STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No.	MO-0118079
Owner:	Premium Standard Farms, LLC
Address:	PO Box 194, Highway 65 North, Princeton, MO 64673
Continuing Authority:	Same as above
Address:	Same as above
Facility Name:	PSF, Coffey Feedmill
Facility Address:	Highway B, Coffey, MO 64636
Legal Description:	See page 2
Latitude/Longitude:	See page 2
Receiving Stream:	See page 2
First Classified Stream and ID:	Cypress Creek (C)(00443)
USGS Basin & Sub-watershed No.:	(10280101-160003)

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

See page 2

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

December 15, 2006 — Effective Date
March 21, 2008 — Revised

Doyle Childers, Director, Department of Natural Resources
Executive Secretary, Clean Water Commission

December 14, 2011 — Expiration Date

Edward Galbraith, Director of Staff, Clean Water Commission

MO 780-0041 (10-93)

FACILITY DESCRIPTION, LEGAL DESCRIPTION, RECEIVING STREAM INFORMATION

Outfall #001 – Agricultural/Feed – SIC #2048
Boiler blow down/reverse osmosis/backwash discharge to drainage ditch located northeast of feedmill.
Design flow is 27,400 gallons per day.
Legal Description: NW ¼, SW ¼, SW ¼, Sec. 4, T61N, R28W, Daviess County.
Latitude/Longitude: +4006258/-09403529

Outfall #002 – Transferred to General Permit MO-R12A123

Outfall #003 – Transferred to General Permit MO-R12A123

Outfall #004 – Domestic Wastewater – SIC #4952
No-discharge domestic wastewater treatment systems serving employee restrooms, cafeteria, and showers consisting of one septic tank and a single cell lagoon. Wastewater is irrigated and sludge is land applied.
Design population equivalent is 4.
Design flow is 390 gallons per day.
Legal Description: SW ¼, SW ¼, Sec. 4, T61N, R28W, Daviess County.
Latitude/Longitude: +4006222/-09403454

Outfall #005 – Site #1 – Truck Wash
System Type: Solids Separation/Solids Storage/Anaerobic Lagoon
Design Number of Animals: Equivalent to 200 finishing hogs (80 animal units)
Design Population Equivalent: 450
Design Waste Volume: 13,000 gallons per day.
Maximum Operating Level (Safety Volume Depth): one foot below overflow level.
Minimum Operating Level: 15.9 feel below overflow level.
Land Application: Rates are based on the plant available nitrogen approach.
Legal Description: SW ¼, SW ¼, Sec. 4, T61N, R28W, Daviess County.
Latitude/Longitude: +4006277/-09403453

Total Number of Acres Available for Land Application

Percent Slope	Land Owned by Permittee	Non-owned Land with Spreading Agreements	Total Acres
0 – 10%	None	55.5	55.5
10 – 20%	None	None	None
TOTAL	None	55.5	55.5

Outfall #006 – Stormwater
Legal Description: SE ¼, SE ¼, SW ¼, Sec. 4, T61N, R28W, Daviess County.
Latitude/Longitude: +4006181/-09403328
Unnamed Tributary to Cypress Creek at property line.

