

Comprehensive Nutrient Management Plan

Prepared For:

Varel Dairy, Inc

Prepared By:

EFFINGHAM EQUITY 
PO Box 488, Effingham, IL 62401 (217) 342-4101

Illinois Environmental Protection Agency
Attention: Joseph Mahlandt, Manager
Illinois EPA – DWPC
2009 Mall Street
Collinsville, IL 62234

October 19, 2009

Subject: Varel Dairy, Inc – Comprehensive Nutrient Management Plan (CNMP)

Mr. Mahlandt:

Please find enclosed a copy of the completed CNMP that was presented to Varel Dairy, Inc. on October 14, 2009. Eric Varel asked that we duplicate his plan and forward a copy onto your office as it pertains to Docket No. V-W-09-AO-04. Additionally you will find his NPDES application enclosed.

If you have any questions regarding the preparation of the CNMP I would ask that you contact our office at:

Effingham Equity
201 W Roadway Ave
PO Box 488
Effingham, IL 62401

217-342-4101

If you have any questions regarding the implementation of the CNMP I would ask that you contact Mr. Varel directly.

Thank You,



Alan Kollmann
Effingham Equity

Cc: Eric Varel

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OCT 23 2009

IL Environmental Protection Agency
MARION REGIONAL OFFICE

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EPA
OCT 21 2009
COLLINSVILLE OFFICE

EPA I.D. NUMBER (copy from Item 1 of Form 1)

FORM 2B NPDES		EPA U.S. ENVIRONMENTAL PROTECTION AGENCY APPLICATIONS FOR PERMIT TO DISCHARGE WASTEWATER CONCENTRATED ANIMAL FEEDING OPERATIONS AND AQUATIC ANIMAL PRODUCTION FACILITIES	
I. GENERAL INFORMATION Applying for: Individual Permit <input type="checkbox"/> Coverage Under General Permit <input checked="" type="checkbox"/>			
A. TYPE OF BUSINESS		B. CONTACT INFORMATION	
• 1. Concentrated Animal Feeding Operation (complete items B, C, D, and Section II) • 2. Concentrated Aquatic Animal Production Facility (complete items B, C, and section III)		Owner/or Operator Name: <u>Eric Varel</u> Telephone: (<u>618</u>) <u>765-2548</u> Address: <u>13094 Pioneer Rd.</u> Facsimile: () City: <u>Bartels</u> State: <u>IL</u> Zip Code: <u>62218</u>	
		C. FACILITY OPERATION STATUS • 1. Existing Facility <input checked="" type="checkbox"/> • 2. Proposed Facility <input type="checkbox"/>	
A. FACILITY INFORMATION			
Name: <u>Varel Dairy, Inc.</u> Telephone: (<u>618</u>) <u>765-2216</u> Address: <u>4300 Twin Levee Rd</u> Facsimile: () City: <u>Bartels</u> State: <u>IL</u> Zip Code: <u>62218</u> County: <u>Clinton</u> Latitude: Longitude:			
If contract operation: Name of Integrator: Address of Integrator:			
II. CONCENTRATED ANIMAL FEEDING OPERATION CHARACTERISTICS			
A. TYPE AND NUMBER OF ANIMALS			B. Manure, Litter and/or Wastewater Production and Use
2. ANIMALS			- How much manure, litter and wastewater is generated annually by the facility? <u>7831</u> tons <u>5861,292</u> gallons - If land applied how many acres of land under the control of the applicant are available for applying the CAFOs manure/litter/wastewater? <u>978.94</u> acres - How many tons of manure or litter, or gallons of waste-water produced by the CAFO will be transferred annually to other persons? <u>0</u> tons/gallons (circle one)
I. TYPE	NO. IN OPEN CONFINEMENT	NO. HOUSED UNDER ROOF	
• Mature Dairy Cows		<u>960</u>	
• Dairy Heifers		<u>585</u>	
• Veal Calves			
• Cattle (not dairy or veal)			
• Swine (55 lb. or over)			
• Swine (under 55 lb.)			
• Horses			

EPA Form 3510-2B (12-02)

Appendix D. NPDES CAFO Permit Application (NOT Form 2B)

