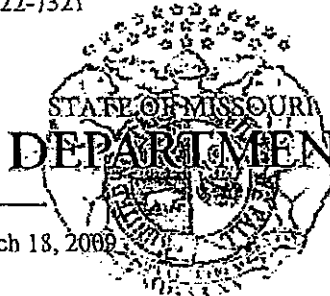


Franklin County (WP)  
Stonewater Subdivision  
Collection & Treatment  
CP #22-7321

**EXHIBIT F**

Electronic copy  
of letterhead



Jeremiah W. (Jay) Nixon, Governor . Mark A. Templeton, Acting Director

**DEPARTMENT OF NATURAL RESOURCES**

March 18, 2009

[www.dnr.mo.gov](http://www.dnr.mo.gov)

Mr. Brad Ferguson  
612 Windy Ridge Drive  
Washington, MO 63090

Dear Mr. Ferguson:

Plans and specifications submitted by Buescher Ditch & Associates for a sewer extension and wastewater works to serve Stonewater Subdivision in Franklin County, Missouri, have been reviewed and approved by the Missouri Department of Natural Resources, as evidenced by Construction Permit Number 22-7321, which is enclosed with this letter. This permit authorizes construction of the facilities described on the permit and is issued in accordance with regulations of the Clean Water Commission. Approval of the Department of Natural Resources must be obtained prior to making any changes in the plans and specifications for the work described in the permit. This permit will terminate by its own terms one year from the date of issuance unless justification is presented for extension at least 30 days prior to expiration. The applicant must contact the Water Protection Program, the Air Pollution Control Program, the Solid Waste Management Program, and the Land Reclamation Program, to apply for, and obtain any necessary permits for this facility as required by laws and regulations administered by those programs.

If you were affected by this decision, you may appeal to have the matter heard by the administrative hearing commission. To appeal, you must file a petition with the administrative hearing commission within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered or certified mail, it will be deemed filed on the date it is received by the administrative hearing commission.

RECOMMENDATIONS: See enclosed Missouri Department of Natural Resources Regulation 10 CSR 20-8.120(11).

COMMENT: Construction of any new water facility or water line extension requires a separate construction permit from the Drinking Water Branch, P.O. Box 176, Jefferson City, MO 65102, (573) 751-5331.

If you have any questions about this permit, please call the St. Louis Regional Office at (314) 416-2960 or by mail to 7545 S. Lindbergh Blvd., Suite 210, St. Louis, MO 63125.

Sincerely,

ST. LOUIS REGIONAL OFFICE

Handwritten signature of Mike Struckhoff in black ink.

Mike Struckhoff  
Regional Director

MS/AA/jh  
AA  
Enclosure

c: Buescher Ditch & Associates  
Franklin County Bldg. Commission  
✓ Wunderlich Surveying & Engineering (w/enclosures)  
Franklin County PWS #1



STATE OF MISSOURI  
DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION



Permit No. 22-7321  
Franklin County (WP)  
Stonewater Subdivision  
Collection & Treatment

## CONSTRUCTION PERMIT

The Missouri Department of Natural Resources hereby issues a permit to:

Mr. Brad Ferguson, 612 Windy Ridge Drive, Washington, MO 63090

For the construction of (described facilities):

See Page Two

Permit Conditions:

See Pages Two & Three

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Construction of such proposed facilities shall be in accordance with the provisions of the Missouri Clean Water Law, Chapter 644, RSMo, and regulation promulgated thereunder, or this permit may be revoked by the Department of Natural Resources.

As the Department of Natural Resources does not examine structural features of design or the efficiency of mechanical equipment, the issuance of this permit does not include approval of these features.

A representative of the department may inspect the work covered by this permit during construction. Issuance of a Permit to Operate by the department will be contingent on the work substantially adhering to the approved plans and specifications.


This permit applies only to the construction of water pollution control components; it does not apply to other environmentally regulated areas.