Outfall #007 – Storm Water
Legal Description: NE ¼, SE ¼, SW ¼, Sec. 4, T61N, R28W, Daviess County.
Latitude/Longitude: +4006311/-09403252
Unnamed Tributary to Cypress Creek at property line.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #001						
Flow	MGD	*		*	once/month	24 hr. estimate
Iron	mg/L	*		*	once/month	grab
Manganese	mg/L	*		*	once/month	grab
Temperature	°F	90		90	once/month	grab
Sulfate + Chloride	mg/L	1000		1000	once/month	grab
Total Suspended Solids	mg/L	110		70	once/month	24 hr. composite
pH – Units	SU	*******		*******	once/month	grab
Oil & Grease	mg/L	15		10	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE January 28, 2007 .						
Outfalls #004 & #005 - Wastewater Discharge (Notes 1 & 2)						
Flow	MGD	*		*	once/day**	24 hr. estimate
pH - Units	SU	*******		*******	once/day**	grab
Biochemical Oxygen Demand$_5$	mg/L	*		*	once/day**	grab
Ammonia Nitrogen as N	mg/L	*		*	once/day**	grab
Nutrient Monitoring - Wastewater/Sludge/Solids Land Applied (Note 3)						
Total Kjeldahl	mg/L	*		*	once/quarter***	****
Nitrogen as N	mg/L	*		*	once/quarter***	****
Ammonia Nitrogen as N	mg/L	*		*	once/quarter***	****
Total Phosphorus as P	mg/L	*		*	once/quarter***	****
Dissolved Phosphorus as P	mg/L	*		*	once/quarter***	****
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE April 28, 2007. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Parts I & III STANDARD CONDITIONS DATED October 1, 1980 and August 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Land Application System – Operational Monitoring						
Lagoon or Storage Structure Freeboard	feet	******		******	once/month	measured
Land Application	hours	******			daily	total
Amount Land Applied	gallons or cubic ft	******			daily	total
Application Area	acres	******			daily	total
Application Rate	inches/ acre	******			daily	total
Rainfall	inches	*			daily	total
Outfalls #006 & #007 - Stormwater Runoff (Note 4)						
Flow	MGD	*			once/quarter***	24 hr. estimate
pH – Units	SU	*			once/quarter***	grab
Ammonia Nitrogen as N	mg/L	*			once/quarter***	grab
Total Suspended Solids	mg/L	*			once/quarter***	grab
Total Phosphorus as P	mg/L	*			once/quarter***	grab
Dissolved Phosphorus as P	mg/L	*			once/quarter***	grab
Temperature	°C	*			once/quarter***	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE April 28, 2007 . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Parts I & III STANDARD CONDITIONS DATED October 1, 1980 and August 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

* Monitoring requirement only (see Special Conditions).
** Monitor only when discharge occurs.
*** Sample once per quarter when any land application occurs during that quarter.
**** A composite sample made up from a minimum of seven grab samples collected within a 24-hour period.
***** Report the water level as feet below the emergency overflow level.
****** Monitor during land application and follow the attached Best Management Practices.
******* pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.0-9.0 pH units.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

Note 1 – There shall be no-discharge of process waste during dry weather conditions. For a properly operated facility, discharge is allowed due to overflow through the emergency spillway of the lagoon or uncovered storage structure that is caused by storm events that exceed the design storm. Only that portion of storm water flow, which exceeds the design storm event may be discharged. Process waste discharge is not allowed by pumping, siphoning, cutting of berms, or any other method, except as authorized herein, unless prior approval is obtained from the department.

Note 2 – Notify the department as soon as possible and no later than within 24 hours of any discharge that occurs and submit monitoring results within 30 days.

Note 3 – Wastewater that is land applied shall be sampled at the irrigation pump or wet well, or from the lagoon if there is no irrigation during the report period. Solids or sludge that are land applied shall be sampled and tested separately at representative locations from storage or loads to be land applied.

Note 4 – Monitoring is required for watersheds where process waste has been land applied during the quarter. If there has been no land application within a watershed during the quarter, the Monitoring report shall specify "Monitoring not required due to no land application during the quarter."

C. SPECIAL CONDITIONS

1. Report as no-discharge when a discharge does not occur during the report period. The term discharge means process waste that enters waters of the state. Process waste is defined in 10 CSR 20-6.300.

2. All wastewater systems shall be constructed in accordance with a construction permit.

3. a. This permit authorizes operation of the system as indicated in the Operation Description of this permit.
   b. The system listed in the operation description of this permit shall not be placed into operation until submittal of the engineering certification of completed construction and approval by the department. Barrel tests to determine lagoon leakage rates shall be conducted on all newly constructed lagoons in accordance with 10 CSR 20-8.020 (16) (B) and shall be submitted with the engineering certification of completed construction.

4. Discharges to waters of the state shall not cause a violation of water quality standards under 10 CSR 20-7.031.

5. This permit may be reopened and modified or alternatively revoked and reissued, to incorporate new or modified limitations or other conditions pertaining to phosphorus application rates to soils, the adequacy of wastewater lagoon liners, or other special conditions as may be necessary to protect waters of the state.

