

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, 92<sup>nd</sup> Congress) as amended,

Permit No. MO-0137090

Owner: L & F, LLC  
Address: 18889 Cedar Gate Drive, Warsaw, MO 65355

Continuing Authority: Same as above  
Address: Same as above

Facility Name: Braden Park WWTF  
Facility Address: Braden Avenue, Warsaw, MO

Legal Description: NW ¼, NW¼, Sec.15, T40N, R22W, Benton County  
UTM Coordinates: X=469151, Y= 4233968

Receiving Stream: Lake of the Ozarks (L2)  
First Classified Stream and ID: Lake of the Ozarks (L2) (7205)  
USGS Basin & Sub-watershed No.: 10290109-0107

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 Park SIC #2451

The use or operation of this facility does not require a Certified Operator  
Septic Tanks/Recirculating Sand Filter/Chlorination/Dechlorination/Sludge Disposal by Owner.  
Design population equivalent is 315.  
Design flow is 15,750 gallons per day.  
Design sludge production is 4.73 dry tons/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 621.250 RSMo, Section 640.013 RSMo and Section 644.051.6 of the Law.

February 1, 2015      April 20, 2016  
Effective Date      Modification Date

Sara Parker Pauley, Director, Department of Natural Resources

January 31, 2020  
Expiration Date

John Madras, Director, Water Protection Program

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					PAGE NUMBER 2 of 5	
					PERMIT NUMBER MO-0137090	
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
<b><u>Outfall #001</u></b>						
Flow	MGD	*		*	Daily	24 hr. Estimate
Biochemical Oxygen Demand <sub>5</sub>	mg/L	15		10	once/quarter***	24 hr. modified composite**
Total Suspended Solids	mg/L	20		15	once/quarter***	24 hr. modified composite**
<i>E. coli</i> (Note 1)	#/100 ml	630		126	once/quarter***	grab
pH – Units	SU	****		****	once/quarter***	grab
Ammonia as N (April 1 – Sept 30)	mg/L	7.8		2.5	once/quarter***	grab
(Oct 1 – March 31)		7.8		2.5		
Total Residual Chlorine (Note 2)	mg/L	0.017 (0.13 ML)		0.008 (0.13 ML)	once/quarter***	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE <u>April 28, 2016</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM, OR WATER WITH A VISIBLE SHEEN. THERE SHALL BE NO DISCHARGE OF WATER THAT CAUSES A DISCERNABLE COLOR CHANGE IN THE RECEIVING STREAM.						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	DAILY MINIMUM	WEEKLY AVERAGE MINIMUM	MONTHLY AVERAGE MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
<b><u>Outfall #001</u></b>						
Dissolved Oxygen	mg/L	5.0		5.0	once/quarter***	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE <u>April 28, 2016</u> .						
<b>B. STANDARD CONDITIONS</b>						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Parts I, &amp; III</u> STANDARD CONDITIONS DATED <u>October 1, 1980</u> and <u>August 15, 1994</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)**

- \* Monitoring requirement only.
- \*\* A modified composite sample should be collected manually from a minimum of four grab samples collected within a 24-hour period with a minimum of two hours between each grab sample.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

\*\*\* See table below for quarterly sampling.

Sample discharge at least once for the months of:	Report is due:
January, February, March (1st Quarter)	April 28
April, May, June (2nd Quarter)	July 28
July, August, September (3rd Quarter)	October 28
October, November, December (4th Quarter)	January 28

\*\*\*\* pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.5-9.0 pH units.

Note 1 - Final limitations and monitoring requirements for *E. coli* are applicable only during the recreational season from April 1 through October 31. The Monthly Average Limit for *E. coli* is expressed as a geometric mean. The Weekly Average for *E. coli* will be expressed as a geometric mean if more than one (1) sample is collected during a calendar week (Sunday through Saturday).

Note 2 - This permit contains a Total Residual Chlorine (TRC) limit.

- (a) This effluent limit is below the minimum quantification level (ML) of the most common and practical EPA approved CLTRC methods. The department has determined the current acceptable ML for total residual chlorine to be 0.13 mg/L when using the DPD Colorimetric Method #4500 – CL G. from Standard Methods for the Examination of Waters and Wastewater. The permittee will conduct analyses in accordance with this method, or equivalent, and report actual analytical values. Measured values greater than or equal to the minimum quantification level of 0.13 mg/L will be considered violations of the permit and values less than the minimum quantification level of 0.13 mg/L will be considered to be in compliance with the permit limitation. The minimum quantification level does not authorize the discharge of chlorine in excess of the effluent limits stated in the permit.
- (b) Disinfection is required year-round unless the permit specifically states that “Final limitations and monitoring requirements for Fecal Coliform are applicable only during the recreational season from April 1 through October 31.” If your permit does not require disinfection during the non-recreational months, do not chlorinate in those months.
- (c) Do not chemically dechlorinate **if it is not needed to meet the limits in your permit.**
- (d) If no chlorine was used in a given sampling period, an actual analysis is not necessary. Simply report as “0 mg/L” TRC.

C. SPECIAL CONDITIONS

1. This permit establishes final ammonia limitations based on Missouri’s current Water Quality Standard. On August 22, 2013, the U.S. Environmental Protection Agency (EPA) published a notice in the Federal Register announcing of the final national recommended ambient water quality criteria for protection of aquatic life from the effects of ammonia in freshwater. The EPA’s guidance, Final Aquatic Life Ambient Water Quality Criteria for Ammonia – Fresh Water 2013, is not a rule, nor automatically part of a state’s water quality standards. States must adopt new ammonia criteria consistent with EPA’s published ammonia criteria into their water quality standards that protect the designated uses of the water bodies. The Department of Natural Resources has initiated stakeholder discussions on how to best incorporate these new criteria into the State’s rules. A date for when this rule change will occur has not been determined. Also, refer to Section III of this permit’s statement of basis for further information including estimated future effluent limits for this facility. It is recommended the permittee view the Department’s 2013 EPA criteria Factsheet located at <http://dnr.mo.gov/pubs/pub2481.htm>.

C. SPECIAL CONDITIONS (continued)

2. 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.
  - (d) Address any situation where the discharge prevents full maintenance of the beneficial or designated uses of the receiving stream. This includes violations of General Criteria, which are applicable at all times including mixing zones.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.
3. All outfalls must be clearly marked in the field.
4. Permittee will cease discharge by connection to a facility with an area-wide management plan per 10 CSR 20-6.010(3)(B) within 90 days of notice of its availability.
5. There shall be no discharge of toxic pollutants at levels which would cause an exceedance of water quality standards.
6. 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 µg/L);
    - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/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.
7. Report as no-discharge when a discharge does not occur during the report period.
8. The discharge of any pollutant not documented in the application for this permit is prohibited. This includes any chemical, biological material, radiological material, or any other material that may affect the ability of the receiving stream to fully support its beneficial and designated uses.
9. There shall be no discharge of a solid waste to waters of the state.
10. It is a violation of the Missouri Clean Water Law to fail to pay fees associated with this permit (644.055 RSMo).
11. The permittee shall comply with any applicable requirements listed in 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.
12. Bypasses are not authorized at this facility and are subject to 40 CFR 122.41(m). If a bypass occurs, the permittee shall report in accordance to 40 CFR 122.41(m)(3)(i), and with Standard Condition Part I, Section B, subsection 2.b. Bypasses are to be reported to the Kansas City Regional Office.
13. The facility must be fenced sufficiently to restrict entry by children, livestock and unauthorized persons as well as to protect the facility from vandalism. The fence shall be a minimum of five feet (5') in height. Fences shall be located far enough back from all treatment processes to permit easy access for operation and maintenance and for access of mowing equipment, sludge trucks and similar equipment.

C. SPECIAL CONDITIONS (continued)

14. At least one (1) warning sign shall be placed on each side of the facility enclosure in such positions as to be clearly visible from all directions of approach. There shall also be one (1) sign placed for every five hundred feet (500') (150 m) of the perimeter fence. A sign shall also be placed on each gate. Minimum wording shall be "SEWAGE TREATMENT FACILITY – KEEP OUT". Signs shall be made of durable material with characters at least two inches (2") high and shall be securely fastened to the fence, equipment or other suitable locations.
15. An Operation and Maintenance (O & M) manual shall be maintained by the permittee and made available to the operator. The O & M manual shall include key operating procedures and a brief summary of the operation of the facility.
16. An all-weather access road shall be provided from a public right-of-way to the treatment facility. Sufficient room shall be provided at the site to permit turning vehicles around. Gravel roads to be used by heavy vehicles shall have a minimum depth of six inches (6") of crushed rock material with a bottom layer of four inches (4") of two to three inch (2-3") size material and a top layer two inches (2") thick of three-fourths inch (3/4") size material. In general, the grade of the access road shall not exceed twelve percent (12%).

**MISSOURI DEPARTMENT OF NATURAL RESOURCES  
STATEMENT OF BASIS  
MO-0137090  
BRADEN PARK WWTF**

This Statement of Basis (Statement) gives pertinent information regarding minor modification(s) to the above listed operating permit without the need for a public comment process.

A Statement is not an enforceable part of a Missouri State Operating Permit.

**Part I – Facility Information**

Facility Type: Mobile Home Park  
Facility SIC Code(s): #2451

Facility Description:

Septic Tanks/Recirculating Sand Filter/Chlorination/Dechlorination/Sludge Disposal by Owner.

**Part II – Modification Rationale**

This operating permit is hereby modified to reflect a change in ownership.

No other changes were made at this time.

**Part III – 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.

**DATE OF STATEMENT OF BASIS:** APRIL 8, 2016

**COMPLETED BY:**

**FORREST LINDSEY, ENVIRONMENTAL SPECIALIST  
MISSOURI DEPARTMENT OF NATURAL RESOURCES  
WATER PROTECTION PROGRAM  
OPERATING PERMITS SECTION - DOMESTIC WASTEWATER UNIT  
(573) 526-1289  
Forrest.Lindsey@dnr.mo.gov**

**Missouri Department of Natural Resources**  
**Statement of Basis**  
**Braden Park Village WWTF**  
**NPDES #: MO-0137090**

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). Statements of Basis are required for all operating permits for which a Fact Sheet is not required. Statements of Basis briefly describe, among other items, the derivation of the effluent limitation and the reasons for operating permit's Special Conditions. Fact Sheets should be developed for any permit that requires complex calculations or special conditions; and this is particularly true for permit conditions based on Best Professional Judgment (BPJ).

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

**Part I – Facility Information**

Facility Type: Mobile Home Park  
Facility's SIC #:2451

Facility Description:

See Appendix A – Water Quality Review/Antidegradation Review for Braden Park Village Wastewater Treatment Facility.

Receiving Water Body's Water Quality & Facility Performance History:

See Appendix A – Water Quality Review/Antidegradation Review for Braden Park Village Wastewater Treatment Facility.

Comments:

See Appendix B for a map of the outfall and wastewater treatment facility.

**Part II – 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.

**Part III –2013 Water Quality Criteria for Ammonia**

Upcoming changes to the Water Quality Standard for ammonia may require significant upgrades to wastewater treatment facilities.

On August 22, 2013, the U.S. Environmental Protection Agency (EPA) finalized new water quality criteria for ammonia, based on toxicity studies of mussels and gill breathing snails. Missouri's current ammonia criteria are based on toxicity testing of several species, but did not include data from mussels or gill breathing snails. Missouri is home to 69 of North America's mussel species, which are spread across the state. According to the Missouri Department of Conservation nearly two-thirds of the mussel species in Missouri are considered to be "of conservation concern". Nine species are listed as federally endangered, with an additional species currently proposed as endangered and another species proposed as threatened.

The adult forms of mussels that are seen in rivers, lakes, and streams are sensitive to pollutants because they are sedentary filter feeders. They vacuum up many pollutants with the food they bring in and cannot escape to new habitats, so they can accumulate toxins in their bodies and die. But very young mussels, called glochidia, are exceptionally sensitive to ammonia in water. As a result of a citizen suit, the EPA was compelled to conduct toxicity testing and develop ammonia water quality criteria that would be protective if young mussels may be present in a waterbody. These new criteria will apply to any discharge with ammonia levels that may pose a reasonable potential to violate the standards. Nearly all discharging domestic wastewater treatment facilities (cities, subdivisions, mobile home parks, etc.), as well as certain industrial and stormwater dischargers with ammonia in their effluent, will be affected by this change in the regulations.

When new water quality criteria are established by the EPA, states must adopt them into their regulations in order to keep their authorization to issue permits under the National Pollutant Discharge Elimination System (NPDES). States are required to review their water quality standards every three years, and if new criteria have been developed they must be adopted. States may be more protective than the Federal requirements, but not less protective. Missouri does not have the resources to conduct the studies necessary for developing new water quality standards, and therefore our standards mirror those developed by the EPA; however, we will utilize any available flexibility based on actual species of mussels that are native to Missouri and their sensitivity to ammonia.

