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-0126977
Owner:	Karen Gaffey
Address:	5101 Bonne Femme Church Road, Lot 19, Columbia, MO 65201
Continuing Authority:	Same as above
Address:	Same as above
Facility Name:	Bonne Femme Mobile Home Court
Facility Address:	5101 Bonne Femme Church Road, Columbia, MO 65201
Legal Description:	SE ¼, SW ¼, SW ¼, Sec. 3, T47N, R12W, Boone County
Latitude/Longitude:	+3852337/-09215527
Receiving Stream:	Unnamed tributary to Bonne Femme Creek (U)
First Classified Stream and ID:	Bonne Femme Creek (C) (00753) Losing Stream
USGS Basin & Sub-watershed No.:	(10300102-130003)

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

FACILITY DESCRIPTION

Outfall #001 – Mobile Home Court – Domestic Wastewater No-discharge System – SIC #4952 – **No Certified Operator Required**
Two-cell storage lagoon/aerated primary cell/wastewater irrigation/sludge is retained in lagoon.
Design population equivalent is 59.
Design flow is 6,640 gallons per day (1-in-10 year design including net rainfall minus evaporation).
Average design flow is 5,900 gallons per day (dry weather flows).
Actual flow is 2,900 gallons per day.
Design sludge production is 0.9 dry tons per year.

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 5, 2008
Effective Date

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

December 4, 2013
Expiration Date

Irene Crawford, Director, Northeast Regional Office

MO 780-0041 (10-93)

FACILITY DESCRIPTION (continued)

Outfall #001 – Bonne Femme Mobile Home Court

Receiving Stream Watershed: a losing stream setting that flows into Bonne Femme Creek

Facility Type: No-discharge Storage and Irrigation System

Design Basis:	**Avg Annual**
Design dry weather flows:	5,900 gpd
Design with 1-in-10 year flows:	6,640 gpd

Design PE: 59

Storage Basin/Tank:
Freeboard for basin 1: 1 feet
Freeboard for basin 2: 1 feet
Storage volume (minimum to maximum water levels) 759,795.96 gallons

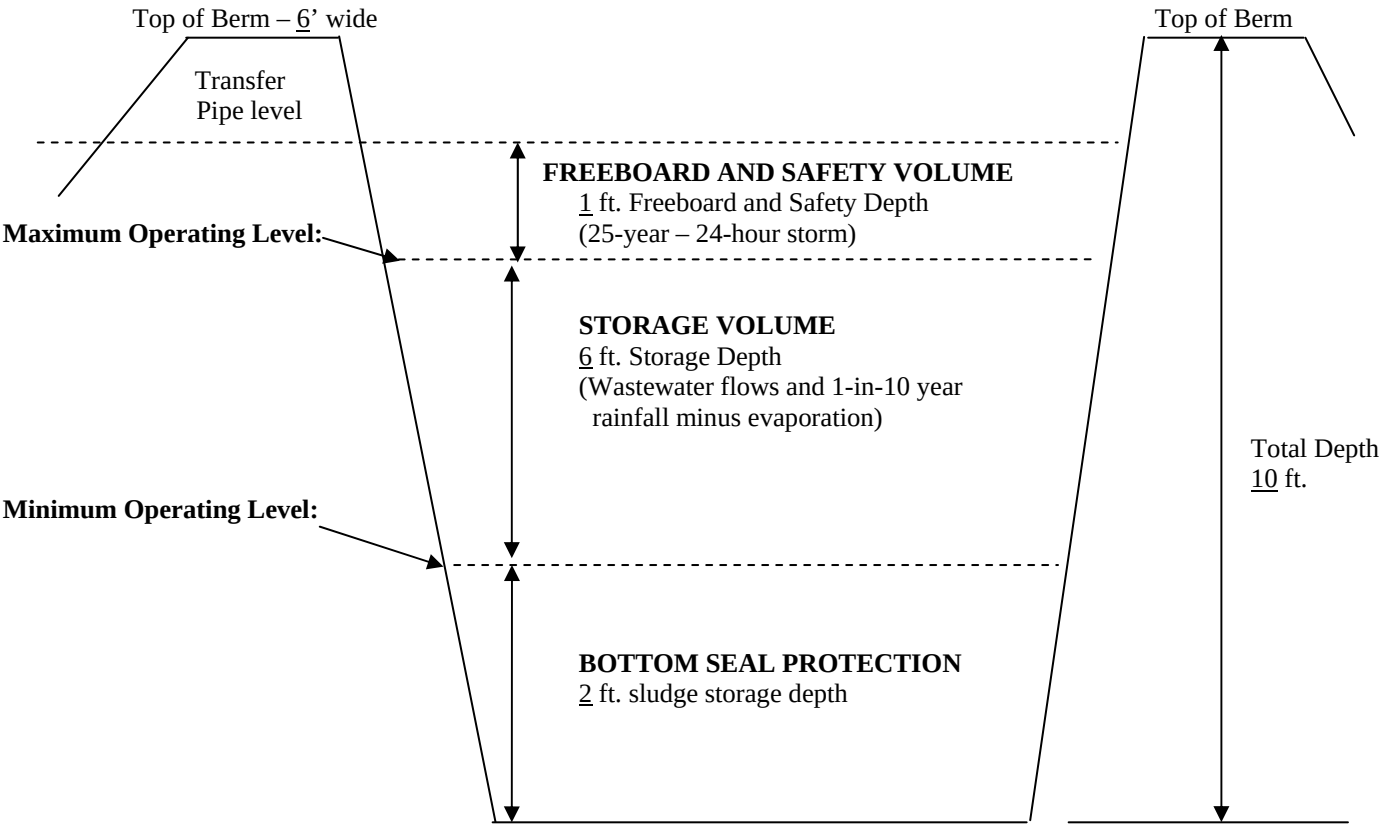
Days of Storage
Storage Capacity:

Design for Dry weather Flows:	128 days
Design with 1-in 10 year flows:	114 days

Land Application:
Irrigation Volume/year: 2,693,878.85 gallons at design loading (including 1-in-10 year flows)
Irrigation areas: 0.5 acres (0.5 acres total available)
Application rates: 0.5 inch/hour; 1.0 inch/day; 3.0 inches/week; 80.0 inches/year
Field slopes: less than 3 percent
Equipment type: perforated pipe
Vegetation: pasture/timber
Application rate is based on: hydraulic loading rate

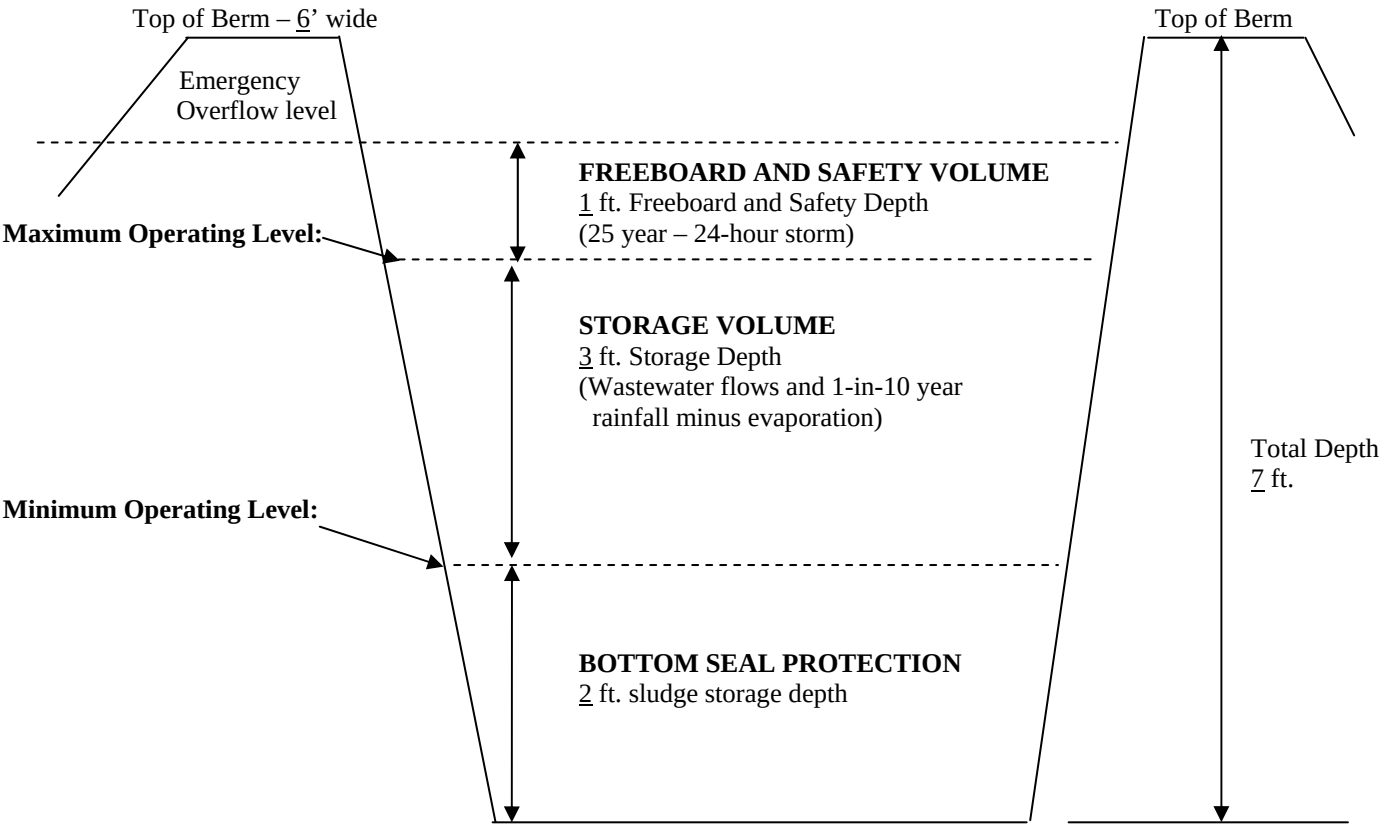
LAGOON PROFILE

Cell #1



LAGOON PROFILE

Cell #2



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 - Emergency discharge from lagoon (Note 1)						
Flow	MGD	*			once/day**	24 hr. estimate
Biochemical Oxygen Demand$_5$	mg/L		15	10	once/week**	grab
Total Suspended Solids	mg/L		20	15	once/week**	grab
pH	SU	***		***	once/week**	grab
Ammonia Nitrogen as N	mg/L				once/week**	grab
(May 1 – Oct 31)		3.6		1.4		
(Nov 1 – April 30)		7.5		2.9		
Temperature	°C	*		*	once/week**	grab
Fecal Coliform (Note 2)	#/100mL	1000		400	once/week**	grab
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE APRIL 28, 2009. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
Outfall #001 - Land Application Operational Monitoring (Note 3)						
Lagoon Freeboard (Note 4)	feet	*			once/month	measured
Irrigation Period	hours	*			daily	total
Volume Irrigated	gallons	*			daily	total
Application Area	acres	*			daily	total
Application Rate	inches	*			daily	total
Rainfall	inches	*			daily	total
MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE JANUARY 28, 2009 .						
Outfall #001 - Irrigated Wastewater (Note 5)						
Total Kjeldahl Nitrogen as N (Note 6)	mg/L	*		*	once/year	grab
Nitrate Nitrogen as N (Note 6 & 8)	mg/L	*		*	once/year	grab
Fecal Coliform (Notes 2 & 7)	#/100mL	200		200	once/year	grab
MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE JANUARY 28, 2009.						