6. Wastewater Discharge Monitoring (All Outfalls)
   a. Any emergency wastewater discharge or unauthorized discharge that occurs due to lagoon overflow, wastewater bypassing, wastewater irrigation or other sources shall be monitored once/day for ammonia nitrogen as N and biochemical oxygen demand (BOD_5).
   b. Samples shall be collected of the discharge at the downgradient property boundary. Samples shall also be collected from any defined drainage that are above and below the receiving waters at the downgradient property boundary. If the receiving drainage is dry above the discharge point, report as no stream flow above the discharge point.
   c. Records shall be maintained for time, date, location, and duration of the discharge and an estimate of the discharge volume.

7. Nutrient Monitoring for liquids and sludges to be land applied (See Section A for applicable outfall numbers)
   a. A composite sample of wastewater from each lagoon shall be tested once per quarter for total kjeldahl nitrogen as N, ammonia nitrogen as N, total phosphorus as P, and dissolved phosphorus as P.
   b. The composite sample shall consist of at least seven grab samples from representative locations in the lagoon.

C. SPECIAL CONDITIONS (continued)

8. Land Application Systems – Operational Monitoring (See Section A for applicable outfall numbers)
   a. The inches of precipitation received at the site shall be recorded daily and shall be reported quarterly for daily amounts, monthly totals, and cumulative total.
   b. Daily records shall be kept on file for land application locations, volumes, acres, inches/hour, inches/acre, time of applications, and which lagoon was being pumped. These shall be summarized into quarterly and annual totals by each field and travel lane for the entire operation. Daily totals shall be kept on file by permittee and cumulative amounts submitted quarterly.
   c. Monthly measurements shall be made of the water level in each lagoon and shall be recorded as feet below the emergency overflow elevation. Report quarterly.
   d. Nitrogen application rates, crop yields, crop nitrogen requirements, and other operational monitoring shall be recorded for each field and reported in the annual report.

9. Storm Water Runoff Monitoring (See Section A for applicable outfall numbers)
   a. Storm water runoff shall be monitored once per quarter for ammonia nitrogen as N, total suspended solids, total phosphorus as P, dissolved phosphorus as P, pH, and temperature.
   b. Samples shall be collected for the storm water monitoring locations listed herein.
   c. Samples shall be collected during storm water runoff events that occur after rainfalls of at least 0.5 inches within a 24-hour period. Collect the sample as soon as practicable after the beginning of stormwater runoff.
   d. If there are no runoff events during a monitoring period, report as no discharge of storm water.

10. Soil Monitoring
   a. Soil tests shall be conducted at least once per year for the surface 6-8 inches of soil at all land application sites for soil pH, available phosphorus as P (Bray P-1 test method). Soil tests shall be conducted in the spring and fall for nitrate nitrogen as N.
   b. Soil tests for the surface 6-8 inches at all land application sites shall be conducted once every for (4) years for total phosphorus as P, percent organic matter, cation exchange capacity, and exchangeable sodium percentage. The first samples shall be tested within 180 days after permit issuance.
   c. Soil sampling shall be in accordance with University of Missouri (MU) publication G9110, “Sampling Your Soil For Testing” or other methods approved by the department.
   d. Soil testing methods shall be in accordance with MU publication EC923, “Soil Testing in Missouri,” or North Dakota Agricultural Experiment Bulletin 499-Revised, “Recommended Chemical Soil Test Procedures for the North Central Region,” or other test methods approved by the department. Soil textural classes shall be based on USDA Soil Taxonomy.

11. Nitrogen Management
   a. The permittee shall not exceed the plant available nitrogen management approach as listed in this permit.
   b. The actual application rates for a given year or growing season must be adjusted based on the approved management approach and the actual wastewater and soil testing results and crop nitrogen requirement. If crop yields are less than that predicted in the permit application, the rates must be reduced or the yields increased through appropriate changes in management practices. Nutrients applied in the fall of the year after crop harvest shall be recorded as credits toward the next growing season and shall be reported in the annual reports for year of application and the year when the crop is harvested.
   c. Application to pasture land shall not exceed an approved plant available nitrogen rate based on actual cow days on pasture.