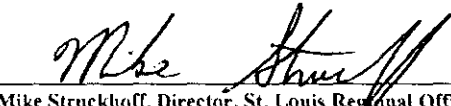
March 18, 2009

Effective Date

March 17, 2010

Expiration Date

  
Mark N. Templeton, Acting Director, Department of Natural Resources

  
Mike Struckhoff, Director, St. Louis Regional Office

AA

For the construction of:

5715 lineal feet of 8-inch pvc pipe, a recirculating sand filter treatment facility, a four chamber septic tank with a total effective volume of approximately 30,000 gallons, a recirculation tank with a minimum volume of 10,000 gallons between the low water level (stinger seat) and the high water "on" switch (recirculation volume is contained in four tanks in series), a dosing timer, six 3/4 HP Orenco Model P5007 effluent pumps, each having a capacity of 40 GPM at a TDH of 66 feet, a sand filter with a surface area of 3600 square feet, 24-inches of filter media, flow splitter, Trojan System Model UV 3025 ultraviolet disinfection unit, 37 lineal feet of 4-inch pvc discharge pipe and all the necessary appurtenances to make the facilities complete and usable to collect and treat the waste from a population equivalent of 175, with an average daily discharge of 17,500 gallons. The collection system will serve 47 single-family residential lots. This facility will discharge to an Unnamed Tributary to St. Johns Creek in the SW 1/4, of the SE 1/4, of the SE 1/4, of Section 20, T44N, R1W, Franklin County, Missouri. (MO-0133205)

Permit Conditions:

The filter media used in the sand filter shall meet the project specifications. If a media other than WB-40 from Winter Brothers Material Company is used then a sieve analysis must be conducted prior to delivery of media. The project engineer must approve the media used. The Department requires the media to have an effective size between 1.0 and 3.0 mm, with a uniformity coefficient less than 3.0.

The sewers and treatment facility described in this permit shall not be placed into service until a Missouri State Operating Permit is issued for this treatment facility.

The following items must be submitted to the St. Louis Regional Office for issuance of the Missouri State Operating Permit:

1. A complete application Form B (form enclosed).
2. The first annual fee of \$800.00. The fee is set in accordance with 10 CSR 20-6.011; future annual fees will be due on the anniversary date of the permit.
3. An engineer's certification. This must be submitted in accordance with 10 CSR 20-6.010(5)(D); a form is enclosed.
4. Copy of the deed(s) showing Stonewater Sewer & Water Association, Inc., as owner of the treatment plant and easements.
5. Copy of the signed and recorded covenants of Stonewater Sewer & Water Association, Inc.

In addition to the requirements for a construction permit, land disturbance activities of one acre or more requires a Missouri State Operating Permit to discharge storm water (10 CSR 20-6.200). The permit requires Best Management Practices sufficient to control runoff and sedimentation to protect waters of the state. To obtain this permit, submit Missouri Forms E and G and a permit fee of \$300 to the Missouri Department of Natural Resources, St. Louis Regional Office, Permits Section, 7545 S. Lindbergh Blvd., Suite 210, St. Louis, MO 63125.

Franklin County (WP)  
Stonewater Subdivision  
Collection & Treatment  
CP #22-7321  
March 18, 2009  
Page Three

Permit Conditions (continued):

A U.S. Army Corps of Engineers permit (404) or permit waiver and a Water Quality Certification (401) issued by the Department of Natural Resources or permit waiver may be required for the activities described in this permit. This permit is not valid until these requirements are satisfied. If construction activity will disturb any land below the ordinary high water mark of Jurisdictional Waters of the U.S. then a 404/401 will be required. Since the U.S. Army Corps of Engineers (COE) makes determinations on what is jurisdictional, you must contact the COE to determine permitting requirements. You may call the Water Pollution Branch/Certification Unit at (573) 751-1404 or the Department of Natural Resources' St. Louis Regional Office at (314) 416-2960 for more information.

AA/jh  
AA

# Missouri Department of Natural Resources



## PUBLIC NOTICE

DRAFT MISSOURI STATE OPERATING PERMIT **RECEIVED FEB 09 2009**

DATE: February 6, 2009

In accordance with the state Clean Water Law, Chapter 644, RSMo, Clean Water Commission regulation 10 CSR 20-6.010, and the federal Clean Water Act, the applicants listed herein have applied for authorization to either discharge to waters of the state or to operate a no-discharge wastewater treatment facility. The proposed permits for these operations are consistent with applicable water quality standards, effluent standards and/or treatment requirements or suitable timetables to meet these requirements (see 10 CSR 20-7.015 and 7.031). All permits will be issued for a period of five years, unless noted otherwise in the Public Notice for that discharge.