Many treatment facilities in Missouri are currently scheduled to be upgraded to comply with the current water quality standards. But these new ammonia standards may require a different treatment technology than the one being considered by the permittee. It is important that permittees discuss any new and upcoming requirements with their consulting engineers to ensure that their treatment systems are capable of complying with the new requirements. The Department encourages permittees to construct treatment technologies that can attain effluent quality that supports the EPA ammonia criteria.

Typical effluent limits for ammonia for a facility in a location such as this, under current regulations, with lake mixing criteria, would be 12.1 mg/L daily maximum, 4.6 mg/L monthly average.

Under the new EPA criteria, where mussels of the family Unionidae are present or expected to be present, the estimated effluent limitations for a facility in a location such as this, with lake mixing criteria, will be 8.1 mg/L daily maximum, 3.1 mg/L monthly average.

Actual effluent limits will depend in part on the actual performance of the facility.

Operating permits for facilities in Missouri must be written based on current statutes and regulations. Therefore permits will be written with the existing effluent limitations until the new standards are adopted. To aid permittees in decision making, an advisory will be added to permit Fact Sheets notifying permittees of the expected effluent limitations for ammonia. When setting schedules of compliance for ammonia effluent limitations, consideration will be given to facilities that have recently constructed upgraded facilities to meet the current ammonia limitations.

For more information on this topic feel free to contact the Missouri Department of Natural Resources, Water Protection Program, Water Pollution Control Branch, Operating Permits Section at (573) 751-1300.

#### **PUBLIC NOTICE:**

The department shall give public notice that a draft permit has been prepared and its issuance is pending. Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest in and water quality concerns related to a draft permit. No public notice is required when a request for a permit modification or termination is denied; however, the requester and permittee must be notified of the denial in writing.

The department must issue public notice of a pending operating permit or of a new or reissued statewide general permit. The public comment period is the length of time not less than 30 days following the date of the public notice which interested persons may submit written comments about the proposed permit.

For persons wanting to submit comments regarding this proposed operating permit, then please refer to the Public Notice page located at the front of this draft operating permit. The Public Notice page gives direction on how and where to submit appropriate comments.

The Public Notice period for this operating permit was from September 21, 2012 to October 22, 2012. No responses received or responses to the Public Notice of this operating permit do not warrant the modification of effluent limits and/or the terms and conditions of this permit.

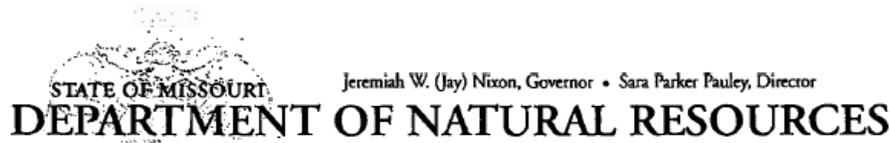
**Date of Statement of Basis:** August 6, 2012

Finalized by Todd Blanc, 12-19-2014, Engineering Section, WPP, 314-416-2064

Scott F. Honig, P.E.  
Engineering Unit Chief  
Kansas City Regional Office  
(816) 251-0711  
[scott.honig@dnr.mo.gov](mailto:scott.honig@dnr.mo.gov)

## **Part IV – Appendices**

### **APPENDIX A – WATER QUALITY REVIEW/ANTIDEGRADATION REVIEW**



Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director

www.dnr.mo.gov

SEP 14 2011

Whitehead Consultants, Inc.  
Attn: Gary V. Phillips, PE  
PO Box 461  
Clinton, MO 64735

RE: Water Quality Review / Antidegradation Review Preliminary Determination on  
Engineering Report for *Antidegradation Report for Braden Park Village WWTF*

Dear Mrs. Phillips:

Enclosed please find the finalized Water Quality and Antidegradation Review (WQAR) for the *Braden Park Village Waste Water Treatment Facility (WWTF)* in Benton County. The WQAR contains pertinent antidegradation review information based on the use of existing water quality, effluent limitations and monitoring requirements for the facility discharge. It was developed in accordance with 10 CSR 20-7.031, the Clean Water Commission approved *Missouri Antidegradation Rule and Implementation Procedure (AIP)* dated May 7, 2008, U.S. Environmental Protection Agency (US EPA) guidance, the applicant-supplied antidegradation review documentation, and the State of Missouri's effluent regulations (10 CSR 20-7.015). Please refer to the *General Assumptions of the Water Quality and Antidegradation Review* section of the enclosed WQAR. The WQAR is preliminary and subject to change as new information becomes available during future permit application processing.

Based on the Missouri Department of Natural Resources' (Department's) initial review, preliminary determination is that the applicant-supplied antidegradation review documentation satisfies the requirements of the AIP. This WQAR/preliminary determination may be appealed within 30 days of this letter in accordance with the AIP Section II.F.4.

You may proceed with submittal of an application for an operating permit and antidegradation review public notice, an engineering report, or a complete application for a construction permit. These submittals must reflect the design flow, facility description, and general treatment components of this WQAR or this preliminary determination may have to be revisited.

Following the Department's public notice of draft Missouri State Operating Permit including the antidegradation review findings and preliminary determination, the Department will review any public notice comments received. If significant comments are made, the project may require another public notice and potentially another antidegradation review. If no comments are received or comments are resolved without another public notice, these findings and determinations will be considered final.

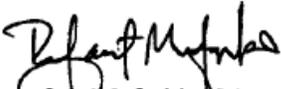
Mr. Phillips  
Page Two

Following issuance of the construction permit and completion of the actual facility construction, the Department will proceed with the issuance of the operating permit.

If you have any questions or need additional time, please contact me at 314-416-2960, or by email at [Todd.Blanc@dnr.mo.gov](mailto:Todd.Blanc@dnr.mo.gov), or by mail at the Missouri Department of Natural Resources, Water Protection Program, PO Box 176, Jefferson City, Missouri 65102-0176.

Sincerely,

WATER PROTECTION PROGRAM



Refaat Mefrakis, P.E., Chief  
Permits and Engineering Section

RM:tbn

Enclosure

c: Andrea Collier, Unit Chief, Kansas City Regional Office  
Lynn Shafer, Braden Park LLC, 25250 Sunflower Road, Sedalia, Mo 65301  
U.S. Environmental Protection Agency, Region VII

**Missouri Department of Natural Resources  
Water Protection Program  
Water Pollution Control Branch  
NPDES Permits and Engineering Section**

## **Water Quality and Antidegradation Review**

*For the Protection of Water Quality  
and Determination of Effluent Limits for Discharge to Lake of the Ozarks  
by  
Braden Park Village Wastewater Treatment Facility*



September, 2011

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Braden Park Village WWTF  
 9/08/11  
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**1. FACILITY INFORMATION**

FACILITY NAME: Braden Park Village WWTF NPDES #: NEW FACILITY

FACILITY TYPE/DESCRIPTION: As a result of the submitted alternative analysis, the applicant's preferred alternative is a recirculating sand filter. The design flow will be 0.0158 MGD. This flow is based upon a use of 75 gallons per person per day with 3.5 persons per lot or 262.5 gallons per lot. The proposed treatment facility will to serve 60 lots. Disinfection is through chlorination.

EDU:	<u>Ozark/Gasconade/Osage</u>	ECOREGION:	<u>Ozark Highlands</u>
8-DIGIT HUC:	<u>10290109</u>	COUNTY:	<u>Benton</u>
LEGAL DESCRIPTION:	<u>NW1/4, NW1/4, Sec 15, T40N, R22W</u>	UTM COORDINATES:	<u>X=469151 Y=4233968</u>

**2. WATER QUALITY INFORMATION**

In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(2)] and federal antidegradation policy at Title 40 Code of Federal Regulation (CFR) Section 131.12 (a), the Missouri Department of Natural Resources (MDNR) developed a statewide antidegradation policy and corresponding procedures to implement the policy. A proposed discharge to a water body will be required to undergo a level of Antidegradation Review which documents that the use of a water body's available assimilative capacity is justified. Effective August 30, 2008, a facility is required to use *Missouri's Antidegradation Rule and Implementation Procedure (AIP)* for new and expanded wastewater discharges.

**2.1. WATER QUALITY HISTORY:**

No history for this facility. No receiving water information.

OUTFALL	CFS	TREATMENT LEVEL	RECEIVING WATERBODY	DISTANCE TO CLASSIFIED SEGMENT (MI)
001	0.025	Secondary	Lake of the Ozarks	0.0

**3. RECEIVING WATERBODY INFORMATION**

WATERBODY NAME	CLASS	WBID	LOW-FLOW VALUES (CFS)			DES
			1Q10	7Q10	30Q10	
Lake of the Ozarks	L2	7205	-	-	-	LWW, AQL, SCR, WBC(A) General Criteria

\*\* 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)

RECEIVING WATER BODY SEGMENT #1: Lake of the Ozarks  
 Upper end segment\* UTM coordinates: X=469151 / Y=4233968 (Outfall)  
 Lower end segment\* UTM coordinates: X=469290 / Y=4234047 (cove of classified lake segment)

\*Segment is the portion of the stream where discharge occurs. Segment is used to track changes in assimilative capacity and is bound at a minimum by existing sources and confluences with other significant water bodies.

**Braden Park Village WWTF**

9/08/11

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**4. GENERAL COMMENTS**

Whitehead Consultants prepared, on behalf of Braden Park Village the *Engineering Report for Antidegradation Report for Braden Park Village Wastewater Treatment Facility* dated June 2011. Geohydrological Evaluation was submitted with the request and the receiving water body is gaining for discharge purposes (Appendix A: Map). The City of Warsaw discharges upstream and within the same segment. Applicant elected to assume that all pollutants of concern (POC) are significantly degrading the receiving stream and part of the lake segment in the absence of existing water quality. An alternative analysis was conducted to fulfill the requirements of the AIP. Dissolved oxygen modeling analysis was not submitted for review. The applicant submitted data within the antidegradation review that demonstrates that the recirculating sand filter (RSF) will perform an average BOD of 10 mg/L and average weekly of 15 mg/L and is a discharge that is less than 100,000 gallons per day. The *DO Modeling and BOD Effluent Limit Development Administrative Guidance* does not require DO modeling for an applicant that can demonstrate their discharge will perform as stated.

Information that was provided by the applicant in the submitted report and summary forms in Appendix C was used to develop this review document. A Missouri Department of Conservation Natural Heritage Review was obtained by the applicant; and the Natural Heritage Review database search found no state or federally endangered species that may be impacted the project.

**5. ANTIDEGRADATION REVIEW INFORMATION**

The following is a review of the *Engineering Report for Antidegradation Report for Braden Park Village Wastewater Treatment Facility* dated June, 2011.

**5.1. TIER DETERMINATION**

Below is a list of pollutants of concern reasonably expected to be in the discharge (see Appendix C: Tier Determination and Effluent Limit Summary). Pollutants of concern are defined as those pollutants "proposed for discharge that affects beneficial use(s) in waters of the state. POCs include pollutants that create conditions unfavorable to beneficial uses in the water body receiving the discharge or proposed to receive the discharge." (AIP, Page 7). Tier 2 was assumed for all POCs (see Appendix D).

Table 1. Pollutants of Concern and Tier Determination

POLLUTANTS OF CONCERN	TIER	DEGRADATION	COMMENT
BOD5/DO	2*	Significant	
Total Suspended Solids (TSS)	**	Significant	
Ammonia	2*	Significant	
pH	***	Significant	Permit limits applied
Total Phosphorus	2*	Significant	
Total Nitrogen	2*	Significant	
Total Residual Chlorine	2*	Significant	Permit limits applied
Escherichia coli (E. coli)	2*	Significant	Permit limits applied

\* Tier assumed. Tier determination not possible: \*\* No in-stream standards for these parameters. \*\*\* Standards for these parameters are ranges

The following Antidegradation Review Summary attachments in Appendix D were used by the applicant:

Tier Determination and Effluent Summary

For pollutants of concern, the attachments are:

Attachment A, Tier 2 with significant degradation.

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**5.2. EXISTING WATER QUALITY**

No existing water quality data was submitted. All POCs were considered to be Tier 2 and significantly degraded in the absence of existing water quality.

**5.3. DEMONSTRATION OF NECESSITY AND SOCIAL AND ECONOMIC IMPORTANCE**

Missouri's antidegradation implementation procedures specify that if the proposed activity does result in significant degradation then a demonstration of necessity (i.e., alternatives analysis) and a determination of social and economic importance are required. Eight alternatives from non-degrading to less degrading to degrading alternatives were evaluated. Normally, only those alternatives that are considered practicable are included in the economically efficiency analysis; however, the applicant evaluated nearly all alternatives in the economic efficiency analysis.