12. Land Application Site Locations
   The permittee shall land apply wastewater only to suitable sites located within the overall property boundaries and descriptions listed in the permit application and associated operation plans. Permittee requests for additional sites including non-owned property must follow permit modification procedures prior to land application.

C. SPECIAL CONDITIONS (continued)

13. Annual Report
An annual report is required in addition to the quarterly reporting under Section A of this permit. The annual report shall be submitted by January 28 of each year for the previous calendar year or portion of the year. This report shall be submitted using report forms approved by the department and shall include a summary of the monitoring and record keeping required by the Special Conditions and Standard Conditions of this approval.

14. Best Management Practices
The permittee shall follow the attached Best Management Practices (BMP) for CAFO dated February 16, 1996, which are hereby incorporated as though fully set forth herein. Exceptions for BMPs may be approved on a case-by-case basis by the permitting authority and must be listed in the permit in accordance with public participation and permit modification rules under 10 CSR 20, Chapter 6.

15. Plant Available Nitrogen Procedure
a. Land application rates shall not exceed the nitrogen uptake requirement for the specific crop harvested from each field based on the plant available nitrogen approach (PAN). The PAN formula in the permit is based on the net difference of precipitation, dry deposition, and foliar absorption and off setting deletions for denitrification and other losses. Primary reference publications used for the permit requirements are:
(1) Livestock Waste Facilities Handbook, Midwest Plan Service, MWPS-18, April 1993.
(2) Agricultural Waste Management Field Book, USDA, Natural Resources Conservation Service (NRCS), April 1992.
(3) Managing Nitrogen for Groundwater Quality and Farm Profitability, Soil Science Society of America, Inc., 1991.
(4) Soil Test Interpretations and Recommendations Handbook, University of Missouri, Department of Agronomy, December, 1992.

b. The manure (wastewater/sludge/solids) land application rate in pounds/acre/year of nitrogen shall be determined using the following procedure for PAN:

$$\mathbf{MAR} = \frac{\mathbf{nCNR}}{\mathbf{MPAN}}$$

Where: **MAR** = Manure Application rate in total volume per acre;
nCNR = Net crop nitrogen requirement in pounds per acre; and
mPAN = Plant available nitrogen from manure in pounds per unit volume (i.e. lbs/1,000 gallon; lbs/acre inch; lbs/cubic foot).

(1) **CNR** means crop nitrogen requirement for crop growth for a realistic yield goal that is attainable for the soil characteristic and climatic conditions at the site. Nitrogen requirements should include entire plant (grain + stalk).

For CNR: See Table 1

nCNR means net crop nitrogen requirements after considering the total residual organic nitrogen (tRON) that will be available in the soil from plant organic matter and previous manure applications.

nCNR = CNR – tRON

C. SPECIAL CONDITIONS (continued)

15. Plant Available Nitrogen Procedure (continued)

(2) **tRON** means total residual organic nitrogen available to plants from the soil organic matter and previous manure application as follows:

tRON = sRON + mRON

sRON means Soil Residual Organic Nitrogen available to plants from the nitrogen released by mineralization of organic matter from plant vegetation. The sRON procedure depends on whether the vegetation grown will be annual crops or perennial crops as follows:

Annual Crops:

For annual crops that are tilled into the soil, the available nitrogen released each year is based on the percent organic matter in the soil and the soil cation exchange capacity. The available nitrogen is about 2-3% each year of the total organic nitrogen in the soil.

sRON = [% organic matter in soil] x [OR factor]
For OR Factor: See Table 2

Perennial Crops:

For forage crops, the sPAN contribution is minor because the residual plant material is not incorporated in to the upper soil horizon. The approved reference publications listed under this permit have already subtracted this factor from the CNR tables. Therefore, the sPAN factor can be considered to equal zero for purposes of the PAN calculations. If other publications are used, they must be approved by the department and listed in the approved Operation and Maintenance manual along with appropriate sPAN factor as determined by the department.

sRON has already been subtracted from the CNR tables in the listed references.

mRON means Manure Residual Organic Nitrogen available to plants from manure applied in previous two years (Year 2 and Year 3) from Table 3. The nitrogen mineralization rate for manure is significantly higher than the organic nitrogen in plant vegetation and must be predicted separately from the sRON values.