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

Persons wishing to comment on the proposed permit conditions are invited to submit them in writing to the Department of Natural Resources, St. Louis Regional Office, 7545 South Lindbergh, Suite 210, St. Louis, Missouri 63125, ATTN: Donna Riebeling/ Permit comments. **Please include the permit number in all comment letters.**

Comments should be confined to the issues relating to the proposed action and permit(s) and the effect on water quality. The MDNR may not consider as relevant comments or objections to a permit based on issues outside the authority of the Clean Water Commission, (see Curdt v. Mo. Clean Water Commission, 586 S.W.2d 58 Mo. App. 1979).

All comments must be postmarked by March 8, 2009 or received in our office by 5:00 p.m. on March 11, 2009. Comments will be considered in the formulation of all final determinations regarding the applications. If response to this notice indicates significant public interest, a public meeting or hearing may be held after due notice for the purpose of receiving public comment on the proposed permit or determination. Public hearings and/or issuance of the permit will be conducted or processed according to 10 CSR 20-6.020.

Copies of all draft permits and other information including copies of applicable regulations are available for inspection and copying at DNR's website, <http://www.dnr.mo.gov/env/wpp/index.html>, or at the Department of Natural Resources, St. Louis Regional Office, 7545 S. Lindbergh, Suite 210, St. Louis, Missouri 63125, between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday.

Public Notice Date: February 6, 2009

Permit Number: MO-0133205

St. Louis Regional Office

Owner:	Stonewater Sewer & Water Association, L.L.C.
Address:	109 North Oak Street, Union, MO 63084
Continuing Authority:	Same as above
Address:	Same as above
Facility Name:	Stonewater Subdivision
Facility Address:	Stonewater Drive, Washington, MO 63090
Legal Description:	SW¼, SE¼, SE¼, Sec. 20, T44N, R1W, Franklin County
Latitude/Longitude:	+3832449/-09102541
Receiving Stream:	Unnamed Tributary to St. Johns Creek (U)
First Classified Stream and ID:	St. Johns Creek (P) (01678)
USGS Basin & Sub-watershed No.:	(10300200-110002)

**TYPE OF DISCHARGE**

Domestic (new)

Mr. Bradley Ferguson, has applied for a construction permit to install a sewage treatment plant with a design flow of 17,500 GPD. The proposed treatment plant is a recirculating sand filter followed by ultraviolet disinfection. The treatment plant is to serve Stonewater Subdivision, a proposed new subdivision with 47 single family homes located off Holtgrewe Road. The proposed discharge location is near the southwest corner boundary of Stonewater Subdivision. Effluent limits for the new facility have been established by a Water Quality Review Sheet completed by the Water Pollution Control Branch 1-3-06, and a fact sheet 1-27-09.

This proposed facility was placed on public notice on 8-31-2006. Comments were received and Mr. Ferguson also explored connection to the City of Washington as well as other subdivision lot densities. Mr. Ferguson desires to pursue the original design with 47 lots. The proposed permit is hereby being placed on public notice again because of minor changes to the original draft permit.

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-0133205

Owner: Stonewater Sewer & Water Association, L.L.C.  
Address: 109 North Oak Street, Union, MO 63084

Continuing Authority: Same as above  
Address: Same as above

Facility Name: Stonewater Subdivision  
Facility Address: Stonewater Drive, Washington, MO 63090

Legal Description: SW¼, SE¼, SE¼, Sec. 20, T44N, R1W, Franklin County  
Latitude/Longitude: +3832449/-09102541 (estimated)

Receiving Stream: Unnamed Tributary to St. Johns Creek (U)  
First Classified Stream and ID: St. Johns Creek (P) (01678)  
USGS Basin & Sub-watershed No.: (10300200-110002)

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 - Subdivision - SIC # 4952  
Septic tank/recirculating sand filter/ultraviolet disinfection/sludge disposal by contract hauler.  
Design population equivalent is 175.  
Design flow is 17,500 gallons per day.  
Design sludge production is 1.2 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 RSMo Section 644.051.6 and 621.250, 10 CSR 20-6.020, and 10 CSR 20-1.020.