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• • Sheep or Lambs			
• • Turkeys			
• • Chickens (Broilers)			
• • Chickens (Layers)			
• • Ducks			
• • Other Specify _____			
3. TOTAL ANIMALS		1545	

C. • • TOPOGRAPHIC MAP

D. TYPE OF CONTAINMENT, STORAGE AND CAPACITY

1. Type of Containment	Total Capacity (in gallons)
• • Lagoon	
• • Holding Pond	9,685,079
• • Evaporation Pond	3,431,148
• • Other: Specify _____	

2. Report the total number of acres contributing drainage: _____ acres

3. Type of Storage	Total Number of Days	Total Capacity (gallons/tons)
• • Anaerobic Lagoon		
• • Storage Lagoon	359 days	7,175,602 ga
• • Evaporation Pond		
• • Aboveground Storage Tanks	9 days	178,410 gals
• • Belowground Storage Tanks		
• • Roofed Storage Shed	139 days	1,749 tons
• • Concrete Pad		
• • Impervious Soil Pad		
• • Other: Specify _____		

E. NUTRIENT MANAGEMENT PLAN					
1. Has a nutrient management plan been developed? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
2. Is a nutrient management plan being implemented for the facility? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
3. If no, when will the nutrient management plan be developed? Date: _____					
4. The date of the last review or revision of the nutrient management plan. Date: <u>10/14/09</u>					
5. If not land applying, describe alternative use(s) of manure, litter and or wastewater:					
F. LAND APPLICATION BEST MANAGEMENT PRACTICES Please check any of the following best management practices that are being implemented at the facility to control runoff and protect water quality:					
<input type="checkbox"/> Buffers <input checked="" type="checkbox"/> Setbacks <input checked="" type="checkbox"/> Conservation tillage <input type="checkbox"/> Constructed wetlands <input type="checkbox"/> Infiltration field <input type="checkbox"/> Grass filter <input type="checkbox"/> Terrace					
III. CONCENTRATED AQUATIC ANIMAL PRODUCTION FACILITY CHARACTERISTICS					
A. For each outfall give the maximum daily flow, maximum 30-day flow, and the long-term average flow.				B. Indicate the total number of ponds, raceways, and similar structures in your facility.	
1. Outfall No.	2. Flow (gallons per day)			1. Ponds	2. Raceways
	a. Maximum Daily	b. Maximum 30 Day	c. Long Term Average	C. Provide the name of the receiving water and the source of water used by your facility.	
				1. Receiving Water	2. Water Source
D. List the species of fish or aquatic animals held and fed at your facility. For each species, give the total weight produced by your facility per year in pounds of harvestable weight, and also give the maximum weight present at any one time.					
1. Cold Water Species			2. Warm Water Species		
a. Species		b. Harvestable Weight (pounds)		a. Species	
		(1) Total Yearly	(2) Maximum	b. Harvestable Weight (pounds)	
		(1) Total Yearly	(2) Maximum		
E. Report the total pounds of food during the calendar month of maximum feeding.				1. Month	
				2. Pounds of Food	

IV. CERTIFICATION	
<i>I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.</i>	
A. Name and Official Title (print or type) Eric Varel Owner	B. Phone No. () 618 765 2214
C. Signature Eric Varel	D. Date Signed 10-14-2009