For mRON: See Table 3. Permittee may choose to use the cumulative factor for year 1, 2, and 3, rather than calculating, separate amounts for mRON2 and mRON3. For this alternate procedure, skip to step (3) and use the cumulative factor for mPAN.

mRON = mRON2 + mRON3

mRON2 means mRON from previous year (year 2); and
mRON3 means mRON from 2-3 years ago (year 3).

mRON2 = [ON x MR x CF x volume/acre manure applied in year 2]
mRON3 = [ON x MR x CF x volume/acre manure applied in year 3]

ON means Organic Nitrogen = TKN - ammonia

(3) **mPAN** means plant available nitrogen from manure for the current year in pounds per unit volume (such as lbs/1,000 gallons; lbs/cubic feet; etc.) as follows:

mPAN = [ON x MR] + [ammonia N x VR] x CF

ON means Organic Nitrogen = TKN - ammonia N

For MR Factor: See Table 3.
For VR Factor: See Table 4.
For CF Factor: See Table 5.

C. SPECIAL CONDITIONS (continued)

15. Plant Available Nitrogen Procedure (continued)

(4) **CF** = conversion factor for converting units from concentration in mg/L to pounds per unit volume. Select the pounds per unit volume that best suits your method of application such as: lbs N/1,000 gallons; lbs N/acre inch; lbs N/cubic feet; or lbs N/ton.

For CF Factors: See Table 5.

c. The waste application rate for land in the USDA Conservation Reserve Program (CRP) or idle land where crops are not harvested shall not exceed a PAN of 40 pounds nitrogen/acre/year for permanent cover crops.

d. Reference Tables for the PAN factors are as follows:

Table 1 - Crop Nitrogen Requirements (CNR)

See Table 10-3 in Livestock Waste Facilities Handbook, Midwest Plan Service, MWPS-18, April 1993; or one of the other approved reference publications. Alternate reference publications may be used only upon prior approval by the department and shall be listed in the approved Operation and Maintenance Manual.

Table 2 - OR Factors for Soil Residual Organic Nitrogen (sRON)

OR = nitrogen availability factor for soil organic matter based on soil CEC and crop season:

Annual Crops:

OR Factor by Soil CEC Ranges

Growing Season	**CEC < 10**	**CEC 10-18**	**CEC >18**
Summer	40	20	10
Winter 20	10	5	

Perennial Crops:

OR Factor has already been subtracted from the CNR requirement in the referenced publications per Table 1.

Table 3 - MR Factors for Manure Organic Nitrogen Release

MR = mineralization rate factor for organic N by year and by waste type. Mineralization of organic nitrogen in animal manure is slowly released over the first five years but reaches a constant by the fifth year when animal wastes are added every year. MR factors are as follows:

Application Year *	**MR Factor for each Year****
Lagoons (all animal and poultry types)	
Year 1 (mPAN)	0.35
Year 2 (mRON2)	0.18
Year 3 (mRON3)	0.09
Cumulative	0.62***
Liquid storage basins (except poultry)	
Year 1 (mPAN)	0.35
Year 2 (mRON2)	0.18
Year 3 (mRON3)	0.09
Cumulative	0.62***

C. SPECIAL CONDITIONS (continued)

15. Plant Available Nitrogen Procedure (continued)

Poultry slurry or dry litter
Year 1 (mPAN) 0.60
Year 2 (mRON2) 0.10
Year 3 (mRON3) 0.05
Cumulative 0.75***

Manure solids- Swine, beef, dairy (without bedding)
Year 1 (mPAN) 0.35
Year 2 (mRON2) 0.18
Year 3 (mRON3) 0.09
Cumulative 0.62***

Manure solids- Swine, beef, dairy (with bedding)
Year 1 (mPAN) 0.25
Year 2 (mRON2) 0.13
Year 3 (mRON3) 0.07
Cumulative 0.62***

Table 3 - MR Factors for Manure Organic Nitrogen Release (continued)

* Year 1 = current year of manure application.
Year 2 = previous year of manure application.
Year 3 = two-three years ago manure application.
Cumulative = sum of total loss in years 1, 2, and 3.