Effective Date

Joseph P. Bindbeutel, Acting Director, Department of Natural Resources

Expiration Date

Mike Struckhoff, Director, St. Louis Regional Office

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

PAGE NUMBER 2 of 4

PERMIT NUMBER MO-0133205

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
<u>Outfall #001</u>						
Flow	MGD	*		*	once/month	24 hr. estimate
Biochemical Oxygen Demand <sup>**</sup>	mg/L		45	30	once/quarter <sup>***</sup>	grab
Total Suspended Solids <sup>**</sup>	mg/L		45	30	once/quarter <sup>***</sup>	grab
pH - Units	SU	****		****	once/quarter <sup>***</sup>	grab
Ammonia as N (May 1 - Oct 31)	mg/L	3.7		1.4	once/quarter <sup>***</sup>	grab
(Nov 1 - April 30)		7.5		2.9		
Temperature	°C	*		*	once/quarter <sup>***</sup>	grab
Fecal Coliform (Note 1)	#/100 ml	1000		400	once/quarter <sup>***</sup>	grab

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

**B. STANDARD CONDITIONS**

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

MO 780-0010 (8/91)

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

- \* Monitoring requirement only.
- \*\* This facility is required to meet a removal efficiency of 85% or more.
- \*\*\* See table below for quarterly sampling.
- \*\*\*\* pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.0-9.0 pH units.

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

Note 1 - Final limitations and monitoring requirements for Fecal Coliform are applicable only during the recreational season from April 1 through October 31. The Monthly Average Limit for Fecal coliform is expressed as a geometric mean.



D. SPECIAL CONDITIONS

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

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

2. All outfalls must be clearly marked in the field.
3. Permittee will cease discharge by connection to area-wide wastewater treatment system within 90 days of notice of its availability.
4. 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.
5. Report as no-discharge when a discharge does not occur during the report period.
  6. Water Quality Standards
    - (a) Discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
    - (b) General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
      - (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
      - (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
      - (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
      - (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
      - (5) There shall be no significant human health hazard from incidental contact with the water;
      - (6) There shall be no acute toxicity to livestock or wildlife watering;
      - (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
      - (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.

D. SPECIAL CONDITIONS (continued)

7. Sludge and Biosolids Use For Domestic Wastewater Treatment Facilities
  - (a) Permittee shall comply with the pollutant limitations, monitoring, reporting, and other requirements in accordance with the attached permit Standard Conditions.
  - (b) If sludge is not removed by a contract hauler, permittee is authorized to land apply biosolids. Permit Standard Conditions, Part III shall apply to the land application of biosolids. Permittee shall notify the department at least 180 days prior to the planned removal of biosolids. The department may require submittal of a biosolids management plan for department review and approval as determined appropriate on a case-by-case basis.
  
8. The permittee shall comply with any applicable requirements listed in 10 CSR 20-8 and 10 CSR 20-9, unless the facility has received written notification that the Department has approved a modification to the requirements. The monitoring frequencies contained in this permit shall not be construed by the permittee as a modification of the monitoring frequencies listed in 10 CSR 20-9. If a modification of the monitoring frequencies listed in 10 CSR 20-9 is needed, the permittee shall submit a written request to the department for review and, if deemed necessary, approval.

DRAFT

**Missouri Department of Natural Resources  
FACT SHEET  
FOR THE PURPOSE OF NEW FACILITY  
MO-0133205  
STONEWATER SUBDIVISION**

The Federal Water Pollution Control Act ("Clean Water Act" Section 402 Public Law 92-500 as amended) established the National Pollution Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States, and the release of storm water from certain point sources. All such discharges are unlawful without a permit (Section 301 of the "Clean Water Act"). After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful. Missouri State Operating Permits (MSOPs) are issued by the Director of the Missouri Department of Natural Resources (department) under an approved program, operating in accordance with federal and state laws (Federal "Clean Water Act" and "Missouri Clean Water Law" Section 644 as amended). MSOPs are issued for a period of five (5) years unless otherwise specified.

As per [40 CFR Part 124.8(a)] and [10 CSR 20-6.020(1)2.] a Factsheet shall be prepared to give pertinent information regarding the applicable regulations, rationale for the development of effluent limitations and conditions, and the public participation process for the Missouri State Operating Permit (operating permit) listed below.

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

This Factsheet is for a Major , Minor , Industrial Facility ; Variance ;  
Master General Permit ; General Permit Covered Facility ; and/or permit with widespread public interest .

**Part I – Facility Information**

Facility Type: NON-POTW  
Facility SIC Code(s): 4952

**Facility Description:**

Septic tank/recirculating sand filter/ultraviolet disinfection/sludge disposal by contract hauler.  
Design population equivalent is 175.  
Design flow is 17,500 gallons per day.  
Design sludge production is 1.2 dry tons/year.