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.
** Monitor only when discharge occurs. Report as no-discharge when a discharge does not occur during the report period.
*** 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.

Note 1 - **No-discharge facility requirements**. Wastewater shall be stored and land applied during suitable conditions so that there is no discharge from the lagoon or irrigation site. An emergency discharge may occur when excess wastewater has accumulated above feasible irrigation rates due to precipitation exceeding the 1-in-10-year, 365-day rainfall or the 25-year, 24-hour storm event.

Note 2 - The Monthly Average Limit for Fecal Coliform is a geometric mean.

Note 3 - Records shall be maintained and submitted in an annual report, which shall be submitted by January 28th of each year for the previous calendar year period using report forms approved by the Department. The annual report shall also include the following additional information:
a. Record of maintenance and repairs performed during the year, average number of times per month the facility is checked to see if it is operating properly, and description of any unusual operating conditions encountered during the year;
b. The reason(s) the emergency discharge(s) occurred; and
c. A summary of the irrigation operations including crops grown, crop yields per acre, and calculations for nitrogen applied and crop removal of nitrogen if required (See Special Conditions #7 j.).

Note 4 - Lagoon freeboard shall be reported as lagoon water level in feet below the overflow level. See Special Conditions for Wastewater Irrigation System requirements.

Note 5 - Wastewater that is irrigated shall be sampled at the irrigation pump or wet well.

Note 6 - Monitor once per year during the months of March through November.

Note 7 - Required only for irrigation to public use areas. Report as no-discharge if no irrigation occurs to public use areas during the report period.

Note 8 - Wastewater irrigation rates shall not exceed a nitrogen application rate of 150 pounds total nitrogen per acre per year, and the applied wastewater shall not exceed ten (10) mg/l of nitrate nitrogen as N. If the nitrogen application exceeds a rate of 150 pounds total nitrogen per acre per year, and/or the applied wastewater exceeds ten (10) mg/l of nitrate nitrogen as N, see Special Condition #7 (j) for additional requirements.

C. SPECIAL CONDITIONS

1. Outfalls must be marked in field and on the topographic site map submitted with the permit application.

2. Permittee will cease discharge by connection to areawide wastewater treatment system within 90 days of notice of its availability.

3. Water Quality Standards
a. Discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
b. General Criteria. The following general 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:
(1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
(2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
(3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
(4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
(5) There shall be no significant human health hazard from incidental contact with the water;
(6) There shall be no acute toxicity to livestock or wildlife watering;
(7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
(8) 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 materials is specifically permitted pursuant to section 260.200-260.247.

C. SPECIAL CONDITIONS (continued)

4. 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.

5. 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.

6. Lagoons and earthen basins shall have a liner that is designed, constructed and maintained. If operating records indicate excessive percolation, the department may require corrective action as necessary to eliminate excess leakage.

7. Wastewater Irrigation System.

   a. Discharge Reporting. Any unauthorized discharge from the lagoon or irrigation system shall be reported to the department as soon as possible but always within 24 hours. Discharge is allowed only as described in the Facility Description and Effluent Limitations sections of this permit.

   b. Lagoon Operating Levels - No-discharge Systems. The minimum and maximum operating water levels for the storage lagoon shall be clearly marked. Each lagoon shall be operated so that the maximum water elevation does not exceed one foot below the overflow point except due to exceedances of the 1-in-10 year, 365-day or 25-year, 24-hour storm events. Wastewater shall be land applied whenever feasible based on soil and weather conditions and permit requirements. Storage lagoon(s) shall be lowered to the minimum operating level prior to each winter by November 30.

   c. Emergency Spillway. Lagoons and earthen storage basins should have an emergency spillway to protect the structural integrity of earthen structures during operation at near full water levels and in the event of overflow conditions. The spillway shall be at least one foot below top of berm. The department may waive the requirement for overflow structures on small existing basins.

   d. General Irrigation Requirements. The wastewater irrigation system shall be operated so as to provide uniform distribution of irrigated wastewater over the entire irrigation site. A complete ground cover of vegetation shall be maintained on the irrigation site unless the system is approved for row crop irrigation. Wastewater shall be land applied only during daylight hours. The wastewater irrigation system shall be capable of irrigating the annual design flow during an application period of less than 100 days or 800 hours per year.

   e. Saturated/Frozen Conditions. There shall be no irrigation during ground frost, frozen, snow covered, or saturated soil conditions, or when precipitation is imminent or occurring.

   f. Buffer Zones. There shall be no irrigation within 300 feet of any down gradient pond, lake, sinkhole, losing stream or water supply withdrawal; 100 feet of gaining streams or tributaries; 150 feet of dwelling or public use areas; or 50 feet of the property line.

   g. Public Access Restrictions. Public access shall not be allowed to public use area irrigation sites when application is occurring.

   h. Irrigated Wastewater Disinfection. Wastewater shall be disinfected prior to land application (not storage) to public use areas.

