		***1.10***		***1.27***		***2.43***
8n, Bob Farmer, north	2.60		1.00		0.50		1.00		1.10		1.26		1.82
8s, Bob Farmer,south	***2.50***		***1.00***		***0.58***		***1.00***		***1.10***		***0.91***		***1.46***
9, 08-S; Bob's S – T39240-8s	2.40		1.00		0.45		1.00		1.10		0.90		1.07
10, Ray's	1.60		1.00		0.50		1.00		1.10		1.04		0.92
13, River Bottom	0.64		1.00		0.52		1.00		1.10		1.12		0.41

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