** MR Factor for individual years is factor from table times organic N in manure applied in the first year.

*** Cumulative factor is the total loss for years 1, 2, and 3 and is constant for year 3 and thereafter when manure is applied at about the same organic nitrogen rate every year. The cumulative factor may be used for estimating nitrogen availability for planning purposes, or as an alternate simplified procedure instead of calculating each year separately.

Table 4 - Volatilization Rate for Ammonia Nitrogen (VR Factor)

VR = ammonia nitrogen availability factor for volatilization. Ammonia nitrogen availability varies depending on weather conditions and application method. The following is an annual average for the growing season:

VR = 0.60 for surface application;
VR = 0.90 for surface application followed by incorporation.
VR = 0.95 for subsurface injection.

Alternate VR rates for specific months based on climatic conditions and management conditions may be considered upon submittal of scientific supporting documentation and approval by the department. The alternate VR rates shall be listed in the approved Operation and Maintenance Manual.

Table 5 - CF Factor for Converting mg/L to Pounds per Unit Volume

CF: lbs/acre inch = 0.226
CF: lbs/1,000 gallons = 0.0083
CF: lbs/100 cubic feet = 0.0062
CF: lbs/ton (wet wt) = 0.002

C. SPECIAL CONDITIONS (continued)

16. Emergency Spillways
All lagoons shall have emergency spillways maintained as shown on the approved construction plans or approved as-built specifications.

17. Required Notification of Releases
a. Any wastewater discharge into waters of the state shall be reported to the Department as soon as possible and no later than 24 hours after the start of the discharge.
b. Spills or leaks that are contained on the property shall also be reported to the Department within 24 hours, if the flow exceeds 1,000 gallons.

18. Field Slopes for Land Application
Surface application rates on field slopes between 10 to 20 percent shall not exceed 0.25 inch/hour and 0.5 inch/day. Permittee may land apply wastewater on these field slopes only after submitting a revised O&M Manual for achieving the above application rates and receiving prior approval from the department. The O&M plan shall include a topographic map showing slopes, drainage patterns and soils information. The number of acres approved for various slope conditions are listed in the facility/operation description section of this permit.

19. Domestic Wastewater and Sludges
There shall be no discharge of wastewater or sludge from the domestic wastewater treatment systems. The systems shall be maintained so that no leaks or surfacing of effluent occurs. Septic tanks and absorption fields shall be inspected at least once each year for leaks or surfacing of effluent and necessary corrective action conducted. Accumulated sludge depth in the tank shall be measured at least once every five years and sludge removed as needed to prevent solids overflow into the absorption field. The removed sludge shall be land applied in accordance with 40 CFR 503 sludge standards for septage and University of Missouri Water Quality Guide publication #WQ422 or the sludge may be pumped into the animal waste lagoon.

20. Operation and Maintenance Manual
The permittee shall develop, maintain and implement an Operation and Maintenance (O&M) Manual that includes all necessary items to ensure the operation and integrity of the waste handling and land application systems. Copies of the O&M Manual and subsequent revisions shall be submitted to the departments Water Pollution Control Program and Regional Office for review and approval. The O&M Manual shall include, but not limited to, the following:
a. Detailed topographic maps of the property showing all land application fields including the identification numbers for each field, tract, and irrigation run. Each irrigation travel lane shall have an identification number for record keeping and tracking purposes. The maps shall also indicate separation distances from streams, ponds, wells, and property lines and shall indicate areas exceeding 10 percent slopes and other areas that are not suitable for land application. The maps shall also include the location of all buildings, pump stations, lagoons, containment structures, irrigation pipelines, irrigation riser connections, underground terrace outlets, composting areas, dead animal storage or disposal areas, domestic wastewater treatment systems and other waste handling units.
b. Start up procedures, field supervision during operation, and shutdown procedures of irrigation equipment.
c. Procedures for providing the separation distances required by this permit and as specified in 10 CSR 20-8.020 (15) (B).
d. Sample collection, preservation, and testing procedures.
e. Procedures for determining Plant Available Nitrogen (PAN) loading rates.
f. Record keeping forms for tracking each field, irrigation run and storage structure. This shall include testing results, crops, yields, and application rates for each field. Records for each irrigation run shall include dates and amounts applied.
g. A procedure for promptly reporting spills or discharges to the permittee plant manager and to DNR.
h. A procedure to assure that all appropriate employees are properly trained in operation of the waste systems and are familiar with the O&M Manual.
i. Procedure for adjusting application periods and rates based on soil infiltration capacity, soil moisture content, and percent of soil field (saturation) capacity.
j. Procedure to avoid application if there is a weather forecast for significant precipitation within 24 hours.