C. SPECIAL CONDITIONS (continued)

7. Wastewater Irrigation System (continued)

i. 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 Regional Office for review and approval. The O&M Manual shall be reviewed and updated at least every five years.

j. Nitrogen Loading Rates. Wastewater irrigation rates shall not exceed a nitrogen application rate of 150 pounds total nitrogen per acre per year, and the applied wastewater shall not exceed ten (10) mg/l of nitrate nitrogen as N. Hydraulic application rates exceeding 60 inches per acre per year shall calculate nitrogen loading rates and include results in the annual report. The calculation procedures are as follows: (Total N) x (0.226) x (inches per acre irrigated) = pounds total N per acre. Where Total N = [Total Kjeldahl Nitrogen (TKN) as N] + [Nitrate Nitrogen as N]. If the applied wastewater exceeds 150 pounds total nitrogen per acre/year, the permittee must reduce the application rates or submit a revised permit application to request use of the Plant Available Nitrogen (PAN) method based on crop nitrogen requirements for harvested crops, along with calculations to show the amount of plant-available nitrogen provided and the amount of nitrogen that will be utilized by the vegetation to be grown. PAN availability factors for surface application are: [Ammonia N x 0.6] + [Nitrate N x 0.9] + [Organic N x 0.6] = PAN. If the applied wastewater exceeds ten (10) mg/l of nitrate nitrogen as N, then the facility shall submit a revised permit application to request use of the Plant Available Nitrogen (PAN) method based on crop nitrogen requirements for harvested crops, along with calculations to show the amount of plant-available nitrogen provided and the amount of nitrogen that will be utilized by the vegetation to be grown.

k. Equipment Checks during Irrigation. The irrigation system and application site shall be visually inspected at least once/day during wastewater irrigation to check for equipment malfunctions and runoff from the irrigation site.

8. Land Application Sites. To add additional land application sites, the permittee shall document that the new land application site(s) meet the setback requirements referenced in Special Conditions #7 (f). Additionally, the O&M Manual shall be updated to include the additional land application site(s) and a copy of the updated sections of the O&M Manual shall be submitted to the Northeast Regional Office in accordance with Special Condition #7 (i).

9. The permittee shall comply with any applicable requirements listed in 10 CSR 20-8 and 10 CSR 20-9, unless the facility has received written notification that the Department has approved a modification to the requirements. The monitoring frequencies contained in this permit shall not be construed by the permittee as a modification of the monitoring frequencies listed in 10 CSR 20-9. If a modification of the monitoring frequencies listed in 10 CSR 20-9 is needed, the permittee shall submit a written request to the department for review and, if deemed necessary, approval.

D. SCHEDULE OF COMPLIANCE

1. The permittee shall rip-rap the lagoon berms to provide stabilization. The rip-rapping of the lagoon berms shall be completed by **December 5, 2009.** The facility shall submit a written report to the department by **January 5, 2010** that documents that the lagoon berms have been stabilized with rip-rap.

2. The permittee shall replace the PVC pipe used for irrigation of wastewater. The replacement of the PVC piping used for irrigation shall be completed by **December 5, 2009.** The facility shall submit a written report to the department by **January 5, 2010** that documents that the PVC pipe has been replaced.

3. The permittee shall remove the sludge from the lagoons. Sludge removal shall be completed no later than **December 5, 2013.** The facility shall submit a biosolids management plan prior to the removal of sludge and the plan must be approved by the department before sludge can be removed. The Permittee shall notify the department in writing, at least 180 days prior to the planned removal of biosolids. The permittee shall submit interim progress reports every 12 months from **December 5, 2008** regarding the status of sludge removal.

PERMIT TRANSFER

This permit may be transferred to a new owner by submitting an "Application for Transfer of Operating Permit" signed by the seller and buyer of the facility, along with the appropriate modification fee.

PERMIT RENEWAL REQUIREMENTS

Unless this permit is terminated, the permittee shall submit an application for the renewal of this permit no later than six (6) months prior to the permit's expiration date. Failure to apply for renewal may result in termination of this permit and enforcement action to compel compliance with this condition and the Missouri Clean Water Law.

TERMINATION

In order to terminate this permit, the permittee shall notify the department by submitting Form J, included with the State Operating Permit. The permittee shall complete Form J and mail it to the department at the address noted in the cover letter of this permit. Proper closure of any storage structure is required prior to permit termination. A closure plan shall be submitted to the department and approved prior to initiating closure activities.

DUTY OF COMPLIANCE

The permittee shall comply with all conditions of this permit. Any noncompliance with this permit constitutes a violation of Chapter 644, Missouri Clean Water Law, and 10 CSR 20-6. Noncompliance may result in enforcement action, termination of this authorization, or denial of the permittee's request for renewal.

This permit authorizes only the activities described in this permit. Compliance with this permit may not be considered a shield from compliance with any local ordinance, State Regulation or State Law.

Missouri Department of Natural Resources
Statement of Basis
Bonne Femme Mobile Home Court
NPDES #: MO-0126977
Boone County

A Statement of Basis (Statement) gives pertinent information regarding the applicable regulations and rational for the development of the NPDES Missouri State Operating Permit (operating permit). This Statement includes Wasteload Allocations, Water Quality Based Effluent Limitations, and Reasonable Potential Analysis calculations as well as any other calculations that effect the effluent limitations of this operating permit. This Statement does not pertain to operating permits that include sewage sludge land application plans and variance procedures, and does not include the public comment process for this operating permit.

A Statement is not an enforceable part of an operating permit.

Part I – Facility Information

Facility Type: Mobile Home Court
Facility SIC Code(s): 4952

Facility Description:
Two-cell storage lagoon/aerated primary cell/wastewater irrigation/sludge is retained in lagoon.

OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW (GPD)	TREATMENT LEVEL	EFFLUENT TYPE	DISTANCE TO CLASSIFIED SEGMENT (MI)
#001	6,640	Irrigation	Domestic	~ 0.09

Water Quality History: WQIS Basin Inventory listed No-Discharge for 2005, 2006, and 2007. The WQIS Stream Survey listed no impact for August 2006. The Low Flow Survey shows no impact and no action needed.