The no-discharge alternatives were: Land application, subsurface irrigation, holding tank and haul off site, and pumping for discharge to a regional wastewater treatment facility. Subsurface irrigation was considered not practicable because there is no land was available for purchase. Land application was considered not practicable, as no land was available for purchase. In the economic efficiency analysis, the land application alternatives was 200% above the base treatment cost of building the recirculating sand filter (RSF) facility. The pump to regional facility, the holding and haul to regional facility, and the land application alternatives were 304%, 4052%, and 200%, respectively, above the base treatment cost of building the recirculating sand filter (RSF) facility and were not considered economically efficient (see Appendix C, Attachment A). Due to the construction cost of regionalization, the applicant did not considered the regionalization alternative practicable. The closest regional treatment plant in the City of Warsaw is 0.75 miles away. Thus, all the no-discharge alternatives were eliminated based upon both the practicability and economic efficiency.

The applicant evaluated the Recirculating Sand Filter (RSF), AdvanTex, Extended Air, and Waterloo Biofilter. The RSF is considered the base case treatment. The RSF consists of primary treatment with septic tankage followed by sand filter system. The AdvanTex System is similar to the RSF except the filter media is an engineered fabric textile reassembled in a fiberglass enclosure. Operation and maintenance and construction costs are higher than the RSF but effluent quality is the same. The extended aeration facility (a package plant) is a process where the influent is aerated with diffusers. Operation and maintenance and construction costs are much higher than the RSF but effluent quality is the same. The Waterloo Biofilter is an aerobic trickling filter process that uses a synthetic filter media in the form of cubes. Construction costs are the highest among the four alternatives but the operation and maintenance is close to the RSF. Effluent quality is slightly higher quality than the RSF.

Among the four discharging and treatment alternatives, the RSF was shown to have equivalent environmental benefits to the other treatments at a lower cost. Therefore, the lack of additional environmental benefits did not justify more expenditure beyond the based case treatment alternative (see Table 2 and Appendix C, Attachment A). Operational and maintenance costs varied with each treatment. The applicant chose the RSFs because of the "low capital cost, ease of operation, low operational cost, and extensive operational track record in Missouri."

Total nitrogen and total phosphorus removal will not be an immediate need for this facility because the draft Nutrient Criteria Implementation Procedure now requires monitoring only for waste water treatment facilities located in the watershed of affected lakes. Monitoring only requirement for TP and TN may be applied within the final permit.

As indicated in the economic efficiency analysis, the RSF was the preferred alternative.

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Table 2: Economic Efficiency Comparison of Treatment Alternatives with Effluent Concentrations

PARAMETER	RECIRCULATING SAND FILTER	ADVANTEX	EXTENDED AIR	WATERLOO BIOFILTER
BOD <sub>5</sub> (mg/L)	≤10	≤10	≤10	≤8
TSS (mg/L)	≤15	≤15	≤15	≤15
DO (mg/L)	≥5	≥5	≥5	≥5
Ammonia (mg/L)	≤3**	≤3**	≤3**	≤3**
E. Coli (/100 mL)	≤126	≤126	≤126	≤ 126 CFU
Practicable	Yes	Yes	Yes	Yes
Total Present Worth*	\$226,969	\$362,557	\$671,288	\$651,480
Total Annual Cost	\$17,449	\$27,064	\$51,606	\$50,083
Base-to-Alternative Ratio w/ cost	1: 1 (Base)	1:1.60	1:2.96	1:2.87
Economically Efficient	Yes	No	No	No

\*20 year design life and 4.5% interest rate; present annual cost were calculated for the 0.0158 MGD facility.

\*\*Cold weather NH<sub>3</sub> levels.

### 5.3.1. REGIONALIZATION ALTERNATIVE

Within Section II B 1. of the AIP, discussion of the potential for discharge to a regional waste water collection system is mentioned. The applicant provided discussion of this alternative. The City of Warsaw's wastewater treatment facility is approximately 0.75 miles from the mobile home park. The city has refused to take the wastewater for two reasons: 1) The city will not provide service outside of the city limits, and 2) the wastewater treatment facility that serves the city is at capacity. There is no regional authority in this area so a waiver required under 10 CSR 20-6.010(3) (B) 1 Continuing Authorities cannot be obtained. Pumping to the City of Warsaw, which is 0.75 miles away, was considered as a treatment alternative. This alternative was 4052 % above the base case treatment.

NEEDS A WAIVER TO PREVENT CONFLICT WITH AREA WIDE MANAGEMENT PLAN APPROVED UNDER SECTION 208 OF THE CLEAN WATER ACT AND/OR UNDER 10 CSR 20-6.010(3) (B) 1 OR 2 CONTINUING AUTHORITIES? (Y OR N) N

### 5.3.2. SOCIAL AND ECONOMIC IMPORTANCE EVALUATION -- AFFECTED COMMUNITY AND RELEVANT SOCIAL AND ECONOMIC FACTORS

The affected community is defined in 10 CSR 20-7.031(2)(B) as the community in the geographical area in which the waters are located. According the AIP, the affected community includes those living near the site of the project as well as those in the communities that are expected to directly or indirectly benefit from the project. The applicant first identified the community that will be affected by the proposed degradation of water quality. The affected community is near City of Warsaw, Missouri and those near the degraded segment from the discharge site identified above.

The following are examples of social and economic factors given in the Missouri AIP: Measures of employment or income, increasing production, increasing or improving housing, increasing the community tax base, providing necessary public services, correcting a public health safety or environmental problem. Within the applicant's report, a number of relevant factors were identified including 1) increasing capacity for growth through commercial development and tourism, and 2) increasing community tax base. Within a Social and Economic Benefits section, each factor was evaluated. Also, Appendix C, Attachment A: Tier 2 with Significant Degradation form contains a summary of this information.

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## 6. GENERAL ASSUMPTIONS OF THE WATER QUALITY AND ANTIDegradation REVIEW

1. A Water Quality and Antidegradation Review (WQAR) assumes that [10 CSR 20-6.010(3) Continuing Authorities and 10 CSR 20-6.010(4) (D), consideration for no discharge] has been or will be addressed in a Missouri State Operating Permit or Construction Permit Application.
2. A WQAR does not indicate approval or disapproval of alternative analysis as per [10 CSR 20-7.015(4) Losing Streams], and/or any section of the effluent regulations.
3. Changes to Federal and State Regulations made after the drafting of this WQAR may alter Water Quality Based Effluent Limits (WQBEL).
4. Effluent limitations derived from Federal or Missouri State Regulations (FSR) may be WQBEL or Effluent Limit Guidelines (ELG).
5. WQBEL supersede ELG only when they are more stringent. Mass limits derived from technology based limits are still appropriate.
6. A WQAR does not allow discharges to waters of the state, and shall not be construed as a National Pollution Discharge Elimination System or Missouri State Operating Permit to discharge or a permit to construct, modify, or upgrade.
7. Limitations and other requirements in a WQAR may change as Water Quality Standards, Methodology, and Implementation procedures change.
8. Nothing in this WQAR removes any obligations to comply with county or other local ordinances or restrictions.
9. If the proposed treatment technology is not covered in 10 CSR 20-8 Design Guides, the treatment process may be considered a new technology. As a new technology, the permittee will need to work with the construction permit writer to ensure equipment is sized properly and that the technology will consistently achieve the proposed effluent limits. The operating permit may contain additional requirements to evaluate the effectiveness of the technology once the facility is in operation. This Antidegradation Review is based on the information provided by the facility and is not a comprehensive review of the proposed treatment technology. If the construction permit engineer determines the proposed technology will not consistently meet proposed effluent limits, the permittee will be required to revise their Antidegradation Report.

## 7. MIXING CONSIDERATIONS

### Triangular Prism Method

**Mixing Zone (MZ) Parameters:** According to the USGS 1:24,000K Quadrangle, the lake width near the facility outfall location is approximately 300 feet (ft). One quarter of this width equals 75 ft. Therefore, MZ Width = 75 feet [10 CSR 20-7.031 (4)(A) 4.B.(IV)(a)].

**Mixing Zone (MZ):** The flow volume approximates a triangular prism because of the slope of the lake bottom, where the formula is  $\text{Volume} = L * W * (D * 0.5)$ . Assuming that the width will be either side of the discharge (MZ) length (100 feet) to form the plume effect, the box dimensions are length (L) = 100 ft, width (W) = 75 ft, and depth (D) = 10 ft. Depth was obtained using mixing zone length projected 100 ft from shoreline to the intersecting contour on 7.5' USGS topographic map.  $\text{Volume} = L * W * (D * 0.5) = (100) * (75) * (10 * 0.5) = 37,500 \text{ ft}^3$ . The flow volume of  $112,500 \text{ ft}^3$  is assumed as the daily mixing zone. Therefore  $(37,500 \text{ ft}^3/\text{day}) * (1 \text{ day}/86,400 \text{ sec}) = 0.43 \text{ ft}^3/\text{sec}$ .

Note: We recommend that site-specific morphometric data be used for a more accurate mixing zone determination.

**Zone of Initial Dilution (ZID):** Not Allowed [10 CSR 20-7.031(4)(A)5.B.(IV)(b)].

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**8. PERMIT LIMITS AND MONITORING INFORMATION**

WASTELOAD ALLOCATION STUDY CONDUCTED (Y OR N):  N  Y      USE ATTAINABILITY ANALYSIS CONDUCTED (Y OR N):  N  Y      WHOLE BODY CONTACT USE RETAINED (Y OR N):  N  Y

**OUTFALL #001**

WET TEST (Y OR N):  N  Y      FREQUENCY: NA      AEC: NA      METHOD: NA

TABLE 3. EFFLUENT LIMITS FOR OUTFALL 001

PARAMETER	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	BASIS FOR LIMIT (NOTE 2)	MONITORING FREQUENCY
FLOW	*		*	FSR	DAILY
BOD <sub>5</sub> (MG/L)	15		10	PEL	ONCE/MONTH
TSS (MG/L)	20		15	PEL	ONCE/MONTH
PH (S.U.)	6.5 – 9.0		6.5 – 9.0	FSR	ONCE/MONTH
AMMONIA AS N (MG/L) (MAY 1 – OCT 31)	7.8		2.5	PEL	ONCE/MONTH
AMMONIA AS N (MG/L) (NOV 1 – APR 30)	7.8		2.5	PEL	ONCE/MONTH
TOTAL PHOSPHORUS (MG/L)	SEE DISCUSSION SECTION 10.2 BELOW.				
TOTAL NITROGEN (MG/L)					
ESCHERICHIA COLIFORM (E. COLI) (NOTE 1)	630		126**	FSR	ONCE/MONTH
TOTAL RESIDUAL CHLORINE (MG/L)	0.017		0.008	WQBEL	ONCE/MONTH
DISSOLVED OXYGEN (MG/L)	5.0 MINIMUM		5.0 MINIMUM	FSR	ONCE/MONTH

NOTE 1 – COLONIES/100 mL

NOTE 2 – WATER QUALITY-BASED EFFLUENT LIMITATION -- WQBEL; OR MINIMALLY DEGRADING EFFLUENT LIMIT-- MDEL; OR PREFERRED ALTERNATIVE EFFLUENT LIMIT-PEL; TECHNOLOGY-BASED EFFLUENT LIMIT-TBEL; OR NO DEGRADATION EFFLUENT LIMIT--NDEL; OR FSR --FEDERAL/STATE REGULATION; OR N/A--NOT APPLICABLE. ALSO, PLEASE SEE THE GENERAL ASSUMPTIONS OF THE WQAR #4 & #5.

\* - Monitoring requirements only.

\*\* - The Monthly Average for E. coli shall be reported as a Geometric Mean.

**9. RECEIVING WATER MONITORING REQUIREMENTS**

No receiving water monitoring requirements recommended at this time.

**10. DERIVATION AND DISCUSSION OF LIMITS**

Wasteload allocations and limits were calculated using two methods:

1) Water quality-based – Using water quality criteria or water quality model results and the dilution equation below:

$$C = \frac{(Cs \times Qs) + (Ce \times Qe)}{(Qe + Qs)} \quad \text{(EPA/505/2-90-001, Section 4.5.5)}$$

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Where  $C$  = downstream concentration

$C_s$  = upstream concentration

$Q_s$  = upstream flow

$C_e$  = effluent concentration

$Q_e$  = effluent flow

Chronic wasteload allocations were determined using applicable chronic water quality criteria (CCC: criteria continuous concentration) and stream volume of flow. Acute wasteload allocations were determined using applicable water quality criteria (CMC: criteria maximum concentration) and stream volume of flow.

Water quality-based maximum daily and average monthly effluent limitations were calculated using methods and procedures outlined in USEPA's "Technical Support Document For Water Quality-based Toxics Control" (EPA/505/2-90-001).

2) Alternative Analysis-based – Using the preferred alternative's treatment capacity for conventional pollutants such as BOD<sub>5</sub> and TSS that are provided by the consultant as the WLA, the significantly-degrading effluent average monthly and average weekly limits are determined by applying the WLA as the average monthly (AML) and multiplying the AML by 1.5 to derive the average weekly limit (AWL). For toxic and nonconventional pollutant such as ammonia, the treatment capacity is applied as the significantly-degrading effluent monthly average (AML). A maximum daily can be derived by dividing the AML by 1.19 to determine the long-term average (LTA). This is an accepted procedure that is defined in USEPA's "Technical Support Document For Water Quality-based Toxics Control" (EPA/505/2-90-001).