INSTRUCTIONS

<p>GENERAL</p> <p>This form must be completed by all applicants who check "yes" to Item II-B in Form I. Not all animal feeding operations or fish farms are required to obtain NPDES permits. Exclusions are based on size. See the description of these statutory and regulatory exclusions in the General Instructions that accompany Form I.</p> <p>For aquatic animal production facilities, the size cutoffs are based on whether the species are warm water or cold water, on the production weight per year in harvestable pounds, and on the amount of feeding in pounds of food (for cold water species). Also, facilities which discharge less than 30 days per year, or only during periods of excess runoff (for warm water fish) are not required to have a permit.</p> <p>Refer to the Form I instructions to determine where to file this form.</p> <p>Item I-A See the note above and the General Instructions which accompany Form I to be sure that your facility is a "concentrated animal feeding operation" (CAFO).</p> <p>Item I-B Use this space to give owner/operator contact information.</p> <p>Item I-C Check "proposed" if your facility is not now in operation or is expanding to meet the definition of a CAFO in accordance with the information found in the General Instructions that accompany Form I.</p> <p>Item I-D Use this space to give a complete legal description of your facility's location including name, address, and latitude/longitude. Also, the if a contract grower, the name and address of the integrator.</p> <p>Item II Supply all information in item II if you checked (1) in item I-A.</p> <p>Item II-A Give the maximum number of each type of animal in open confinement or housed under roof (either partially or totally) which are held at your facility for a total of 45 days or more in any 12 month period. Provide the total number of animals confined at the facility.</p> <p>Item II-B Provide the total amount of manure, litter and wastewater generated annually by the facility. Identify if manure, litter and wastewater generated by the facility is to be land applied and the number of acres, under the control of the CAFO operator, suitable for land application. If the answer to question 3 is yes, provide the estimated annual quantity of manure, litter and wastewater that the applicant plans to transfer off-site.</p> <p>Item II-C Check this box if you have submitted a topographic map of the geographic area in which the CAFO is located showing the specific location of the production area.</p>	<p>Item II-D</p> <ol style="list-style-type: none"> 1. Provide information on the type of containment and the capacity of the containment structure (s). 2. The number of acres that are drained and collected in the containment structure (s). 3. Identify the type of storage for the manure, litter and/or wastewater. Give the capacity of this storage in days and gallons or tons. <p>Item II-E Provide information concerning the status of the development and implementation of a nutrient management plan for the facility. In those cases where the nutrient management plan has not been completed, provide an estimated date of development and implementation. If not land applying, describe the alternative uses of the manure, litter and wastewater (e.g., composting, pelletizing, energy generation, etc.).</p> <p>Item II-F Check any of the identified conservation practices that are being implemented at the facility to control runoff and protect water quality.</p> <p>Item III Supply all information in Item III if you checked (2) in Item I-A.</p> <p>Item III-A Outfalls should be numbered to correspond with the map submitted in Item XI of Form I. Values given for flow should be representative of your normal operation. The maximum daily flow is the maximum measured flow occurring over a calendar day. The maximum 30-day flow is the average of measured daily flow over the calendar month of highest flow. The long-term average flow is the average of measure daily flows over a calendar year.</p> <p>Item III-B Give the total number of discrete ponds or raceways in your facility. Under "other," give a descriptive name of any structure which is not a pond or a raceway but which results in discharge to waters of the United States.</p> <p>Item III-C Use names for receiving water and source of water which correspond to the map submitted in Item XI of Form I.</p> <p>Item III-D The names of fish species should be proper, common, or scientific names as given in special Publication No. 6 of the American Fisheries Society. "A List of Common and Scientific Names of Fishes from the United States and Canada." The values given for total weight produced by your facility per year and the maximum weight present at any one time should be representative of your normal operation.</p> <p>Item III-E The value given for maximum monthly pounds of food should be representative of your normal operation.</p> <p>Item IV The Clean Water Act provides for severe penalties for submitting false information on this application form. Section 309(C)(2) of the Clean Water Act provides that "Any person who knowingly makes any false statement, representation, or certification in any application...shall upon conviction, be punished by a fine of no more than \$10,000 or by imprisonment for not more than six months, or both."</p>
<p>Federal regulations require the certification to be signed as follows:</p> <ol style="list-style-type: none"> A. For corporation, by a principal executive officer of at least the level of vice president. B. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or C. For a municipality, State, Federal, or other public facility, by either a principal executive officer or ranking elected official. 	<p>Paper Reduction Act Notice</p> <p>The Public reporting burden for this collection of information estimated to average 4 hours per response. The estimate includes time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information to the chief, Information Policy Branch (PM-223), U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, N.W., Washington, D.C. 20460, and the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503, marked Attention: Desk Officer for EPA.</p>

Comprehensive Nutrient Management Plan Certification Form

I, the undersigned, do hereby certify that a Comprehensive Nutrient Management Plan for the livestock management facility named below has been completed. The plan meets or exceeds all of the required criteria for the NRCS in the State of Illinois for each practice as signed below.