Comments: The department conducted a routine compliance inspection of the facility on August 30, 2007. The facility was found in non-compliance at the time of the inspection, however no water quality violations were observed. The facility has failed to submit the emergency discharge monitoring reports for the facility for; April, July, and August 2006, October, and November 2007, and March 2008. The facility has also failed to submit the annual operations report for 2004, 2005, 2006, and 2007.

Part IIA – Operator Certification Requirements

As per [10 CSR 20-6.010(8) Terms and Conditions of a Permit], permittee's shall operate and maintain facilities to comply with the Missouri Clean Water Law and applicable permit conditions and regulations. Operators or supervisors of operations at regulated wastewater treatment facilities shall be certified in accordance with [10 CSR 20-9.020(2)] and any other applicable state law or regulation. As per [10 CSR 20-9.010(2)(A)], requirements for operation by certified personnel shall apply to all wastewater treatment systems, if applicable, as listed below:

Check boxes below that are applicable to the facility;

- Owned or operated by or for:
  - Municipalities ☐
  - Public Sewer District: ☐
  - County ☐
  - Public Water Supply Districts: ☐
  - Private sewer company regulated by the Public Service Commission: ☐
  - State or Federal agencies: ☐

Each of the above entities are only applicable if they have a Population Equivalent greater than two hundred (200) and/or fifty (50) or more service connections.

Applicable ☐; This facility currently requires a certified operator.

Not Applicable ☒; This facility is not required to have a certified operator.

Part IIB– Operational Monitoring

As per [10 CSR 20-9.010(4))], the facility is not required to conduct operational monitoring.

Part III – Receiving Stream Information

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:

As per Missouri's Effluent Regulations [10 CSR 20-7.015], the waters of the state are divided into the below listed seven (7) categories. Each category list effluent limitations for specific parameters, which are presented in each outfall's Effluent Limitation Table and further discussed in the Derivation & Discussion of Limits section.

Please mark all appropriate designated waters of the state categories of the receiving stream.

Missouri or Mississippi River [10 CSR 20-7.015(2)]: ☐
Lake or Reservoir [10 CSR 20-7.015(3)]: ☐
Losing [10 CSR 20-7.015(4)]: ☒
Metropolitan No-Discharge [10 CSR 20-7.015(5)]: ☐
Special Stream [10 CSR 20-7.015(6)]: ☐
Subsurface Water [10 CSR 20-7.015(7)]: ☐
All Other Waters [10 CSR 20-7.015(8)]: ☒

10 CSR 20-7.031 Missouri Water Quality Standards, the department defines the Clean Water Commission water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and/or 1st classified receiving stream's beneficial water uses to be maintained are located in the Receiving Stream Table located below in accordance with [10 CSR 20-7.031(3)].

RECEIVING STREAM(S) TABLE:

WATERBODY NAME	CLASS	WBID	DESIGNATED USES*	8-DIGIT HUC	EDU**
Unnamed tributary to Bonne Femme Creek	U	NA	General Criteria	10300102	Ozark/Moreau/Loutre
Bonne Femme Creek	C	00753	WBC***		

* - Irrigation (IRR), Livestock & Wildlife Watering (LWW), Protection of Warm Water Aquatic Life and Human Health-Fish Consumption (AQL), Cool Water Fishery(CLF), Cold Water Fishery (CDF), Whole Body Contact Recreation (WBC), Secondary Contact Recreation (SCR), Drinking Water Supply (DWS), Industrial (IND), Groundwater (GRW).
** - Ecological Drainage Unit
*** - UAA conducted on September 16, 2006. The Missouri Department of Natural Resources' Use Attainability Analysis Internal Review Committee has not made a decision to either add or remove Whole Body Contact (WBC) use designation to the receiving stream. As the date of writing this permit, the Clean Water Commission has not made a decision regarding the WBC use designation.

Part IV – Rationale and Derivation of Effluent Limitations & Permit Conditions

ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:

As per [10 CSR 20-7.015(4)(A)], discharges to losing streams shall be permitted only after other alternatives including land application, discharges to a gaining stream and connection to a regional wastewater treatment facility have been evaluated and determined to be unacceptable for environmental and/or economic reasons.

Applicable ☒;
If applicable, then please explain: This is an existing no-discharge land application facility.

Not Applicable ☐;
The facility does not discharge to a Losing Stream as defined by [10 CSR 20-2.010(36)] & [10 CSR 20-7.031(1)(N)], or is an existing facility.

ANTI-BACKSLIDING:
A provision in the Federal Regulations [CWA §303(d)(4); CWA §402(c); 40 CFR Part 122.44(I)] that requires a reissued permit to be as stringent as the previous permit with some exceptions.

☒ - All limits in this statement are at least as protective as those previously established; therefore, backsliding does not apply.

☐ - Backsliding proposed in this statement for the reissuance of this permit conform to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, and 40 CFR Part 122.44.

ANTIDEGRADATION:
In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(2)], the department is to document by means of Antidegradation Review that the use of a water body's available assimilative capacity is justified. Degradation is justified by documenting the socio-economic importance of a discharging activity after determining the necessity of the discharge.

☒ - Renewal no degradation proposed and no further review necessary.

☐ - New and/or expanded discharge, please see **APPENDIX B – ANTIDEGRADATION ANALYSIS.**

☐ - General Permit's Antidegradation Review is conducted during template development.

APPLICABLE PERMIT PARAMETERS:
Effluent parameters for conventional, non-conventional, and toxic pollutants have been obtained from the previous NPDES operating permit for this facility, technology based effluent limits, water quality based effluent limits, and from appropriate sections of the renewal application.