Note: Significantly-degrading effluent limits have been based on the authority included in Section III. Permit Consideration of the AIP. Also under 40 CFR 133.105, permitting authorities shall require more stringent limitations than equivalent to secondary treatment limitations for 1) existing facilities if the permitting authority determines that the 30-day average and 7-day average BOD<sub>5</sub> and SS effluent values that could be achievable through proper operation and maintenance of the treatment works, and 2) new facilities if the permitting authority determines that the 30-day average and 7-day average BOD<sub>5</sub> and SS effluent values that could be achievable through proper operation and maintenance of the treatment works, considering the design capability of the treatment process.

#### 10.1. OUTFALL #001 – MAIN FACILITY OUTFALL

##### 10.2. LIMIT DERIVATION

- **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<sub>5</sub>).** BOD<sub>5</sub> limits of 10 mg/L monthly average, 15 mg/L maximum daily limits were assigned to the base case treatment. These limitation are more protective that the 20/30 mg/L limitations in 10 CSR 20-7.015(3)(A) 1.(A).

*The DO Modeling and BOD Effluent Limit Development Administrative Guidance for the Purpose of Conducting Water Quality Review Assistance* states that the applicant can provide facility performance data in lieu of performing the DO Modeling. If the proposed facility is designed for less than 100,000 gallons per day with advanced treatment, then the applicant may provide effluent monitoring data that demonstrates a monthly average of 10 mg/L and weekly average of 15 mg/L BOD<sub>5</sub> from an existing

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treatment system of the same treatment type. The applicant provided BOD<sub>5</sub> sampling data from Stoneridge, MO-0119784, and Parkwood Estates, MO-0130931, demonstrating that facilities that are re-circulating sand filters are capable of achieving the required treatment level. Stoneridge quarterly sampling was included in Appendix B.

**As a result of this analysis, MDNR staff concludes that the above mentioned effluent limits are protective of beneficial uses and existing water quality.**

- **Dissolved Oxygen (DO).** To protect dissolved oxygen, staff requires an effluent discharge concentration of 5 mg/L DO; therefore, staff has included this concentration as limitation per the water quality standards.
- **Total Suspended Solids (TSS).** 15 mg/L monthly average, 20 mg/L daily maximum limit. The influent monitoring may be required for this facility in its Missouri State Operating Permit.
- **pH.** pH shall be maintained in the range from six and one-half to nine (6.5– 9) standard units [10 CSR 20-7.015(8)(A)2.].
- **Total Ammonia Nitrogen.** Applicant supplied an alternative analysis-based technology limit of 3 mg/L for "cold weather" preferred alternative treatment (see Appendix C). We apply this treatment capacity as the average monthly limit.

AML = 3.0 mg/L  
 LTA = 3.0 / (1.19) [CV = 0.6, 95<sup>th</sup> Percentile, n = 30]  
 LTA = 2.5 mg/L  
 MDL = 2.5 (3.11) [CV = 0.6, 99<sup>th</sup> Percentile]  
 MDL = 7.8 mg/L

Season	Maximum Daily Limit (mg/l)	Average Monthly Limit (mg/l)
Summer	7.8	2.5
Winter	7.8	2.5

Because the proposed technology- based limits are more protective than water quality based average monthly limit for winter below, we are applying the technology-based limits above for all seasons.

**Early Life Stages Present Total Ammonia Nitrogen criteria apply**

[10 CSR 20-7.031(4)(B)7.C. & Table B3]. Background total ammonia nitrogen = 0.01 mg/L

Season	Temp (°C)	pH (SU)	Total Ammonia Nitrogen CCC (mg N/L)	Total Ammonia Nitrogen CMC (mg N/L)
Summer	26	7.8	1.5	12.1
Winter	6	7.8	3.1	12.1

Summer: April 1 – September 30, Winter: October 1 – March 31.

**Summer**

$$C_e = (((Q_e + Q_s) * C) - (Q_s * C_s)) / Q_e$$

Chronic WLA:  $C_e = ((0.025 + 0.43)1.5 - (0.43 * 0.01)) / 0.025$

$$C_e = 27.1 \text{ mg/L}$$

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Acute WLA:  $C_e = ((0.025 + 0.0)12.1 - (0.0 * 0.01))/0.025$   
 $C_e = 12.1 \text{ mg/L}$

$LTA_c = 27.1 \text{ mg/L} (0.780) = 21.2 \text{ mg/L}$  [CV = 0.6, 99<sup>th</sup> Percentile, 30 day avg.]  
 $LTA_a = 12.1 \text{ mg/L} (0.321) = 3.88 \text{ mg/L}$  [CV = 0.6, 99<sup>th</sup> Percentile]

MDL = 3.88 mg/L (3.11) = 12.1 mg/L [CV = 0.6, 99<sup>th</sup> Percentile]  
 AML = 3.88 mg/L (1.19) = 4.6 mg/L [CV = 0.6, 95<sup>th</sup> Percentile, n = 30]

Winter

Chronic WLA:  $C_e = ((0.025 + 0.43)3.1 - (0.43 * 0.01))/0.025$   
 $C_e = 56.3 \text{ mg/L}$

Acute WLA:  $C_e = ((0.025 + 0.0)12.1 - (0.0025 * 0.01))/0.025$   
 $C_e = 12.1 \text{ mg/L}$

$LTA_c = 56.3 \text{ mg/L} (0.780) = 43.9 \text{ mg/L}$  [CV = 0.6, 99<sup>th</sup> Percentile, 30 day avg.]  
 $LTA_a = 12.1 \text{ mg/L} (0.321) = 3.9 \text{ mg/L}$  [CV = 0.6, 99<sup>th</sup> Percentile]

MDL = 3.9 mg/L (3.11) = 12.1 mg/L [CV = 0.6, 99<sup>th</sup> Percentile]  
 AML = 3.9 mg/L (1.19) = 4.6 mg/L [CV = 0.6, 95<sup>th</sup> Percentile, n = 30]

Season	Maximum Daily Limit (mg/l)	Average Monthly Limit (mg/l)
Summer	12.1	4.6
Winter	12.1	4.6

- **E. coli.** Effluent limitations for WBC(A) are 126 colonies per 100 ml monthly average and 630 colonies per 100 ml maximum daily [10 CSR 20-7.015 (3)(A)1.C.] and [10 CSR 20-7.031(4)(C), Table A]. In the rule, weekly monitoring is required during the recreational season with compliance to be determined by calculating the geometric mean of all samples collected each calendar month. The U.S. Environmental Protection Agency (EPA) requires effluent limits to be expressed as maximum daily for non- Publicly-Owned Treatment Works that continuously discharge. As an interim measure to address EPA's concern, the department applies the ration of five (5) to the monthly or long-term limit to derive the short-term E. coli limitation. Also, please see **GENERAL ASSUMPTIONS OF THE WQAR #7.**
- **Total Residual Chlorine (TRC).** Warm-water Protection of Aquatic Life CCC = 10 µg/L, CMC = 19 µg/L [10 CSR 20-7.031, Table A]. Background TRC = 0.0 µg/L.

$C_e = (((Q_e + Q_s) * C) - (Q_s * C_s)) / Q_e$

Chronic WLA:  $C_e = ((0.021 + 0.0)10 - (0.0 * 0.0))/0.021$   
 $C_e = 10 \text{ µg/L}$

Acute WLA:  $C_e = ((0.021 + 0.0)19 - (0.0 * 0.0))/0.021$   
 $C_e = 19 \text{ µg/L}$

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$$LTA_c = 10 \mu\text{g/L} (0.527) = 5.3 \mu\text{g/L}$$

[CV = 0.6, 99<sup>th</sup> Percentile]

$$LTA_a = 19 \mu\text{g/L} (0.321) = 6.1 \mu\text{g/L}$$

[CV = 0.6, 99<sup>th</sup> Percentile]

$$MDL = 5.3 \mu\text{g/L} (3.11) = 16.5 \mu\text{g/L}$$

[CV = 0.6, 99<sup>th</sup> Percentile]

$$AML = 5.3 \mu\text{g/L} (1.55) = 8.2 \mu\text{g/L}$$

[CV = 0.6, 95<sup>th</sup> Percentile, n = 4]

Total Residual Chlorine effluent limits of 0.017 mg/L daily maximum, 0.008 mg/L monthly average are recommended if chlorine is used as a disinfectant. Standard compliance language for TRC, including the minimum level (ML), should be included in the permit.

- **Total Phosphorus & Total Nitrogen.** The department has adopted nutrient criteria for discharges to lakes and reservoirs in 10 CSR 20-7.031(4)(N)(3)(B); however has not developed an approved implementation procedure for total nitrogen and total phosphorus. The department recommends that the facility collect monitoring data for their own use; however it is not required. The potential exists that the facility will have monitoring requirements for nutrients, either due to the finalized Nutrient Implementation Plan or as a result of the total maximum daily load (TMDL) for Lake of the Ozarks.

#### 11. ANTIDegradation REVIEW PRELIMINARY DETERMINATION

The proposed new facility discharge, Braden Park Village WWTF, 0.0158 MGD will result in significant degradation of a portion of a cove of Lake of the Ozarks, Osage River arm. The recirculating sand filter (RSF) was determined to be the base case technology (lowest cost alternative) that meets technology and water quality-based effluent limitations. The cost effectiveness of the other technologies were evaluated, and the RSF was found to be cost effective and was determined to be the preferred alternative.

The application for construction permit must reflect the design flow, facility description, and general treatment components of this WQAR or this preliminary determination may have to be revisited.

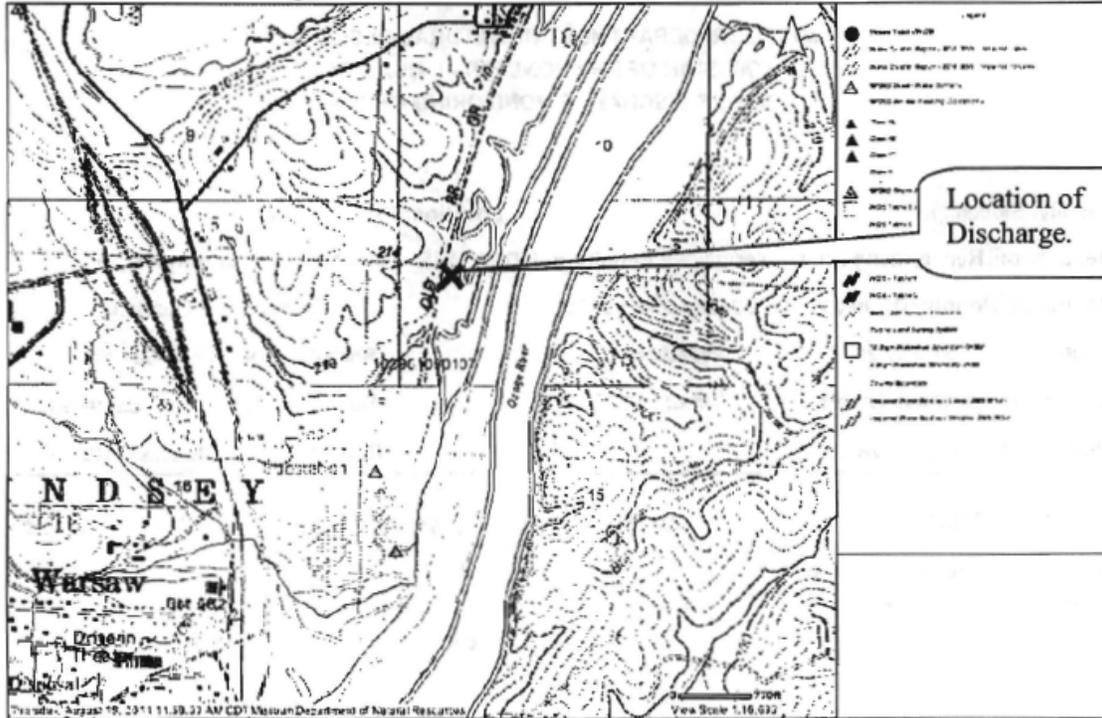
Per the requirements of the AIP, the effluent limits in this review were developed to be protective of beneficial uses and to attain the highest statutory and regulatory requirements. MDNR has determined that the submitted review is sufficient and meets the requirements of the AIP. No further analysis is needed for this discharge.

Reviewer: Todd Blane  
Date: 9/08/11  
Unit Chief: John Rustige, P.E.

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Appendix A: Map of Discharge Location

Braden Park Village WWTF



Missouri  
 Department of  
 Natural Resources

Disclaimer: Although this map has been compiled by the Missouri Department of Natural Resources, no warranty, expressed or implied, is made by the department as to the accuracy of the data and related materials. The act of distribution shall not constitute any such warranty, and no responsibility is assumed by the department in the use of these data or related materials.