Facility Name: Varel Dairy, Inc.

Facility Location

County: Clinton
Township Name: Sante Fe
Township #: 1N
Range: 3W
Section: 16

Practice	Technical Service Provider	TSP Certification #
Manure Wastewater Storage and Handling		
Land Treatment Practice	Effingham Equity by Alan Kollman	TSP- B 04-531
Nutrient Management	Effingham Equity by Alan Kollman	TSP- B 04-531
Total CNMP Development	Effingham Equity by Alan Kollman	TSP- B 04-531

I certify that I have read and understood this CNMP and agree with the contents contained in it.

Name:

Eric Varel

Signature:

Eric Varel

Date:

10-14-09

IL 600.5 - EXHIBIT IL 1 CNMP Documentation Index
(See CNMP Statement of Work for specific information)

1. Manure and Wastewater Handling and Storage

Documentation	Required for CNMP Planned	Required for CNMP Applied	Location in CNMP Documentation
Narrative (brief description) of operation, existing & proposed	X	X	Waste System Analysis under the Operation Information tab
Types of animals and phases of production that exist / will exist at the facility.	X	X	Animal Inventory under the Facility Information tab
Numbers of each animal type, average weight, and period of confinement for each phase of production.	X	X	Animal Inventory under the Facility Information tab
Total estimated manure, bedding and wastewater volumes produced at facility.	X	X	Manure Calculations pages under the Operation Information tab
Existing / planned Manure storage type, volume, and length of storage. (Include appropriate geologic investigation reports for planned storage or transfer facilities. Include inspection reports and photographic evidence of physical state of existing facilities.)	X	X	Manure Storage Analysis under the Operation Information tab
Existing / planned collection and transfer equipment, system, and procedures.	X	X	Waste System Analysis under the Operation Information tab
Existing / planned mortality management	X	X	Waste System Analysis under the Operation Information tab
Contour map of site showing sources and directions of clean water flow and polluted runoff through and around facilities	X	X	Water Flow sketches under the Operation Information tab
Map showing location of 100 year floodplain, if known	X	X	
Animal waste system plan maps and sketches - existing and planned	X	X	Facility sketches under the Operation Information tab
Animal waste system preliminary design information (include estimated quantities for proposed practices using NRCS payment scenarios and planned schedule of application.)	X		Proposed Facility sketches and supporting documents under the Operation Information tab
Animal waste system practice designs		X	
Operation and maintenance requirements.	X	X	Documents located under the Recordkeeping Tab
Emergency action plan to address spills and catastrophic events.	X	X	Procedure for Reporting Livestock Waste Releases and Containment Plan under the Operation Information tab -- Footnote LMFA Section 18
Air quality and pathogen considerations.	X	X	Waste System Analysis under the Operation Information tab

2. Land Treatment Practices

Documentation	Required for CNMP Planned	Required for CNMP Applied	Location in CNMP Documentation
Planned Conservation System (Meets Quality Criteria for Soil Loss and Water Quality) including:			
Individual field maps for all fields the operator owns/controls and where manure application is planned / applied, showing ephemeral and gully erosion concerns, buffers, waterways, and locations of other existing / planned conservation practices.	X	X	Each individual field has a documentation section within the Field Details Information tab -- each field section begins with the Conservation Plan for that particular field
Soil maps and information such as features, limitations, soil loss calculations and capability for each field the operator owns / controls and where manure application is planned / applied.	X	X	Limitations for each field regarding manure applications is listed within the Conservation Plan for each particular field -- Soil Loss calculations are located in each individual Field Detail Numbered tab
Nitrogen and phosphorus risk assessments for each field the operator owns / controls and where manure application is planned / applied.	X	X	Completed NRCS Nitrogen and Phosphorus Risk Assessments are located last behind the individual field tabs.
Conservation practices needed to solve identified resource problems including: rotation, tillage, farming direction and soil erosion and water runoff control practices on all fields where manure application is planned (include estimated quantities for proposed practices using NRCS payment scenarios and planned schedule of application by field.)	X		CNMP Summary -- Project Recommendations, located in the front section of the CNMP.
Conservation practice design and implementation information for all fields where manure is applied.		X	
Identification of sensitive areas such as sinkholes, streams, springs, lakes, ponds, wells, gullies, and drinking water sources.	X	X	Identified on the Application Field Detail Sheet for each individual field as one or more of 6 application provisions and additionally on the field map that follows
Other site features of significance, such as property boundaries, residences and populated areas.	X	X	Identified on the Application Field Detail Sheet for each individual field as one or more of 6 application provisions and additionally on the field map that follows
Operation and Maintenance (O&M) Plans for practices and / or activities.	X	X	Documents located under the Recordkeeping Tab