COMPLIANCE AND ENFORCEMENT:
Enforcement is the action taken by the Water Protection Program (WPP) to bring an entity into compliance with the Missouri Clean Water Law, its implementing regulations, and/or any terms and conditions of an operating permit. The primary purpose of the enforcement activity in the WPP is to resolve violations and return the entity to compliance.

Applicable ☐;
The permittee/facility is currently under enforcement action.

Not Applicable ☒;
The permittee/facility is not currently under Water Protection Program enforcement action.

PRETREATMENT PROGRAM:
The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a Publicly Owned Treatment Works [40 CFR Part 403.3(q)].

Applicable ☐;
Permittee shall implement and enforce its approved pretreatment program in accordance with the requirements of [40 CFR Part 403]. The approved pretreatment program is hereby incorporated by reference. Permittee shall submit to the department on or before March 31st of each year a report briefly describing its pretreatment activities during the previous calendar year.

Not Applicable ☒;
At this time, the permittee is not required to implement and enforce a Pretreatment Program.

REASONABLE POTENTIAL ANALYSIS (RPA):
Limitations must control all pollutants or pollutant parameters that are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above the Missouri Water Quality Standards.

Applicable ☐;
A RPA was conducted for this facility for (parameters) and determined that this facility has the potential to cause or contribute to violations of Water Quality. Please see **APPENDIX C – RPA RESULTS.**

Not Applicable ☒;
A RPA was not conducted for this facility.

REMOVAL EFFICIENCY:
Removal efficiency is a method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to Biochemical Oxygen Demand 5-day (BOD_5) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs). Please see the United States Environmental Protection Agency's (EPA) website for interpretation of percent removal requirements for National Pollutant Discharge Elimination System Permit Application Requirements for Publicly Owned Treatment Works and Other Treatment Works Treating Domestic Sewage @ www.epa.gov/fedrgstr/EPA-WATER/1999/August/Day-04/w18866.htm

Applicable ☐;
Secondary Treatment is 85% removal [40 CFR Part 133.102(a)(3) & (b)(3)].

Applicable ☐;
Equivalent to Secondary Treatment is 65% removal [40 CFR Part 105(a)(3) & (b)(3)].

Applicable ☐;
This wastewater treatment facility is not a POTW; however, influent monitoring is being required to determine compliance with the removal efficiency requirement of this permit.

Not Applicable ☒;
This wastewater treatment facility is not a POTW. Influent monitoring is not being required to determine percent removal.

SANITARY SEWER OVERFLOWS (SSOS), AND INFLOW & INFILTRATION (I&I):
Collection systems are a critical element in the successful performance of the wastewater treatment process. Under certain conditions, poorly designed, built, managed, operated, and/or maintained systems can pose risks to public health, the environment, or both. Causes of SSOs include, but are not limited to, the following: high levels of I&I during wet weather; blockages; structural, mechanical, or electrical failures; collapsed or broken sewer pipes; insufficient conveyance capacity; and vandalism. Effective and continuous management, operation, and maintenance, as well as ensuring adequate capacity and rehabilitation when necessary are critical to maintaining collection system capacity and performance while extending the life of the system.

Applicable ☐;
The permittee is required to develop or implement a program for maintenance and repair of the collection system and shall be required in this operating permit by either means of a Special Condition or Schedule of Compliance.

Not Applicable ☒;
This facility is not required to develop or implement a program for maintenance and repair of the collection system; however, it is a violation of Missouri State Environmental Laws and Regulations to allow untreated wastewater to discharge to waters of the state.

SCHEDULE OF COMPLIANCE (SOC):
A schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (actions, operations, or milestone events) leading to compliance with the Missouri Clean Water Law, its implementing regulations, and/or the terms and conditions of an operating permit.

Applicable ☒;
The facility was given a schedule of compliance for stabilizing the lagoon berms, replacing the irrigation piping, and removing sludge from the lagoon cells in accordance with the Memorandum dated February 6, 2008 from David Uhlig and Emily Lyon in the Missouri Department of Natural Resources' Financial Assistance Center.

Not Applicable ☐;
This permit does not contain a SOC.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP):
A plan to schedule activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state. The plan may include, but is not limited to, treatment requirements, operating procedures, and practices to control facility site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Applicable ☐;
A SWPPP shall be developed and implemented for each site and shall incorporate required practices identified by the department with jurisdiction, incorporate erosion control practices specific to site conditions, and provide for maintenance and adherence to the plan.

Not Applicable ☒;
At this time, the permittee is not required to develop and implement a SWPPP.

WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:
As per [10 CSR 20-2.010(78)], the amount of pollutant each discharger is allowed by the department to release into a given stream after the department has determined to total amount of pollutant that may be discharged into that stream without endangering its water quality.

Applicable ☐;
Wasteload allocations were calculated.

Not Applicable ☒;
Wasteload allocations were not calculated.

WLA MODELING:
Applicable ☐;
A WLA study including model was submitted to the department.

Not Applicable ☒;
A WLA study was either not submitted or determined not applicable by department staff.

WHOLE EFFLUENT TOXICITY (WET) TEST:
As per [10 CSR 20-7.031(1)(CC)], a toxicity test conducted under specified laboratory conditions on specific indicator organism; and as per [40 CFR Part 122.2], the aggregate toxic effect of an effluent measured directly by a toxicity test.