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Appendix B: Effluent Limitation Demonstration for BOD in lieu of Streeter Phelps Model Results for the Proposed WWTF

MISSOURI DEPARTMENT OF NATURAL RESOURCES  
 DIVISION OF ENVIRONMENTAL QUALITY  
 NPDES DISCHARGE MONITORING REPORT

21 July 2010  
 11226

Facility: Stoneridge Location: Clinton, Missouri  
 Description: Recirculating Sand Filter Permit No: MO-0119754 Facility: 001 County: Henry  
 Monitoring Period: 01 July 2010 - 30 September 2010 Frequency: Quarterly  
 Sample Date: 07 July 2010 Weather: Sample Type: Grab Sample  
 Sample Collected by: Others Time: 11:32am Sample Temp: degrees C  
 Flow: 0.0022 mgd Flow Type: Effluent Report Due: 28 October 2010

PARAMETER	UNITS	9491	Detection	Method
Biochemical Oxygen Demand	mg/l	8	20	5210.1
Total Suspended Solids	mg/l	9	10	250.0
pH	units	6.8		4500-H.2

MISSOURI DEPARTMENT OF NATURAL RESOURCES  
 DIVISION OF ENVIRONMENTAL QUALITY  
 NPDES DISCHARGE MONITORING REPORT

28 April 2010  
 11229

Facility: Stoneridge Location: Clinton, Missouri  
 Description: Recirculating Sand Filter Permit No: MO-0119754 Facility: 001 County: Henry  
 Monitoring Period: 01 April 2010 - 30 June 2010 Frequency: Quarterly  
 Sample Date: 21 April 2010 Weather: Sample Type: Grab Sample  
 Sample Collected by: Others Time: 11:52am Sample Temp: degrees C  
 Flow: 0.0022 mgd Flow Type: Effluent Report Due: 28 July 2010

PARAMETER	UNITS	7776	Detection	Method
Biochemical Oxygen Demand	mg/l	8	20	5210.1
Total Suspended Solids	mg/l	8	10	250.0
pH	units	7.1		4500-H.2

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Appendix B: Effluent Limitation Demonstration for BOD cont'd

MISSOURI DEPARTMENT OF NATURAL RESOURCES  
 DIVISION OF ENVIRONMENTAL QUALITY  
 NPDES DISCHARGE MONITORING REPORT

25 July 2010  
 11029

Facility: Stoneridge Location: Clinton, Missouri  
 Description: Recirculating Sand Filter Permit No: MO-0118784 Facility: 001 County: Henry  
 Monitoring Period: 01 January 2010 - 31 March 2010 Frequency: Quarterly  
 Sample Date: 13 January 2010 Weather: Sample Type: Grab Sample  
 Sample Collected by: Others Time: 1:45pm Sample Temp: 20.988 C  
 Flow: 0.0010 mgd Flow Type: Effluent Report Date: 28 April 2010

PARAMETER	UNITS	5653	Detection	Method
Biochemical Oxygen Demand	mg/l	5	2.0	219.3
Total Suspended Solids	mg/l	7	1.0	214.0
pH	units	7.0		110.018

Comments: Sample secured and delivered to laboratory by others

Analysis performed in strict accordance with sample holding times and test procedures outlined in "Standard Methods for the Examination of Water and Wastewater", latest edition.

INSTRUCTIONS: 1. Date and sign one copy and retain for your records.  
 2. Date and sign one copy and mail to: Department of Natural Resources  
 Kansas City Regional Office  
 500 Northeast Colbern Road  
 Kansas City, MO 64165

OWNER APPROVAL:

*Tony Schwartz*

DATE: 01/22/2010

CC: Terry Kane

ENGINEERING SURVEYS AND SERVICES  
 BY:

*Linda L. Adams*  
 Linda L. Adams

www.mdnr.com

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**Appendix C: Antidegradation Review Summary Attachments**

The attachments that follow contain summary information provided by the applicant. MDNR staff determined that changes must be made to the information contained within these attachments. The following were modified and can be found within the MDNR WQAR:

- 1) Tier Determination and Effluent Limit Summary Sheet: The affected segment proposed is different in the WQAR than presented below. The dissolved oxygen daily maximum is an error. The ammonia limitations do not match the text of the full report; therefore, staff used the monthly average of 3.0 mg/l in the text as the treatment capacity. The maximum daily for E. coli is incorrect.
- 2) Attachment A: No changes needed.

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MISSOURI DEPARTMENT OF NATURAL RESOURCES  
 WATER PROTECTION PROGRAM  
**ANTIDEGRADATION REVIEW SUMMARY**  
**TIER DETERMINATION AND EFFLUENT LIMIT SUMMARY**

**1. FACILITY**

NAME Braden Park Village		TELEPHONE NUMBER WITH AREA CODE 660-826-6868	
ADDRESS (PHYS. CAL.) Braden Avenue	CITY Warsaw	STATE MO	ZIP CODE 65355

**2. RECEIVING WATER BODY SEGMENT #1**

NAME  
Lake of the Ozarks

2.1 UPPER END OF SEGMENT (Location of discharge)  
 UTM \_\_\_\_\_ CR Lat 38° Long 93°

2.2 LOWER END OF SEGMENT  
 UTM \_\_\_\_\_ CR Lat 38° Long 93°

Per the Missouri Antidegradation Rule and Implementation Procedure, or AIP, the definition of a segment, "a segment is a section of water that is bound, at a minimum, by significant existing sources and confluences with other significant water bodies."

**3. WATER BODY SEGMENT #2 (IF APPLICABLE)**

NAME  
N/A

3.1 UPPER END OF SEGMENT  
 UTM \_\_\_\_\_ CR Lat \_\_\_\_\_ Long \_\_\_\_\_

3.2 LOWER END OF SEGMENT  
 UTM \_\_\_\_\_ CR Lat \_\_\_\_\_ Long \_\_\_\_\_

**4. WATER BODY SEGMENT #3 (IF APPLICABLE)**

NAME  
N/A

4.1 UPPER END OF SEGMENT  
 UTM \_\_\_\_\_ CR Lat \_\_\_\_\_ Long \_\_\_\_\_

4.2 LOWER END OF SEGMENT  
 UTM \_\_\_\_\_ CR Lat \_\_\_\_\_ Long \_\_\_\_\_

**5. PROJECT INFORMATION**

Is the receiving water body an Outstanding National Resource Water, an Outstanding State Resource Water, or drainage thereto?  
 Yes  No

In Tables D and E of 10 CSR 20-7.031, Outstanding National Resource Waters and Outstanding State Resource Water are listed. Per the Antidegradation Implementation Procedure Section 1.B.3., "any degradation of water quality is prohibited in these waters unless the discharge only results in temporary degradation." Therefore, if degradation is significant or minimal, the Antidegradation Review will be denied.

Will the proposed discharge of all pollutants of concern, or POCs, result in no net increase in the ambient water quality concentration of the receiving water after mixing?  
 Yes  No

If yes, submit a summary table showing the levels of each pollutant of concern before and after the proposed discharge in the receiving water and then complete Attachment B for the first downstream classified water body segment.

Will the discharge result in temporary degradation?  
 Yes  No

If yes, complete Attachment C.

Has the project been determined as non-degrading?  
 Yes  No

If yes, complete No Degradation Evaluation - Conclusion of Antidegradation Review form. Submit with the appropriate Construction Permit Application as no antidegradation review is required.

**If yes to one of the above questions, skip to Section 8 - Wet Weather.**

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**6. EXISTING WATER QUALITY DATA OR MODEL SUMMARY**

Obtaining Existing Water Quality is possible by three methods according to the Antidegradation Implementation Procedure Section II.A.1.: (1) using previously collected data with an appropriate Quality Assurance Project Plan, or QAPP (2) collecting water quality data by approved the Missouri Department of Natural Resources methodology or (3) using an appropriate water quality model. QAPPs must be submitted to the department for approval well in advance (six months) of the proposed activity. Provide all the appropriate corresponding data and reports which were approved by the department Water Quality Monitoring and Assessment Section.

Date existing water quality data was provided by the Water Quality Monitoring and Assessment Section:

Approval date of the QAPP by the Water Quality Monitoring and Assessment Section:

Approval date of the project sampling plan by the Water Quality Monitoring and Assessment Section:

Approval date of the data collected for all appropriate pollutants of concern by the Water Quality Monitoring and Assessment Section:

Comments/Discussion:

**7. POLLUTANTS OF CONCERN AND TIER DETERMINATION(S)**

Pollutants of Concern to be considered include those pollutants reasonably expected to be present in the discharge per the Antidegradation Implementation Procedure Section II.S. The tier protection levels are specified and defined in rule at 10 CSR 20-7.031 (2)

Water Body Segment One Pollutants of Concern and Tier Determination(s)		
Tier 1	Tier 2 with Minimal Degradation	Tier 2 with Significant Degradation
		BOD
		TSS
		NH3
		DO
		Bacteria

Note: Add an asterisk to items that you only assume are Tier 2 with significant degradation.

Water Body Segment Two Pollutants of Concern and Tier Determination(s)		
Tier 1	Tier 2 with Minimal Degradation	Tier 2 with Significant Degradation

- For pollutants of concern that are Tier 2 with significant degradation, complete Attachment A.
- For pollutants of concern that are Tier 2 with minimal degradation, complete Attachment B.
- For pollutants of concern that are Tier 1, complete Attachment D. Additionally, a Tier 2 review must be conducted for each pollutant of concern on the appropriate water body segment.

**8. WET WEATHER ANTICIPATIONS**

If an applicant anticipates excessive inflow or infiltration and pursues approval from the department to bypass secondary treatment, a feasibility analysis is required. The feasibility analysis must comply with the criteria of all applicable state and federal regulations including 40 CFR 122.41(m)(4). Attach the feasibility analysis to this report.

What is the Wet Weather Flow Peaking Factor in relation to design flow?

Wet Weather Design Summary:

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**9. SUMMARY OF THE PROPOSED ANTIDegradation REVIEW EFFLUENT LIMITS**

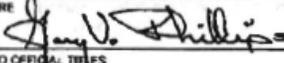
What are the proposed pollutants of concern and their respective effluent limits that the selected treatment option will comply with?

Pollutant of Concern	Units	Wasteload Allocation	Average Monthly Limit	Daily Maximum Limit
BOD5	MG/L		10	15
TSS	MG/L		15	20
Dissolved Oxygen	MG/L		5	15
Ammonia	MG/L		1.4	3.7
Bacteria (E. Coli)	Col/100 ML		126	1000

These proposed limits must not violate water quality standards, be protective of beneficial uses and achieve the highest statutory and regulatory requirements.

Attach the Antidegradation Review report and all supporting documentation.

**CONSULTANT:** I have prepared or reviewed this form and all attached reports and documentation. The conclusion proposed is consistent with the Antidegradation Implementation Procedure and current state and federal regulation.

SIGNATURE 		DATE 3/16/11	
NAME AND OFFICIAL TITLE Gary V. Phillips, PE			
COMPANY NAME Whitehead Consultants, Inc.			
ADDRESS P.O. Box 461, 114 North Main Street	CITY Clinton	STATE MO	ZIP CODE 64735
TELEPHONE NUMBER WITH AREA CODE 660-885-8311	E-MAIL ADDRESS gphillips@wcieng.com		

**OWNER:** I have read and reviewed the prepared documents and agree with this submittal.

SIGNATURE 		DATE 3/29/2011	
NAME AND OFFICIAL TITLE Lynn Shafer			
ADDRESS 25250 Sunflower Road	CITY Sedalia	STATE MO	ZIP CODE 65301
TELEPHONE NUMBER WITH AREA CODE 660-826-6868	E-MAIL ADDRESS		

**CONTINUING AUTHORITY:** Continuing Authority is the permanent organization that will be responsible for the operation, maintenance and modernization of the facility. The regulatory requirement regarding continuing authority is found in 10 CSR 20-6.010(3) available at [www.sos.mo.gov/adrules/csr/current/10csr/10c20-6a.pdf](http://www.sos.mo.gov/adrules/csr/current/10csr/10c20-6a.pdf).

I have read and reviewed the prepared documents and agree with this submittal.

SIGNATURE 		DATE 3/29/2011	
NAME AND OFFICIAL TITLE Braden Park, L.L.C. LC 0750730			
ADDRESS 25250 Sunflower Road	CITY Sedalia	STATE MO	ZIP CODE 65301
TELEPHONE NUMBER WITH AREA CODE 660-826-6868	E-MAIL ADDRESS		

MO 780-2025 (05-09)

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MISSOURI DEPARTMENT OF NATURAL RESOURCES  
 WATER PROTECTION PROGRAM, WATER POLLUTION CONTROL BRANCH  
**ANTIDegradation REVIEW SUMMARY**  
**ATTACHMENT A: TIER 2 - SIGNIFICANT DEGRADATION**

**1. FACILITY**

NAME Braden Park Village		TELEPHONE NUMBER WITH AREA CODE 660-826-6868	
ADDRESS (PHYSICAL) Braden Avenue	CITY Warsaw	STATE MO	ZIP CODE 65355

**2. RECEIVING WATER BODY SEGMENT #1**

NAME Lake of the Ozarks
----------------------------

**3. WATER BODY SEGMENT #2 (IF APPLICABLE)**

NAME N/A
-------------

**4. IDENTIFYING ALTERNATIVES**

Supply a summary of the alternatives considered and the level of treatment attainable with regards to the alternative. "For Discharges likely to cause significant degradation, an analysis of non-degrading and less-degrading alternatives must be provided," as stated in the Antidegradation Implementation Procedure Section II B 1. Per 10 CSR 20-6.010(4)(D)1, the feasibility of a no-discharge system must be considered. Attach all supportive documentation in the Antidegradation Review report.