3. Nutrient Management

	Documentation	Required for CNMP Planned	Required for CNMP Applied	Location in CNMP Documentation
	Individual field maps for all fields the operator owns / controls and where manure application is planned / applied, showing setbacks from wells, sinkholes, and open water areas, where application restrictions exist.	X	X	Each individual field has a documentation section within the Field Details Information tab -- each field section begins with the Conservation Plan for that particular field
	Table or list of total field acres and acres for manure application, for all fields the operator owns / controls and where manure application is planned / applied.	X	X	Field Summary Sheet under the Application Fields tab
	Current soil test results for pH, phosphorus, and potassium for all fields the operator owns / controls and where manure application is planned / applied.	X	X	Each individual field has a documentation section within the Field Details Information tab -- each field section begins with the Conservation Plan for that particular field -- current soil tests are a portion of the documentation
	Manure and organic by-product source nutrient "book value" or test results (planned). Manure and organic by-product source testing results (applied). Indicate source of values used	X	X	Waste Application Worksheets under Waste App tabs - planned Manure Sample Results under Recordkeeping Tab - applied
	A general nutrient budget that identifies number of acres needed for waste utilization. The budget should contain a separate calculation for nutrient uptake for each combination of crop rotation and yield the operator proposes.	X	X	Waste Application Worksheets for each field of each Application Year for 3 crop years -- Located in each Application Years tab
	Nutrient budget for nitrogen, phosphorus, and potassium that includes all potential sources of nutrients for all fields the operator owns / controls and where manure application is planned / applied.	X	X	Nutrient Budget -- which includes N-P-K maintenance and buildup rates for targeted yield goals and the sources of the nutrients either via manure or commercial fertilizers -- Located in each Application Years tab
	Supplemental nutrient needs when manure does not meet nutrient needs, for setbacks, and years when manure not applied	X		Nutrient Budget -- which includes N-P-K maintenance and buildup rates for targeted yield goals and the sources of the nutrients either via manure or commercial fertilizers -- Located in each Application Years tab
	Form, source, amount, timing, and method of application of nutrients, by field.	X	X	Waste Application Worksheets for each field of each Application Year for 3 crop years -- Located in each Application Years tab
	P buildup potential where nutrient applications are in excess of P use.	X		Waste Application Worksheets for each field of each Application Year for 3 crop years -- Located in each Application Years tab
	Manure transfers planned / applied.	X	X	Waste Application Worksheets for each field of each Application Year for 3 crop years -- Located in each Application Years tab
	Operation and maintenance activities (soil & manure tests, equipment calibration, etc.)	X	X	Documents located under the Recordkeeping Tab
	Air quality, pathogen, and salt / heavy metal buildup considerations.	X	X	Waste System Analysis under the Operation Information tab