Application Date: 7-13-2006  
Expiration Date:  
Last Inspection: NA new proposed facility

**OUTFALL(S) TABLE:**

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE	DISTANCE TO CLASSIFIED SEGMENT (MI)
#001	0.027	Secondary	Domestic wastewater	1.2

Outfall #001

Legal Description: SW¼, SE¼, SE¼, Sec. 20, T44N, R1W, Franklin County  
Latitude/Longitude: +3832449/-09102541 (estimated)

Receiving Stream: Unnamed Tributary to St. Johns Creek (U)  
First Classified Stream and ID: St. Johns Creek (P) (01678)  
USGS Basin & Sub-watershed No.: (10300200-110002)

Water Quality History:

none, new facility

Comments:

Mr. Bradley Ferguson, has applied for a construction permit to install a sewage treatment plant with a design flow of 17,500 GPD. For this development, Mr. Ferguson is in a partnership with Mr. Tony Bequette. The proposed treatment plant is a recirculating sand filter followed by ultraviolet disinfection. The treatment plant is to serve Stonewater Subdivision, a proposed new subdivision with 47 single family homes located off Holtgrewe Road. The proposed discharge location is near the southwest corner boundary of Stonewater Subdivision. Effluent limits for the new facility have been established by a Water Quality Review Sheet completed by the Water Pollution Control Branch 1-3-06.

This proposed facility was placed on public notice on 8-31-2006. Comments were received and Mr. Ferguson also explored connection to the City of Washington as well as other subdivision lot densities. Mr. Ferguson desires to pursue the original design with 47 lots. The proposed permit is hereby being placed on public notice again because of minor changes to the original draft permit.

**Part II – Operator Certification Requirements**

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

**Part III – Receiving Stream Information**

**APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:**

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

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

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

**RECEIVING STREAM(S) TABLE:**

WATERBODY NAME	CLASS	WBID	DESIGNATED USES*	8-DIGIT HUC	EDU**
Unnamed Tributary to St. Johns Creek	U		General Criteria	10300200	Ozark/ Moreau/ Loutre
St. Johns Creek	P	01678	LWW, AQL, WBC***		

\* - Irrigation (IRR), Livestock & Wildlife Watering (LWW), Protection of Warm Water Aquatic Life and Human Health-Fish Consumption (AQL), Cool Water Fishery(CLF), Cold Water Fishery (CDF), Whole Body Contact Recreation (WBC), Secondary Contact Recreation (SCR), Drinking Water Supply (DWS), Industrial (IND), Groundwater (GRW).

\*\* - Ecological Drainage Unit

\*\*\* - UAA has not been conducted.

**RECEIVING STREAM(S) LOW-FLOW VALUES TABLE:**

RECEIVING STREAM (U, C, P)	LOW-FLOW VALUES (CFS)		
	1Q10	7Q10	30Q10
Unnamed Tributary to St. Johns Creek (U)	0	0	

Mixing Zone: Not Allowed [10 CSR 20-7.031(4)(A)4.B.(I)(a)].

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

**RECEIVING STREAM MONITORING REQUIREMENTS:**

No receiving water monitoring requirements recommended at this time.

**Part IV – Rationale and Derivation of Effluent Limitations & Permit Conditions****ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:**

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

Not Applicable ;

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

**ANTIDEGRADATION:**

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

- As per [10 CSR 20-7.031(2)(D)], the three (3) levels of protection provided by the antidegradation policy in subsections (A), (B), and (C) of this section shall be implemented according to procedures developed by the department. On April 20, 2007, the Missouri Clean Water Commission approved *Missouri Antidegradation Rule and Implementation Procedure* (Antidegradation Rule), which is applicable to new or upgraded/expanded facilities. The implementation of the Antidegradation Rule will be implemented upon promulgation, which occurred on August 31, 2008. This application was received July 13, 2006.

**BIO-SOLIDS, SLUDGE, & SEWAGE SLUDGE:**

Bio-solids are solid materials resulting from wastewater treatment that meet federal and state criteria for beneficial uses (i.e. fertilizer). Sludge is any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility or any other such waste having similar characteristics and effect. Sewage sludge is solids, semi-solids, or liquid residue generated during the treatment of domestic sewage in a treatment works; including but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works.

Not Applicable ;

This condition is not applicable to the permittee for this specific facility.