Non-degrading alternatives:

Alternatives ranging from less-degrading to degrading including Preferred Alternative  
 (All must meet water quality standards):

Alternatives	Level of Treatment Attainable for each Pollutant of Concern			
	BOD (mg/L)	TSS (mg/L)	Ammonia as N (mg/L)	Bacteria (E. Coli) (#/100mL)
Pump To Regional WWT	45	70	12	126
Haul To Regional WWT	45	70	12	126
Land Application	45	70	12	126
Subsurface Irrigation	45	70	12	126
Recirc. Sand Filter	10	15	3	126
Advantex	10	15	3	126
Extended Aeration	10	15	3	126
Waterloo Biofilter	8	15	3	126

Identifying Alternatives Summary: \_\_\_\_\_

The Recirc. Sand Filter is the preferred alternative. It provides effluent limits and is the most economically efficient and affordable.

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**5. DETERMINATION OF THE REASONABLE ALTERNATIVE**

Per the Antidegradation Implementation Procedure Section II.B.2, "a reasonable alternative is one that is practicable, economically efficient and affordable." Provide basis and supporting documentation in the Antidegradation Review report

**Practicability Summary:**

"The practicability of an alternative is considered by evaluating the effectiveness, reliability, and potential environmental impacts " according to the Antidegradation Implementation Procedure Section II.B.2.a. Examples of factors to consider, including secondary environmental impacts, are given in the Antidegradation Implementation Procedure Section II.B.2.a.

RSF is reliable, quick to build, not easily upset, recovers quickly from biological and volumetric overloads and meets effluent limits.

**Economic Efficiency Summary:**

Alternatives that are deemed practicable must undergo a direct cost comparison in order to determine economic efficiency. Means to determine economic efficiency are provided in the Antidegradation Implementation Procedure Section II.B.2.b.

Computed present worth: RSF-\$1.764 M, Extended Aeration-\$4.918 M, Advantex-\$3.082 M, Waterloo Biofilter-\$6.230 M

**Affordability Summary:**

Alternatives identified as most practicable and economically efficient are considered affordable if the applicant does not supply an affordability analysis. An affordability analysis per the Antidegradation Implementation Procedure Section II.B.2.c, "may be used to determine if the alternative is too expensive to reasonably implement."

The RSF is the most affordable alternative for construction and operation.

**Preferred Chosen Alternative:**

The chosen alternative is the Recirc. Sand Filter (RSF).

**Reasons for Rejecting the other Evaluated Alternatives:**

Affordability, operating cost and construction cost do not offset the lack of better treatment.

**Comments/Discussion:**

Other WWT systems can produce equally acceptable effluent, but the RSF has a better historical record for dependability and affordability.

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**6. SOCIAL AND ECONOMIC IMPORTANCE OF THE PREFERRED ALTERNATIVE**

If the preferred alternative will result in significant degradation, then it must be demonstrated that it will allow important economic and social development in accordance to the Antidegradation Implementation Procedure Section II.E. Social and Economic Importance is defined as the social and economic benefits to the community that will occur from any activity involving a new or expanding discharge.

**Identify the affected community:**

The affected community is defined in 10 CSR 20-7.031(2)(B) as the community "in the geographical area in which the waters are located. Per the Antidegradation Implementation Procedure Section II.E.1, "the affected community should include those living near the site of the proposed project as well as those in the community that are expected to directly or indirectly benefit from the project."

The affected community includes all residents of the existing mobile home village and adjoining communities.

**Identify relevant factors that characterize the social and economic conditions of the affected community:**

Examples of social and economic factors are provided in the Antidegradation Implementation Procedure Section II.E.1., but specific community examples are encouraged.

The community is a residential mobile home park occupied by fixed to lower income families.

**Describe the important social and economic development associated with the project:**

Determining benefits for the community and the environment should be site specific and in accordance with the Antidegradation Implementation Procedure Section II.E.1.

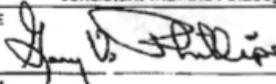
This project will improve the sanitary conditions of the surrounding area and lake water.

**PROPOSED PROJECT SUMMARY:**

The improved treatment facility will replace the existing lagoon system that is not providing treatment within current standards.

Attach the Antidegradation Review report and all supporting documentation. This is a technical document, which must be signed, sealed and dated by a registered professional engineer of Missouri.

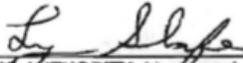
**CONSULTANT:** I have prepared or reviewed this form and all attached reports and documentation. The conclusion proposed is consistent with the Antidegradation Implementation Procedure and current state and federal regulations.

SIGNATURE 	DATE 3/16/2011
--	-------------------

PRINT NAME Gary V. Phillips, PE	LICENSE #: E-19351
------------------------------------	-----------------------

TELEPHONE NUMBER WITH AREA CODE 660-885-8311	E-MAIL ADDRESS gphillips@wcieng.com
---	--

**OWNER:** I have read and reviewed the prepared documents and agree with this submittal.

SIGNATURE 	DATE 3/29/2011
--	-------------------

**CONTINUING AUTHORITY:** I have read and reviewed the prepared documents and agree with this submittal.

SIGNATURE 	DATE 3/29/2011
--	-------------------



**STANDARD CONDITIONS FOR NPDES PERMITS  
ISSUED BY  
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES  
MISSOURI CLEAN WATER COMMISSION**

**Revised  
October 1, 1980**

**PART I - GENERAL CONDITIONS  
SECTION A - MONITORING AND REPORTING**

1. **Representative Sampling**
  - a. Samples and measurements taken as required herein shall be representative of the nature and volume, respectively, of the monitored discharge. All samples shall be taken at the outfall(s), and unless specified, before the effluent joins or is diluted by any other body of water or substance.
  - b. Monitoring results shall be recorded and reported on forms provided by the Department, postmarked no later than the 28th day of the month following the completed reporting period. Signed copies of these, and all other reports required herein, shall be submitted to the respective Department Regional Office, the Regional Office address is indicated in the cover letter transmitting the permit.
2. **Schedule of Compliance**

No later than fourteen (14) calendar days following each date identified in the "Schedule of Compliance", the permittee shall submit to the respective Department Regional Office as required therein, either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements, or if there are no more scheduled requirements, when such noncompliance will be corrected. The Regional Office address is indicated in the cover letter transmitting the permit.
3. **Definitions**

Definitions as set forth in the Missouri Clean Water Law and Missouri Clean Water Commission Definition Regulation 10 CSR 20-2.010 shall apply to terms used herein.
4. **Test Procedures**

Test procedures for the analysis of pollutant shall be in accordance with the Missouri Clean Water Commission Effluent Regulation 10 CSR 20-7015.
5. **Recording of Results**
  - a. For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:
    - (i) the date, exact place, and time of sampling or measurements;
    - (ii) the individual(s) who performed the sampling or measurements;
    - (iii) the date(s) analyses were performed;
    - (iv) the individual(s) who performed the analyses;
    - (v) the analytical techniques or methods used; and
    - (vi) the results of such analyses.
  - b. The Federal Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six (6) months per violation, or both.
  - c. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.
6. **Additional Monitoring by Permittee**

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Monitoring Report Form. Such increased frequency shall also be indicated.

7. **Records Retention**

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recording for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.

**SECTION B - MANAGEMENT REQUIREMENTS**

1. **Change in Discharge**
  - a. All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant not authorized by this permit or any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit.
  - b. Any facility expansions, production increases, or process modifications which will result in new, different, or increased discharges of pollutants shall be reported by submission of a new NPDES application at least sixty (60) days before each such change, or, if they will not violate the effluent limitations specified in the permit, by notice to the Department at least thirty (30) days before such changes.
2. **Noncompliance Notification**
  - a. If, for any reason, the permittee does not comply with or will be unable to comply with any daily maximum effluent limitation specified in this permit, the permittee shall provide the Department with the following information, in writing within five (5) days of becoming aware of such conditions:
    - (i) a description of the discharge and cause of noncompliance, and
    - (ii) the period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.
  - b. Twenty-four hour reporting. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally with 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided with five (5) days of the time the permittee becomes aware of the circumstances. The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.
3. **Facilities Operation**

Permittees shall operate and maintain facilities to comply with the Missouri Clean Water Law and applicable permit conditions. Operators or supervisors of operations at publicly owned or publicly regulated wastewater treatment facilities shall be certified in accordance with 10 CSR 209.020(2) and any other applicable law or regulation. Operators of other wastewater treatment facilities, water contaminant source or point sources, shall, upon request by the Department, demonstrate that wastewater treatment equipment and facilities are effectively operated and maintained by competent personnel.
4. **Adverse Impact**

The permittee shall take all necessary steps to minimize any adverse impact to waters of the state resulting from noncompliance with any effluent limitations specified in this permit or set forth in the Missouri Clean Water Law and Regulations (hereinafter the Law and Regulations), including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

- a. Any bypass or shut down of a wastewater treatment facility and tributary sewer system or any part of such a facility and sewer system that results in a violation of permit limits or conditions is prohibited except:
    - (i) where unavoidable to prevent loss of life, personal injury, or severe property damages; and
    - (ii) where unavoidable excessive storm drainage or runoff would catastrophically damage any facilities or processes necessary for compliance with the effluent limitations and conditions of this permit;
    - (iii) where maintenance is necessary to ensure efficient operation and alternative measures have been taken to maintain effluent quality during the period of maintenance.
  - b. The permittee shall notify the Department in writing of all bypasses or shut down that result in a violation of permit limits or conditions. This section does not excuse any person from liability, unless such relief is otherwise provided by the statute.
6. **Removed Substances**  
Solids, sludges, filter backwash, or any other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutants from entering waters of the state unless permitted by the Law, and a permanent record of the date and time, volume and methods of removal and disposal of such substances shall be maintained by the permittee.
  7. **Power Failures**  
In order to maintain compliance with the effluent limitations and other provisions of this permit, the permittee shall either:
    - a. in accordance with the "Schedule of Compliance", provide an alternative power source sufficient to operate the wastewater control facilities; or,
    - b. if such alternative power source is not in existence, and no date for its implementation appears in the Compliance Schedule, halt or otherwise control production and all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater control facilities.
  8. **Right of Entry**  
For the purpose of inspecting, monitoring, or sampling the point source, water contaminant source, or wastewater treatment facility for compliance with the Clean Water Law and these regulations, authorized representatives of the Department, shall be allowed by the permittee, upon presentation of credentials and at reasonable times;
    - a. to enter upon permittee's premises in which a point source, water contaminant source, or wastewater treatment facility is located or in which any records are required to be kept under terms and conditions of the permit;
    - b. to have access to, or copy, any records required to be kept under terms and conditions of the permit;
    - c. to inspect any monitoring equipment or method required in the permit;
    - d. to inspect any collection, treatment, or discharge facility covered under the permit; and
    - e. to sample any wastewater at any point in the collection system or treatment process.
  9. **Permits Transferable**
    - a. Subject to Section (3) of 10 CSR 20-6.010 an operating permit may be transferred upon submission to the Department of an application to transfer signed by a new owner. Until such time as the permit is officially transferred, the original permittee remains responsible for complying with the terms and conditions of the existing permit.
    - b. The Department, within thirty (30) days of receipt of the application shall notify the new permittee of its intent to revoke and reissue or transfer the permit.
  10. **Availability of Reports**  
Except for data determined to be confidential under Section 308 of the Act, and the Law and Missouri Clean Water Commission Regulation for Public Participation, Hearings and Notice to Governmental Agencies 10 CSR 20-6.020, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department. As required by statute, effluent data shall not be considered confidential. Knowingly making any false statement on any such report shall be subject to the imposition of criminal penalties as provided in Section 204.076 of the Law.
  - a. Subject to compliance with statutory requirements of the Law and Regulations and applicable Court Order, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:
    - (i) violation of any terms or conditions of this permit or the Law;
    - (ii) having obtained this permit by misrepresentation or failure to disclose fully any relevant facts;
    - (iii) a change in any circumstances or conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge, or
    - (iv) any reason set forth in the Law and Regulations.
  - b. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
12. **Permit Modification - Less Stringent Requirements**  
If any permit provisions are based on legal requirements which are lessened or removed, and should no other basis exist for such permit provisions, the permit shall be modified after notice and opportunity for a hearing.
  13. **Civil and Criminal Liability**  
Except as authorized by statute and provided in permit conditions on "Bypassing" (Standard Condition B-5) and "Power Failures" (Standard Condition B-7) nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.
  14. **Oil and Hazardous Substance Liability**  
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act, and the Law and Regulations. Oil and hazardous materials discharges must be reported in compliance with the requirements of the Federal Clean Water Act.
  15. **State Laws**  
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state statute or regulations.
  16. **Property Rights**  
The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of or violation of federal, state or local laws or regulations.
  17. **Duty to Reapply**  
If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for a new permit 180 days prior to expiration of this permit.
  18. **Toxic Pollutants**  
If a toxic effluent standard, prohibition, or schedule of compliance is established, under Section 307(a) of the Federal Clean Water Act for a toxic pollutant in the discharge of permittee's facility and such standard is more stringent than the limitations in the permit, then the more stringent standard, prohibition, or schedule shall be incorporated into the permit as one of its conditions, upon notice to the permittee.
  19. **Signatory Requirement**  
All reports, or information submitted to the Director shall be signed (see 40 CFR-122.6).
  20. **Rights Not Affected**  
Nothing in this permit shall affect the permittee's right to appeal or seek a variance from applicable laws or regulations as allowed by law.
  21. **Severability**  
The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