4. Recordkeeping

Documentation	Required for CNMP Planned	Required for CNMP Applied	Location in CNMP Documentation
Current soil test results, in accordance with Nutrient Management (Code 590) and Waste Utilization (Code 633).	X	X	Located in each individuals fields documentation section
Mortality disposal records.		X	Documents located under the Recordkeeping Tab
Records of storage containment structures operation and maintenance, including: Dates of emptying, levels before and after emptying, and discharge or overflow events, including level before and after event.		X	Documents located under the Recordkeeping Tab
For Each Application Event, Records of:			
Field(s) where manure or organic by-products are applied or will be applied.	X	X	Multiple Year Application Field Summary -- located behind the first Waste Application tab -- 3 year plan of applied acres
Amount applied per acre, source, and application method / equipment used.		X	Documents located under the Recordkeeping Tab
Time and date of application.		X	Documents located under the Recordkeeping Tab
Weather and general soil moisture conditions during nutrient application.		X	Documents located under the Recordkeeping Tab
For manure transferred off-site or to third parties:			
Source and nutrient content		X	Documents located under the Recordkeeping Tab
Amount and date of manure transferred.		X	Documents located under the Recordkeeping Tab
Recipient of manure.		X	Documents located under the Recordkeeping Tab
Copies of all reporting of waste releases filed with Illinois EPA.		X	Documents located under the Recordkeeping Tab
Forms for documenting inspections and maintenance	X		Documents located under the Recordkeeping Tab
Records of maintenance performed associated with operation and maintenance plans.		X	Documents located under the Recordkeeping Tab
Records of nutrient application equipment calibration.		X	Documents located under the Recordkeeping Tab
Changes made in CNMP.		X	Documents located under the Recordkeeping Tab

5. Feed Management

Documentation	Required for CNMP Planned	Required for CNMP Applied	Location in CNMP Documentation
Feed management plan.			

6. Other Utilization Activities

Documentation	Required for CNMP Planned	Required for CNMP Applied	Location in CNMP Documentation
More efficient and cost-effective methods (such as the following):			
Improved systems for solids removal from liquid manure.			
Improved manure handling, storage, and treatment methods to reduce ammonia volatilization.			
Treatment systems that transform and / or capture nutrients, trace elements, and pharmaceutically active compounds from manure.			
Improved composting and other manure stabilization techniques.			
Treatment systems to remediate or replace anaerobic lagoons.			

7. Certification

Documentation	Required for CNMP Planned	Required for CNMP Applied	Location in CNMP Documentation
Producer's selection of alternatives (include written concurrence from producer on all planned practices)	X	X	CNMP Certification Form is first document in CNMP Proposed Facilities sketches and supporting documents located under the Operation Info tab
Signature(s) of CNMP developer(s)	X	X	CNMP Certification Form is first document in CNMP

NOTES:

CNMP Planned: The Comprehensive Nutrient Management Plan - a document record of producer's decision for manure and waste water handling and storage, land treatment and nutrient management.

CNMP Applied: After the planned measures in the CNMP have been implemented - the documentation for CNMP Applied includes the CNMP + field specific nutrient management and land treatment designs; any applicable designs for facilities for manure and waste water handling and storage; necessary records; feed management plans and documentation of other utilization options.

Varel Dairy, Inc. -- CNMP Summary
Project Recommendations for Application Fields

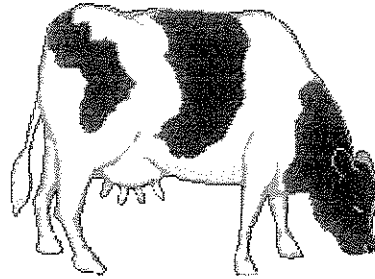
Location	Needs	Anticipated Project Date	Special Notes
Fields 1-4,11-27,35,36	Application Restriction	2009 and future years	A residence, non-farm business, or common place of assembly is located within a 1/4 mile of these fields and incorporation of manure is required within 24 hours after application.
Fields 9,17	Application Restriction	2009 and future years	A pond or stream is located near these fields and requires a 200 foot setback. Manure application should not be applied in the 200 foot watershed area.
Field 2	Application Restriction	2009 and future years	A well is located near these fields and requires a 150 foot setback. Manure application should not be applied in the 150 foot watershed area.
Fields 1-5,8,16,19 23-25,28-36	Application Restriction	2009 and future years	A waterway or drainage ditch is located in this field. Manure application should not be applied in these areas.
Fields 1,2,7-16,20,22-24 29-32-34,35	Application Restriction	2009 and future years	These fields are listed as part of the 10 year flood plain and require immediate or direct injection of manure
Fields 4,11,17-23	Application Restriction	2009 and future years	These fields contain slopes greater than 5% and should not have manure applied to those areas when the ground is frozen or snow covered.
2,5-15	Phosphorus Levels > 70 lbs/acre	2009	These fields exceed a P1 value of 70 lbs per acre which is an adequate phosphorus level for the yield goals and crop rotation desired by the operation -- no buildup or maintenance commercial fertilizer should be applied.
Fields 2,5	Phosphorus Levels exceeding 300 lbs/acre	2009	These fields have a soil test P1 level >300 lbs/acre. Manure application should be restricted to phosphorus requirements until soil test decreases below 300.
16,18,30-34	Soil Test	2010	These fields are due to have soil tests completed before 2010 manure application can occur.
4,17,24-29	Soil Test	2011	These fields are due to have soil tests completed before 2011 manure application can occur.
Fields 21,22,35,36	Soil Test	2012	These fields are due to have soil tests completed before 2012 manure application can occur.