Applicable ☐;
Effective July 15, 2005, upon revision, renewal, modification, or issuance, all Missouri State Operating Permits under the NPDES will incorporate use of the following guidelines for determining the applicability and requirements for WET testing. WET testing requirements are established by the WET Test Policy, Section 308 of the Federal Water Pollution Control Act, and [40 CFR Part 136]. Please check WET tests applicability for this facility:

- All major discharge facilities ☐;
- Facilities that are exceeding or routinely exceed their design flow ☐;
- Most municipals, domestic sewage dischargers ☐;
- Industrial dischargers or other dischargers that may alter their production processes throughout the year ☐;
- Facilities that may handle large quantities of toxic substances, or substances that are toxic in large amounts ☐; and
- Facilities that have been granted seasonal relief of numeric limitations ☐.

Not Applicable ☒;
At this time, the permittee is not required to conduct WET test for this facility.

303(d) LIST & TOTAL MAXIMUM DAILY LOAD (TMDL):
Section 303(d) of the federal Clean Water Act requires that each state identify waters that are not meeting water quality standards and for which adequate water pollution controls have not been required. Water quality standards protect such beneficial uses of water as whole body contact (such as swimming), maintaining fish and other aquatic life, and providing drinking water for people, livestock and wildlife. The 303(d) list helps state and federal agencies keep track of waters that are impaired but not addressed by normal water pollution control programs.

A TMDL is a calculation of the maximum amount of a given pollutant that a body of water can absorb before its water quality is affected. If a water body is determined to be impaired as listed on the 303(d) list, then a watershed management plan will be developed that shall include the TMDL calculation

Applicable ☐;
(Receiving water body's name) or (1st classified water body's name) is listed on the (YEAR) Missouri 303(d) List for (pollutant).

☐ – This facility is not considered to be a source of the above listed pollutant(s) or considered to contribute to the impairment of (stream name).

☐ – This facility is considered to be a source of or has the potential to contribute to the above listed pollutant(s).

Not Applicable ☒;
This facility does not discharge to a 303(d) listed stream.

Part V – Effluent Limits Determination

Outfall #001 – Main Facility Outfall

EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
Flow	MGD	1	*		*	NO	S
Biochemical Oxygen Demand$_5$	mg/L	1		15	10	YES	65/45
Total Suspended Solids	mg/L	1		20	15	YES	110/70
pH	SU	1	6 – 9		6 – 9	NO	S
Ammonia as N (May 1 – Oct 31)	mg/L	2/3/5	3.6		1.4	YES	*
Ammonia as N (Nov 1 – Apr 30)	mg/L	2/3/5	7.5		2.9	YES	*
Temperature	ºC	1/5/8	*		*	NO	*
Fecal Coliform	**	1/2	1000		400	YES	***
Escherichia coli	**	1/2	Please see Escherichia Coli (E. coli) in the Derivation and Discussion Section below.				
Monitoring Frequency	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

* - Monitoring requirement only
** - # of colonies/100mL; the Monthly Average for Fecal Coliform is a geometric mean.
*** - Parameter not previously established in previous state operating permit.
N/A – Not applicable
S – Same as previous operating permit

Basis for Limitations Codes:

1. State or Federal Regulation/Law
2. Water Quality Standard (includes RPA)
3. Water Quality Based Effluent Limits
4. Lagoon Policy
5. Ammonia Policy
6. Dissolved Oxygen Policy
7. Antidegradation Policy
8. Water Quality Model
9. Best Professional Judgment
10. TMDL or Permit in lieu of TMDL
11. WET test Policy

OUTFALL #001 – DERIVATION AND DISCUSSION OF LIMITS:

- **Flow**. In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the department, which may require the submittal of an operating permit modification.

- **Biochemical Oxygen Demand (BOD_5).** 15 mg/L as a Weekly Average and 10 mg/L as a Monthly Average in accordance with 10 CSR 7.015(4)(B). Please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information.**

- **Total Suspended Solids (TSS).** 20 mg/L as a Weekly Average and 15 mg/L as a Monthly Average in accordance with 10 CSR 7.015(4)(B). Please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information.**

- **pH**. pH range of 6.0 – 9.0, in accordance with 10 CSR 7.015(4)(B). Please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information.**

- **Total Ammonia Nitrogen.** Assumption of Early Life Stages Present in Losing Stream, no degradation allowed. Early Life Stages Present Total Ammonia Nitrogen criteria apply [10 CSR 20-7.031(4)(B)7.C. & Table B3].

Season	Temp (^{o}C)	pH (SU)	Total Ammonia Nitrogen CCC (mg/L)	Total Ammonia Nitrogen CMC (mg/L)
Summer	26	7.8	1.5	12.1
Winter	6	7.8	3.1	12.1

Summer: May 1 – October 31, Winter: November 1 – April 30

Summer

Chronic WLA: $C_e = ((0.01 + 0)1.5 – (0 * 0.01))/.01$
$C_e = 1.5$ mg/L

Acute WLA: $C_e = ((0.01 + 0)12.1 – (0 * 0.01))/.01$
$C_e = 12.1$ mg/L

$LTA_c = 1.5$ mg/L (0.780) = 1.17 mg/L [CV = 0.6, 99th Percentile, 30 day average]
$LTA_a = 12.1$ mg/L (0.321) = 3.88 mg/L [CV = 0.6, 99th Percentile]

MDL = 1.17 mg/L (3.11) = 3.6 mg/L [CV = 0.6, 99th Percentile]
AML = 1.17 mg/L (1.19) = 1.4 mg/L [CV = 0.6, 95th Percentile, n = 30]

Winter

Chronic WLA: $C_e = ((0.01 + 0)3.1 – (0 * 0.01))/0.01$
$C_e = 3.1$ mg/L

Acute WLA: $C_e = ((0.01 + 0)12.1 – (0 * 0.01))/0.01$
$C_e = 12.1$ mg/L

$LTA_c = 3.1$ mg/L (0.780) = 2.41 mg/L [CV = 0.6, 99th Percentile, 30 day average]
$LTA_a = 12.1$ mg/L (0.321) = 3.88 mg/L [CV = 0.6, 99th Percentile]

MDL = 2.41 mg/L (3.11) = 7.5 mg/L [CV = 0.6, 99th Percentile]
AML = 2.41 mg/L (1.19) = 2.9 mg/L [CV = 0.6, 95th Percentile, n = 30]

Season	Maximum Daily Limit (mg/l)	Average Monthly Limit (mg/l)
Summer	3.6	1.4
Winter	7.5	2.9

- **Temperature.** Monitoring requirement due to the toxicity of Ammonia varies by temperature.