**REASONABLE POTENTIAL ANALYSIS (RPA):**

Federal regulation [40 CFR Part 122.44(d)(1)(i)] requires effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause or contribute to an in-stream excursion above narrative or numeric water quality standard.

Not Applicable ;

A RPA was not conducted for this facility.

**REMOVAL EFFICIENCY:**

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

Not Applicable ;

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

**SANITARY SEWER OVERFLOWS (SSOs), AND INFLOW & INFILTRATION (I&I):**

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

Not Applicable ;

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

**STORM WATER POLLUTION PREVENTION PLAN (SWPPP):**

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

Not Applicable ;

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

**WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:**

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

Applicable ;

Wasteload allocations were calculated where applicable using water quality criteria or water quality model results and the dilution equation below:

$$C = \frac{(C_s \times Q_s) + (C_e \times Q_e)}{(Q_e + Q_s)} \quad (\text{EPA/505/2-90-001, Section 4.5.5})$$

Where C = downstream concentration

Cs = upstream concentration

Qs = upstream flow

Ce = effluent concentration

Qe = effluent flow

Chronic wasteload allocations were determined using applicable chronic water quality criteria (CCC: criteria continuous concentration) and stream volume of flow at the edge of the mixing zone (MZ). Acute wasteload allocations were determined using applicable water quality criteria (CMC: criteria maximum concentration) and stream volume of flow at the edge of the zone of initial dilution (ZID).

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).

**WLA MODELING:**

There are two general types of effluent limitations, technology-based effluent limits (TBELs) and water quality based effluent limits (WQBELs). If TBELs do not provide adequate protection for the receiving waters, then WQBEL must be used.

Not Applicable ;

A WLA study was either not submitted or determined not applicable by department staff.

**WHOLE EFFLUENT TOXICITY (WET) TEST:**

A WET test is a quantifiable method of determining if a discharge from a facility may be causing toxicity to aquatic life by itself, in combination with or through synergistic responses when mixed with receiving stream water.

Not Applicable ;

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

**303(d) LIST & TOTAL MAXIMUM DAILY LOAD (TMDL):**

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

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

Not Applicable ;

This facility does not discharge to a 303(d) listed stream.

## Part V – Effluent Limits Determination

### Outfall #001 – Main Facility Outfall

#### EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	GPD	I	*		*	NEW PERMIT	NA
BOD <sub>5</sub>	MG/L	I		45	30	"	"
TSS	MG/L	I		45	30	"	"
PH	SU	I	6-9			"	"
TEMPERATURE	°C	I/5	*		*	"	"
AMMONIA AS N (MAY 1 – OCT 31)	MG/L	2/3/5	3.7		1.4	"	"
AMMONIA AS N (NOV 1 – APR 30)	MG/L	2/3/5	7.5		2.9	"	"
ESCHERICHIA COLI	**	1/2	Please see Escherichia Coli (E. coli) in the Derivation and Discussion Section below.				
FECAL COLIFORM	**	1/2	1000		400	"	"
MONITORING FREQUENCY	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

\* - Monitoring requirement only

\*\* - # of colonies/100mL; the Monthly Average for Fecal Coliform is a geometric mean.

\*\*\* - Parameter not previously established in previous state operating permit.

N/A – Not applicable

#### Basis for Limitations Codes:

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

#### OUTFALL #001 – DERIVATION AND DISCUSSION OF LIMITS:

- **Flow.** In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the department, which may require the submittal of an operating permit modification.
- **Biochemical Oxygen Demand (BOD<sub>5</sub>).** 45 mg/L as a Weekly Average and 30 mg/L as a Monthly Average. Please see the APPLICABLE DESIGNATION OF WATERS OF THE STATE sub-section of the Receiving Stream Information.
- **Total Suspended Solids (TSS).** 45 mg/L as a Weekly Average and 30 mg/L as a Monthly Average. Please see the APPLICABLE DESIGNATION OF WATERS OF THE STATE sub-section of the Receiving Stream Information.
- **pH.** Effluent limitations have been retained from previous state operating permit, please see the APPLICABLE DESIGNATION OF WATERS OF THE STATE sub-section of the Receiving Stream Information.
- **Temperature.** Monitoring requirement due to the toxicity of Ammonia varies by temperature.



**Total Ammonia Nitrogen.** Early Life Stages Present Total Ammonia Nitrogen criteria apply [10 CSR 20-7.031(4)(B)7.C. & Table B3]. No mixing considerations allowed; therefore, WLA = appropriate criterion.