**STANDARD CONDITIONS FOR NPDES PERMITS  
ISSUED BY  
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES  
MISSOURI CLEAN WATER COMMISSION  
AUGUST 15, 1994**

**PART III – SLUDGE & BIOSOLIDS FROM DOMESTIC WASTEWATER TREATMENT FACILITIES**

**SECTION A – GENERAL REQUIREMENTS**

1. This permit pertains to sludge requirements under the Missouri Clean Water Law and regulation and incorporates applicable federal sludge disposal requirements under 40 CFR 503. The Environmental Protection Agency (EPA) has principal authority for permitting and enforcement of the federal sludge regulations under 40 CFS 503 until such time as Missouri is delegated the new EPA sludge program. EPA has reviewed and accepted these standard sludge conditions. EPA may choose to issue a separate sludge addendum to this permit or a separate federal sludge permit at their discretion to further address federal requirements.
2. These PART III Standard Conditions apply only to sludge and biosolids generated at domestic wastewater treatment facilities, including public owned treatment works (POTW) and privately owned facilities.
3. Sludge and Biosolids Use and Disposal Practices.
  - a. Permittee is authorized to operate the sludge and biosolids treatment, storage, use, and disposal facilities listed in the facility description of this permit.
  - b. Permittee shall not exceed the design sludge volume listed in the facility description and shall not use sludge disposal methods that are not listed in the facility description, without prior approval of the permitting authority.
  - c. Permittee is authorized to operate the storage, treatment or generating sites listed in the Facility Description section of this permit.
  - d. A separate operating permit is required for each operating location where sludge or biosolids are generated, stored, treated, or disposed, unless specifically exempted in this permit or in 10 CSR 20, Chapter 6 regulations. For land application, see section H, subsection 3 of these standard conditions.
4. Sludge Received From Other Facilities
  - a. Permittees may accept domestic wastewater sludge from other facilities including septic tank pumpings from residential sources as long as the design sludge volume is not exceeded and the treatment facility performance is not impaired.
  - b. The permittee shall obtain a signed statement from the sludge generator or hauler that certifies the type and source of the sludge.
  - c. Sludge received from out-of-state generators shall receive prior approval of the permitting authority and shall be listed in the facility description or special conditions section of the permit.
5. These permit requirements do not supersede nor remove liability for compliance with county and other local ordinances.
6. These permit requirements do not supersede nor remove liability for compliance with other environmental regulations such as odor emissions under the Missouri Air Pollution Control Law and regulations.
7. This permit may (after du process) be modified, or alternatively revoked and reissued, to comply with any applicable sludge disposal standard or limitation issued or approved under Section 405(d) of the Clean Water Act or under Chapter 644 RsMo.
8. In addition to the STANDARD CONDITIONS, the department may include sludge limitations in the special conditions portion or other sections of this permit.
9. Alternate Limits in Site Specific Permit.

Where deemed appropriate, the department may require an individual site specific permit in order to authorize alternate limitations:

  - a. An individual permit must be obtained for each operating location, including application sites.
  - b. To request a site specific permit, an individual permit application, permit fees, and supporting documents shall be submitted for each operating location. This shall include a detailed sludge/biosolids management plan or engineering report.
10. Exceptions to these Standard Conditions may be authorized on a case-by-case basis by the department, as follows:
  - a. The department will prepare a permit modification and follow permit public notice provisions as applicable under 10 CSR 20-6.020, 40 CFR 124.10, and 40 CFR 501.15(a)(2)(ix)(E). This includes notification of the owners of property located adjacent to each land application site, where appropriate.
  - b. Exceptions cannot be granted where prohibited by the federal sludge regulations under 40 CFR 503.
11. Compliance Period  
Compliance shall be achieved as expeditiously as possible but no later than the compliance dates under 40 CFR 503.2.

## **SECTION B – DEFINITIONS**

1. Biosolids means an organic fertilizer or soil amendment produced by the treatment of domestic wastewater sludge. Untreated sludge or sludge that does not conform to the pollutants and pathogen treatment requirements in this permit is not considered biosolids.
2. Biosolids land application facility is a facility where biosolids are spread onto the land at agronomic rates for production of food or fiber. The facility includes any structures necessary to store the biosolids until soil, weather, and crop conditions are favorable for land application.
3. Class A biosolids means a material that has met the Class A pathogen reduction requirements or equivalent treatment by a Process to Further Reduce Pathogens (PFRP) in accordance with 40 CFR 503.
4. Class B biosolids means a material that has met the Class B pathogen reduction requirements or equivalent treatment by a Process to Significantly Reduce Pathogens (PFRP) in accordance with 40 CFR 503.
5. Domestic wastewater means wastewater originating from the sanitary conveniences of residences, commercial buildings, factories and institutions; or co-mingled sanitary and industrial wastewater processed by a public owned treatment works (POTW) or privately owned facility.
6. Mechanical treatment plants are wastewater treatment facilities that use mechanical devices to treat wastewater, including septic tanks, extended aeration, activated sludge, contact stabilization, trickling filters, rotating biological discs, and other similar facilities. It does not include unaerated wastewater treatment lagoons and constructed wetlands for wastewater treatment.
7. Operating location as defined in 10 CSR 20-2.010 is all contiguous lands owned, operated or controlled by one (1) person or by two (2) or more persons jointly or as tenants in common.
8. Plant Available Nitrogen (PAN) is the nitrogen that will be available to plants during the next growing season after biosolids application.
9. Sinkhole is a depression in the land surface into which surface water flows to join an underground drainage system.
10. Site Specific Permit is a permit that has alternate limits developed to address specific site conditions for each land application site or storage site.
11. Sludge is the solid, semisolid, or liquid residue removed during the treatment of wastewater. Sludge includes septage removed from septic tanks.
12. Sludge lagoon is an earthen basin that receives sludge that has been removed from a wastewater treatment facility. It does not include a wastewater treatment lagoon or sludge treatment units that are not a part of a mechanical wastewater treatment facility.
13. Wetlands are those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamp, marshes, bogs, and similar areas. Wetlands do not include constructed wetlands used for wastewater treatment.

## **SECTION C – MECHANICAL WASTEWATER TREATMENT FACILITIES**

1. Sludge shall be routinely removed from the wastewater treatment facilities and handled according to the permit facility description and sludge conditions in this permit.
2. The permittee shall operate the facility so that there is no sludge loss into the discharged effluent in excess of permit limits, no sludge bypassing, and no discharge of sludge to waters of the state.
3. Mechanical treatment plants shall have separate sludge storage compartments in accordance with 10 CSR 20, Chapter 8. Failure to remove sludge from these storage compartments on the required design schedule is a violation of this permit.

## **SECTION D – SLUDGE DISPOSED AT OTHER TREATMENT FACILITY OR CONTRACT HAULER**

1. This section applies to permittees that haul sludge to another treatment facility for disposal or use contract haulers to remove and dispose of sludge.
2. Permittees that use contract haulers are responsible for compliance with all the terms of this permit including final disposal, unless the hauler has a separate permit for sludge or biosolids disposal issued by the department; or the hauler transports the sludge to another permitted treatment facility.
3. The permittee shall require documentation from the contractor of the disposal methods used and permits obtained by the contractor.
4. Testing of sludge, other than total solids content, is not required if sludge is hauled to a municipal wastewater treatment facility or other permitted wastewater treatment facility.

## **SECTION E – WASTEWATER TREATMENT LAGOONS AND STORMWATER RETENTION BASINS**

1. Sludge that is retained within a wastewater treatment lagoon is subject to sludge disposal requirements when the sludge is removed from the lagoon or when the lagoon ceases to receive and treat wastewater.
2. If sludge is removed during the year, an annual sludge report must be submitted.
3. Storm water retention basins or other earthen basins, which have been used as sludge storage for a mechanical treatment system is considered a sludge lagoon and must comply with Section G of this permit.

## **SECTION F – INCINERATION OF SLUDGE**

1. Sludge incineration facilities shall comply with the requirements of 40 CFR 503 Subpart E; air pollution control regulations under 10 CSR 10; and solid waste management regulations under 10 CSR 80.
2. Permittee may be authorized under the facility description of this permit to store incineration ash in lagoons or ash ponds. This permit does not authorize the disposal of incineration ash. Incineration ash shall be disposed in accordance with 10 CSR 80; or if the ash is determined to be hazardous waste, shall be disposed in accordance with 10 CSR 25.
3. In addition to normal sludge monitoring, incineration facilities shall report the following as part of the annual report, quantity of sludge incinerated, quantity of ash generated, quantity of ash stored; and ash use or disposal method, quantity, and location. Permittee shall also provide the name of the disposal facility and the applicable permit number.
4. Additional limitations, monitoring, and reporting requirements may be addressed in the Special Conditions sections of this permit.

## **SECTION G – SURFACE DISPOSAL SITES AND SLUDGE LAGOONS**

1. Surface disposal sites shall comply with the requirements in 40 CFR 503 Subpart C, and solid waste disposal regulations under 10 CSR 80.
2. Additional limitations, monitoring, and reporting requirements may be addressed in the Special Conditions section of this permit.
3. Effective February 19, 1995, a sludge lagoon that has been in use for more than two years without removal of accumulated sludge, or that has not been properly closed shall comply with one of the following options:
  - a. Permittee shall obtain a site specific permit to address surface disposal requirements under 40 CFR 503, ground water quality regulations under 10 CSR 20, Chapter 7 and 8, and solid waste management regulations under 10 CSR 80;
  - b. Permittee shall clean out the sludge lagoon to remove any sludge over two years old and shall continue to remove accumulated sludge at least every two years or an alternate schedule approved under 40 CFR 503.20(b). In order to avoid damage to the lagoon seal during cleaning, the permittee may leave a layer of sludge on the bottom of the lagoon, upon prior approval of the department; or
  - c. Permittee shall close the lagoon in accordance with Section 1.

## **SECTION H – LAND APPLICATION**

1. The permittee shall not land apply sludge or biosolids unless land application is authorized in the Facility Description or special conditions section of the permit.
2. This permit replaces and terminates all previous sludge management plan approvals by the department for land application of sludge or biosolids.
3. Land application sites within a 20 mile radius of the wastewater treatment facility are authorized under this permit when biosolids are applied for beneficial use in accordance with these standard conditions unless a site specific permit is required under Section A, Subsection 9.
4. Biosolids shall not be applied unless authorized in this permit or exempted under 10 CSR 20, Chapter 6.
  - a. This permit does not authorize the land application of sludge except when sludge meets the definition of biosolids.
  - b. This permit authorizes “Class A or B” biosolids derived from domestic wastewater sludges to be land applied onto grass land, crop land, timber land or other similar agricultural or silviculture lands at rates suitable for beneficial use as organic fertilizer and soil conditioner.
5. Public Contact Sites.

Permittees who wish to apply Class A biosolids to public contact sites must obtain approval from the department. Applications for approval shall be in the form of an engineering report and shall address priority pollutants and dioxin concentrations. Authorization for land applications must be provided in the special conditions section of this permit or in a separate site-specific permit.