Varel Dairy, Inc. -- CNMP Summary
Project Recommendations for Livestock Facility - Proposal 1

Location	Needs	Anticipated Project Date	Special Notes
West of silage pad	Stormwater Pond	2010	Containment for stormwater runoff from driveways, commodity shed, and silage leachate is needed in order to eliminate discharge. Pond would need to be 180 feet x 490 feet x 12 feet deep.
West of silage pad and calf hutches	Concrete Gutter	2010	Concrete gutter to capture runoff from silage pad and calf hutch area and direct it to stormwater pond
North edge of silage pad	Curbing	2010	Concrete curbing is needed along north edge of silage pad to eliminate water from running off of pad to the north
Barns 9 & 10	Curbing	2010	Concrete curbing is needed along the edges of feedlot floor to eliminate manure from running off of pad and clean water from entering manure system
Barns 9 & 11	Catch sump with pump and piping	2010	Catch sump is needed in south east corner of lot to capture lot runoff and pump it to waste holding pond
Barns 9 & 11	Barn Guttering	2010	Barns need guttering with downspouts to capture rainwater and divert it away from facility to prevent clean water from entering the waste stream.
Barn 8	Curbing	2010	Concrete curbing is needed along the south edge of feedlot floor to eliminate manure from running off of pad.
Barn 8	Catch sump with pump and piping	2010	Catch sump is needed in south east corner of lot to capture lot runoff and pump it to waste holding pond
Barn 8	Barn Guttering	2010	Barn needs guttering with downspouts to capture rainwater and divert it away from facility to prevent clean water from entering the waste stream.

Varel Dairy, Inc. -- CNMP Summary
Project Recommendations for Livestock Facility - Proposal 2

Location	Needs	Anticipated Project Date	Special Notes
West of silage pad	Gulley Erosion	2009	Stormwater leaving silage pad caused gulley erosion. Rip rap has been added to break up concentrated flow of water. Culvert where water is draining has had a perforated tile added to it to also disperse water over a larger area.
Barns 9 & 10	Curbing	2010	Concrete curbing is needed along the edges of feedlot floor to eliminate manure from running off of pad and clean water from entering manure system
Barns 9 & 11	Vegetated Treatment Area	2010	A vegetated treatment area 85 feet x 430 feet is needed to utilize the nutrients contained in the lot runoff.
Barns 9 & 11	Barn Guttering	2010	Barns need guttering with downspouts to capture rainwater and divert it away from facility to prevent clean water from entering the waste stream.
Barn 8	Barn Guttering	2010	Barn needs guttering with downspouts to capture rainwater and divert it away from facility to prevent clean water from entering the waste stream.



Livestock Waste Management Plan

Varel Dairy, Inc.

7300 Twin Levee Rd.
Bartelso, IL 62218

Prepared By: Effingham Equity
Effingham, IL 62401



Varel Dairy, Inc.

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 - Waste Application Worksheets
- 7. Yield Goal Documentation**
- 8. Field Detail Information**
 - Provisions for Livestock Waste Applications
 - Farm Maps
 - Plat Book Maps
- 9. Individual Field Tabs**
 - Conservation Plans
 - RUSLE 2 Erosion Calculations
 - Application Field Detail Sheets
 - Field Maps with Setbacks if applicable
 - Soil Type Maps
 - Soil Tests
 - Phosphorus and Nitrogen Risk Assessments
- 10. Recordkeeping Documents**