- **Fecal Coliform**. Discharge shall not contain more than a monthly geometric mean of 400 colonies/100 mL and a daily maximum of 1000 colonies/100 mL, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information.** [10 CSR 20-7.015(4)(B)4.]. Future renewals of the facility operating permit will contain effluent limitations for E. coli, which will replace fecal coliform as the applicable bacteria criteria in Missouri's water quality standards.

- **Escherichia coli (E. coli)**. This facility may be required to have *E. coli* effluent limitations when Missouri adopts the implementation of the *E. coli* standards, as per [10 CSR 20-7.031(4)(A)].

- **Minimum Sampling and Reporting Frequency Requirements**.

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
Flow	once/day/emergency discharge	once/quarter
Biochemical Oxygen Demand$_5$	once/week/emergency discharge	once/quarter
Total Suspended Solids	once/week/emergency discharge	once/quarter
pH	once/week/emergency discharge	once/quarter
Ammonia as N (May 1 – Oct 31)	once/week/emergency discharge	once/quarter
Ammonia as N (Nov 1 – Apr 30)	once/week/emergency discharge	once/quarter
Temperature	once/week/emergency discharge	once/quarter
Fecal Coliform	once/week/emergency discharge	once/quarter

Outfall #001 – Land Application Operational Monitoring

EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
Freeboard	feet	1	*			NO	S
Irrigation Period	hours	1	*			NO	S
Volume Irrigated	gallons	1	*			NO	S
Application Area	acres	1	*			NO	S
Application Rate	inches	1	*			NO	S
Rainfall	inches	1	*			NO	S
Monitoring Frequency	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

* - Monitoring requirement only
** - # of colonies/100mL; the Monthly Average for Fecal Coliform is a geometric mean.
*** - Parameter not previously established in previous state operating permit.
N/A – Not applicable
S – Same as previous operating permit

Basis for Limitations Codes:

7. State or Federal Regulation/Law
8. Water Quality Standard (includes RPA)
9. Water Quality Based Effluent Limits
10. Lagoon Policy
11. Ammonia Policy
12. Dissolved Oxygen Policy
7. Antidegradation Policy
8. Water Quality Model
9. Best Professional Judgment
10. TMDL or Permit in lieu of TMDL
11. WET test Policy

OUTFALL #001 – DERIVATION AND DISCUSSION OF LIMITS:

- **Freeboard.** Monitoring requirement only.
- **Irrigation Period.** Monitoring requirement only.
- **Volume Irrigated**. Monitoring requirement only.
- **Application Area.** Monitoring requirement only.
- **Application Rate**. Monitoring requirement only.
- **Rainfall.** Monitoring requirement only.
- **Minimum Sampling and Reporting Frequency Requirements**.

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
Freeboard	once/month	once/year
Irrigation Period	once/day	once/year
Volume Irrigated	once/day	once/year
Application Area	once/day	once/year
Application Rate	once/day	once/year
Rainfall	once/day	once/year

Outfall #001 – Irrigated Wastewater

EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
Total Kjeldahl Nitrogen	mg/L	1	*		*	YES	***
Nitrate Nitrogen as N	mg/L	1	*		*	YES	***
Fecal Coliform	**	1	200		200	YES	***
Monitoring Frequency	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

* - Monitoring requirement only
** - # of colonies/100mL; the Monthly Average for Fecal Coliform is a geometric mean.
*** - Parameter not previously established in previous state operating permit.
N/A – Not applicable
S – Same as previous operating permit

Basis for Limitations Codes:

13. State or Federal Regulation/Law
14. Water Quality Standard (includes RPA)
15. Water Quality Based Effluent Limits
16. Lagoon Policy
17. Ammonia Policy
18. Dissolved Oxygen Policy
7. Antidegradation Policy
8. Water Quality Model
9. Best Professional Judgment
10. TMDL or Permit in lieu of TMDL
11. WET test Policy

OUTFALL #001 – DERIVATION AND DISCUSSION OF LIMITS:

- **Total Kjeldahl Nitrogen.** Monitoring requirement only. [10 CSR 20-8.020(15)(F)7.]
- **Nitrate Nitrogen as N.** Monitoring requirement only. [10 CSR 20-8.020(15)(F)7.]
- **Fecal Coliform**. 200#/100mL Daily Maximum and Monthly Average in accordance with 10 CSR 20-8.020(15)(F)9.A.
- **Minimum Sampling and Reporting Frequency Requirements**.

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
Total Kjeldahl Nitrogen	once/year	once/year
Nitrate Nitrogen as N	once/year	once/year
Fecal Coliform	once/year	once/year

Part VI – Administrative Requirements

On the basis of preliminary staff review and the application of applicable standards and regulations, the Department, as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions contained herein and within the operating permit. The proposed determinations are tentative pending public comment.

Date of Factsheet: September 8, 2008
Date of Public Notice: October 24, 2008

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