21. Land Application Limitations
a. Process wastes should be land applied as close as possible to when plants will utilize nutrients during the plant growing season. Avoid application during non-growing season and during periods when excess losses to waters of the state are most likely to occur. Process wastes should be utilized as a resource.
b. Avoid application or reduce application rates and modify application practices when there is a local, applicable weather forecast or observation by permittee of an imminent or impending storm event.

C. SPECIAL CONDITIONS (continued)

22. Subsurface Injection
Subsurface Injection should be considered where feasible and practicable to reduce exposure to wash off by storm water runoff and to retain nutrients in the soil for crop requirements. Permittee may request reduced buffer zones for fields where subsurface injection is used.

23. Testing Methods
In field testing methods or other approved methods may be used for storm water and in-stream monitoring under this permit.

24. General Criteria
The following water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
(a) Waters shall be free from substances in sufficient amounts to cause the formation or putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
(b) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
(c) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
(d) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal, or aquatic life;
(e) There shall be no significant human health hazard from incidental contact with the water;
(f) There shall be no acute toxicity to livestock or wildlife watering;
(g) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
(h) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such material is specifically permitted pursuant to section 260.200-260.247.

25. Land application equipment shall be operated in such a manner that wastes do not reach an adjoining property line. Rigorous inspection procedures shall be implemented for insuring that no visual spray drifts across public roads, property boundaries, or surface water sources. If the employee detects wind blown mist within 50 feet of an adjoining property line, public roadway, or surface water source, the application equipment shall be either moved further way or shut down.

26. This permit may be reopened and modified, or alternatively revoked and reissued, to:
(a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
(1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
(2) controls any pollutant not limited in the permit.
(b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
(c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.
The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

27. All outfalls must be clearly marked in the field.

C. SPECIAL CONDITIONS (continued)

28. Changes in Discharges of Toxic Substances

The permittee shall notify the Director as soon as it knows or has reason to believe:

a. That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
   (1) One hundred micrograms per liter (100 ug/L);
   (2) Two hundred micrograms per liter (200 ug/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
   (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
   (4) The level established in Part A of the permit by the Director.

b. That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application.

29. Sludge and Biosolids Use For Domestic Wastewater Treatment Facilities

a. Permittee shall comply with the pollutant limitations, monitoring, reporting, and other requirements in accordance with the attached permit Standard Conditions.

b. If sludge is not removed by a contract hauler, permittee is authorized to land apply biosolids. Permit Standard Conditions, Part III shall apply to the land application of biosolids. Permittee shall notify the department at least 180 days prior to the planned removal of biosolids. The department may require submittal of a biosolids management plan for department review and approval as determined appropriate on a case-by-case basis.

30. Domestic Wastewater Irrigation System (Outfall #004)

a. There shall be design capacity for at least 120 days storage for wastewater flows, plus the one in ten year rainfall minus evaporation and the 25 year 24-hour rainfall.

b. rrigation rates per acre shall not exceed 0.25 inch/hour, 1.0 inch/day, 2 inches/week and 10 inches/year on the irrigation sites.

c. The wastewater irrigation site(s) shall be at least 0.5 acres.

d. The vegetation grown on the irrigation site shall be grass.

31. Boiler blowdown and water softener back wash from Outfall #001 shall not be introduced into the lagoons at Outfalls #004 through #005 and shall not be land applied.