6. Agricultural and Silvicultural Sites.

In addition to specified conditions herein, this permit is subject to the attached Water Quality Guides numbers WQ 422 through 426 published by the University of Missouri, and hereby incorporated as though fully set forth herein. The guide topics are as follows:

WQ 422	Land Application of Septage
WQ 423	Monitoring Requirements for Biosolids Land Application
WQ 424	Biosolids Standards for Pathogens and Vectors
WQ 425	Biosolids Standards for Metals and Other Trace Substances
WQ 426	Best Management Practices for Biosolids Land Applications

### SECTION I – CLOSURE REQUIREMENTS

1. This section applies to all wastewater treatment facilities (mechanical and lagoons) and sludge or biosolids storage and treatment facilities and incineration ash ponds. It does not apply to land application sites.
2. Permittees who plan to cease operation must obtain department approval of a closure plan which addresses proper removal and disposal of all residues, including sludge, biosolids, and ash. Permittee must maintain this permit until the facility is properly closed per 10 CSR 20-6.010 and 10 CSR 20-6.015.
3. Residuals that are left in place during closure of a lagoon or earthen structure shall not exceed the agricultural loading rates as follows:
  - a. Residuals shall meet the monitoring and land application limits for agricultural rates as referenced in Section H of these standard conditions.
  - b. If a wastewater treatment lagoon has been in operation for 15 years or more, the sludge in the lagoon qualifies for Class B with respect to pathogens (see WQ 424, Table 3), and testing for fecal coliform is not required. For other lagoons, testing for fecal coliform is required to show compliance with Class B limitations. See WQ 423 and 424.
  - c. The allowable nitrogen loading that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. See WQ 426 for calculation procedures. For a grass cover crop, the allowable PAN is 300 pounds/acre.
4. When closing a wastewater treatment lagoon with a design treatment capacity equal or less than 150 persons, the residuals are considered “septage” under the similar treatment works” definition. See WQ 422. Under the septage category, residuals may be left in place as follows:
  - a. Testing for metals or fecal coliform is not required.
  - b. If the wastewater treatment lagoon has been in use for less than 15 years, mix lime with the sludge at the rate of 50 pounds of hydrated lime per 1000 gallons (134 cubic feet) of sludge.
  - c. The amount of sludge that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. 100 dry tons/acre of sludge may be left in the basin without testing for nitrogen. If more than 100 dry tons/acre will be left in the lagoon, test for nitrogen and determine the PAN in accordance with WQ 426. Allowable PAN loading is 300 pounds/acre.
5. Residuals left within the lagoon shall be mixed with soil on at least a 1 to 1 ratio, the lagoon berms shall be demolished, and the site shall be graded and vegetated so as to avoid ponding of storm water and provide adequate surface water drainage without creating erosion.
6. Lagoon closure activities shall obtain a storm water permit for land disturbance activities that equal or exceed five acres in accordance with 10 CSR 20-6.200.
7. If sludge exceeds agricultural loading rates under Section H or I, a landfill permit or solid waste disposal permit shall be obtained to authorize on-site sludge disposal under the Missouri Solid Waste Management Law and regulations per 10 CSR 80, and the permittee must comply with the surface disposal requirements under 40 CFR 503, Subpart C.

### SECTION J – MONITORING FREQUENCY

1. At a minimum, sludge or biosolids shall be tested for volume and percent total solids on a frequency that will accurately represent sludge quantities produced and disposed.
2. Testing for land application is listed under Section H, Subsection 6 of these standard conditions (see WQ 423). Once per year is the minimum test frequency. Additional testing shall be performed for each 100 dry tons of sludge generated or stored during the year.
3. Additional testing may be required in the special conditions or other sections of the permit. Permittees receiving industrial wastewater may be required to conduct additional testing upon request from the department.
4. Monitoring requirements shall be performed in accordance with, “POTW Sludge Sampling and Analysis Guidance Document”, United States Environmental Protection Agency, August 1989, and subsequent revisions.

## SECTION K – RECORD KEEPING AND REPORTING REQUIREMENTS

1. The permittee shall maintain records on file at the facility for at least five years for the items listed in these Standard Conditions and any additional items in the Special Conditions section of this permit. This shall include dates when the sludge facility is checked for proper operation, records of maintenance and repairs and other relevant information.
2. Reporting Period
  - a. By January 28<sup>th</sup> of each year, an annual report shall be submitted for the previous calendar year period for all mechanical wastewater treatment facilities, sludge lagoons, and sludge or biosolids disposal facilities.
  - b. Permittees with wastewater treatment lagoons shall submit the above annual report only when sludge or biosolids are removed from the lagoon during the report period or when the lagoon is closed.
3. Report Forms. The annual report shall be submitted on report forms provided by the department or equivalent forms approved by the department.
4. Report shall be submitted as follows:  
Major facilities (those serving 10,000 persons or 1 million gallons per day) shall report to both the department and EPA. Other facilities need to report only to the department. Reports shall be submitted to the addresses listed as follows:

DNR regional office listed in your permit  
(See cover letter of permit)

EPA Region VII  
Water Compliance Branch (WACM)  
Sludge Coordinator  
901 N 5<sup>th</sup> Street  
Kansas City, KS 66101

5. Annual Report Contents. The annual report shall include the following:
  - a. Sludge/biosolids testing performed. Include a copy or summary of all test results, even if not required by this permit.
  - b. Sludge or Biosolids quantity shall be reported as dry tons for quantity generated by the wastewater treatment facility, the quantity stored on site at end of year, and the quantity used or disposed.
  - c. Gallons and % solids data used to calculate the dry ton amounts.
  - d. Description of any unusual operating conditions.
  - e. Final disposal method, dates, and location, and person responsible for hauling and disposal.
    - (1) This must include the name, address and permit number for the hauler and the sludge facility. If hauled to a municipal wastewater treatment facility, sanitary landfill, or other approved treatment facility, give the name and permit number of that facility.
    - (2) Include a description of the type of hauling equipment used and the capacity in tons, gallons, or cubic feet.
  - f. Contract Hauler Activities.  
If contract hauler, provide a copy of a signed contract or billing receipts from the contractor. Permittee shall require the contractor to supply information required under this permit for which the contractor is responsible. The permittee shall submit a signed statement from the contractor that he has complied with the standards contained in this permit, unless the contract hauler has a separate sludge disposal or biosolids use permit.
  - g. Land Application Sites.
    - (1) Report the location of each application site, the annual and cumulative dry tons/acre for each site, and the landowners name and address. The location for each spreading site shall be given as legal description for nearest ¼, ¼, Section, Township, Range, and County, or as latitude and longitude.
    - (2) If biosolids application exceeds 2 dry tons/acre/year, report biosolids nitrogen results. Plant Available Nitrogen (PAN) in pounds/acre, crop nitrogen requirement, available nitrogen in the soil prior to biosolids application, and PAN calculations for each site.
    - (3) If the “Low Metals” criteria is exceeded, report the annual and cumulative pollutant loading rates in pounds per acre for each applicable pollutant, and report the percent of cumulative loading which has been reached at each site.
    - (4) Report the method used for compliance with pathogen and vector attraction requirements.
    - (5) Report soil test results for pH, CEC, and phosphorus. If none was tested during the year, report the last date when tested and results.



MISSOURI DEPARTMENT OF NATURAL RESOURCES  
 WATER PROTECTION PROGRAM, WATER POLLUTION BRANCH  
 APPLICATION FOR TRANSFER OF OPERATING PERMIT

MO 0137090

RECEIVED

FOR AGENCY USE ONLY

CHECK NO. 7318  
 DATE RECEIVED 3/15/14 FEE SUBMITTED \$100.0088

PERMIT NUMBER #MO- Water Protection Program

THE FOLLOWING ITEMS (1 - 4) ARE TO BE COMPLETED BY THE CURRENT OWNER. SEE INSTRUCTIONS FOR APPROPRIATE FEE TO BE SUBMITTED WITH APPLICATION.

1. FACILITY

NAME BRADEN PARK LLC TELEPHONE NUMBER WITH AREA CODE 660.619.0374  
 ADDRESS (PHYSICAL) 18509 BRADEN RD. CITY WARSAW STATE MO ZIP 65355

2. CURRENT OWNER

NAME LYNN SHAFER EMAIL ADDRESS FLSHAFFER@I.LAND.NET TELEPHONE NUMBER WITH AREA CODE 660.619.0374  
 ADDRESS 25250 SUNFLOWER RD. CITY SEDALIA STATE MO ZIP 65301

3. CONTINUING AUTHORITY: Permanent organization that will serve as the continuing authority for the operation, maintenance and modernization of the facility. (If same as current owner, respond "same")

NAME Braden Park Village - Lynn Shafer EMAIL ADDRESS FLSHAFFER@I.LAND.NET TELEPHONE NUMBER WITH AREA CODE 660.619.0374  
 ADDRESS 25250 SUNFLOWER RD. CITY SEDALIA STATE MO ZIP 65301

4. CERTIFICATION

I certify I am familiar with the information contained in the application, that to the best of my knowledge and belief such information is true, complete and accurate, and upon transfer approval, I agree to abide by the Missouri Clean Water Law and all rules, regulations, orders and decisions, subject to any legitimate appeal available under the Missouri Clean Water Law. Further, I certify I have read the existing permit and agree to abide by the terms and conditions once the transfer is complete.

NAME (TYPE OR PRINT) LYNN O. SHAFER OFFICIAL TITLE OWNER TELEPHONE NUMBER WITH AREA CODE 660.619.0374  
 SIGNATURE [Signature] DATE SIGNED 3/8/2016

THE FOLLOWING ITEMS (5 - 10) WILL APPLY AFTER THE COMPLETION OF TRANSFER (SALE) AND ARE TO BE COMPLETED BY THE APPLICANT FOR TRANSFER OF OPERATING PERMIT (BUYER) OR AUTHORIZED AGENT.

5. FACILITY (IF DIFFERENT THAN ABOVE)

NAME TELEPHONE NUMBER WITH AREA CODE

6. FUTURE OWNER

NAME L+F LLC EMAIL ADDRESS lukeb@reese-nichols.com TELEPHONE NUMBER WITH AREA CODE 660.438.7228  
 ADDRESS 18889 Cedar Gate Dr. CITY Warsaw STATE MO ZIP 65355

7. CONTINUING AUTHORITY: Permanent organization that will serve as the continuing authority for the operation, maintenance and modernization of the facility. (If same as future owner, respond "same")

NAME SAME EMAIL ADDRESS TELEPHONE NUMBER WITH AREA CODE  
 ADDRESS CITY STATE ZIP

8. FACILITY CONTACT

NAME Brandon Martin TITLE Mgr TELEPHONE NUMBER WITH AREA CODE 660.438.7228  
 EMAIL ADDRESS brandon.martin@reese-nichols.com  
 ADDRESS 18889 Cedar Gate Dr. CITY Warsaw STATE MO ZIP 65355

9. ADDITIONAL INFORMATION

9.1 Anticipated Effective Date of Transfer of Ownership: 3-1-16  
 9.2 Are any changes in production, in raw materials, or in the quantity of discharges from this facility planned or anticipated?  
 Yes  No If yes, explain (Attach sheets as necessary)

10. CERTIFICATION

I certify I am familiar with the information contained in the application, that to the best of my knowledge and belief such information is true, complete and accurate, and upon transfer approval, I agree to abide by the Missouri Clean Water Law and all rules, regulations, orders and decisions, subject to any legitimate appeal available under the Missouri Clean Water Law. Further, I certify I have read the existing permit and agree to abide by the terms and conditions once the transfer is complete.

NAME (TYPE OR PRINT) Luke Berman OFFICIAL TITLE L+F LLC - Partner/Owner TELEPHONE NUMBER WITH AREA CODE 660.438.7228  
 SIGNATURE [Signature] DATE SIGNED 3-11-16

## INSTRUCTIONS FOR COMPLETING APPLICATION FOR TRANSFER OF OPERATING PERMIT

All blanks must be filled in when the application is submitted to the Missouri Department of Natural Resources. This includes **BOTH** required signatures. Current permittee (present owner/seller) is to complete items 1 – 4. Applicant for transfer of operating permit (future owner/buyer) is to complete items 5 – 10.

Department of Natural Resources regulation 10 CSR 20-6.010 (11) governs the transfer of NPDES permits. Until such time as the permit is officially transferred, the current permittee remains responsible for complying with the terms and conditions of the existing permit. The department, within 30 days of receipt of this application, shall notify the new applicant of its intent to revoke and reissue or transfer the permit.

Signatures - All applications must be signed as follows and the signatures must be **original**:

- a. For a corporation, by an officer having responsibility for the overall operation of the regulated facility or activity or for environmental matters.
- b. For a partnership or sole proprietorship, by a general partner or the proprietor.
- c. For a municipal, state, federal or other public facility, by either a principal executive officer or by an individual having overall responsibility for environmental matters at the facility.

Permit modifications, including transfers, are subject to the following fees;

Municipals – \$200 each

All others – \$100 each

Note: Business name and address changes where owner and continuing authority remain the same are not considered transfers.

**Submittal of an incomplete application may result in the application being returned.**

This completed form and any attachments along with the applicable permit fees, should be submitted to:

Department of Natural Resources  
Water Protection Program  
ATTN: Operating Permits Section  
P.O. Box 176  
Jefferson City, MO 65102

Map of regional offices with addresses and phone numbers are available on the Web at [www.dnr.mo.gov/regions/ro-map.pdf](http://www.dnr.mo.gov/regions/ro-map.pdf). If there are any questions concerning this form, contact the appropriate regional office or the Department of Natural Resources, Water Protection Program, NPDES Permits and Engineering Section at 800-361-4827 or 573-751-6825.