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

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

Summer

Chronic WLA:  $C_c = ((0.027 + 0.0)1.5 - (0.0 * 0.01))/0.027$   
 $C_c = 1.5 \text{ mg/L}$

Acute WLA:  $C_c = ((0.027 + 0.0)12.1 - (0.0 * 0.01))/0.027$   
 $C_c = 12.1 \text{ mg/L}$

$LTA_c = 1.5 \text{ mg/L} (0.780) = 1.2 \text{ mg/L}$   
 $LTA_a = 12.1 \text{ mg/L} (0.321) = 3.9 \text{ mg/L}$

[CV = 0.6, 99<sup>th</sup> Percentile, 30 day avg.]  
 [CV = 0.6, 99<sup>th</sup> Percentile]

Use most protective number of  $LTA_c$  or  $LTA_a$ .

MDL =  $1.2 \text{ mg/L} (3.11) = 3.7 \text{ mg/L}$   
 AML =  $1.2 \text{ mg/L} (1.19) = 1.4 \text{ mg/L}$

[CV = 0.6, 99<sup>th</sup> Percentile]  
 [CV = 0.6, 95<sup>th</sup> Percentile, n = 30]

Winter

Chronic WLA:  $C_c = ((0.027 + 0.0)3.1 - (0.0 * 0.01))/0.027$   
 $C_c = 3.1 \text{ mg/L}$

Acute WLA:  $C_c = ((0.027 + 0.0)12.1 - (0.0 * 0.01))/0.027$   
 $C_c = 12.1 \text{ mg/L}$

$LTA_c = 3.1 \text{ mg/L} (0.780) = 2.4 \text{ mg/L}$   
 $LTA_a = 12.1 \text{ mg/L} (0.321) = 3.9 \text{ mg/L}$

[CV = 0.6, 99<sup>th</sup> Percentile, 30 day avg.]  
 [CV = 0.6, 99<sup>th</sup> Percentile]

Use most protective number of  $LTA_c$  or  $LTA_a$ .

MDL =  $2.4 \text{ mg/L} (3.11) = 7.5 \text{ mg/L}$   
 AML =  $2.4 \text{ mg/L} (1.19) = 2.9 \text{ mg/L}$

[CV = 0.6, 99<sup>th</sup> Percentile]  
 [CV = 0.6, 95<sup>th</sup> Percentile, n = 30]

Season	Maximum Daily Limit (mg/l)	Average Monthly Limit (mg/l)
Summer	3.7	1.4
Winter	7.5	2.9

- **Escherichia coli (E. coli).** This facility may be required to have *E. coli* effluent limitations when Missouri adopts the implementation of the *E. coli* standards, as per [10 CSR 20-7.031(4)(C)].
- **Fecal Coliform.** Discharge shall not contain more than a monthly geometric mean of 400 colonies/100 mL and a daily maximum of 1000 colonies/100 mL during the recreational season (April 1 – October 31), please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information**. Future renewals of the facility operating permit will contain effluent limitations for *E. coli*, which will replace fecal coliform as the applicable bacteria criteria in Missouri's water quality standards.

**Minimum Sampling and Reporting Frequency Requirements.**

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
FLOW	ONCE/MONTH	ONCE/QUARTER
BOD <sub>5</sub>	ONCE/QUARTER	ONCE/QUARTER
TSS	ONCE/QUARTER	ONCE/QUARTER
PH	ONCE/QUARTER	ONCE/QUARTER
TEMPERATURE	ONCE/QUARTER	ONCE/QUARTER
AMMONIA AS N (MAY 1 – OCT 31)	ONCE/QUARTER	ONCE/QUARTER
AMMONIA AS N (NOV 1 – APR 30)	ONCE/QUARTER	ONCE/QUARTER
FECAL COLIFORM	ONCE/QUARTER	ONCE/QUARTER

**Part VI – Administrative Requirements**

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

**PUBLIC NOTICE:**

As per the Missouri Clean Water Law, the Missouri Clean Water Commission, and the federal Clean Water Act, persons wishing to comment on Missouri State Operating Permits are directed to do so by a department approved Public Notice coversheet. This Public Notice coversheet is attached to a Missouri State Operating Permit during the Public Notice period.

The Public Notice period for this operating permit is tentatively schedule to begin on 2-6-2009.

**DATE OF FACT SHEET:** 1-27-2009

**COMPLETED BY:**

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