

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION



MISSOURI STATE OPERATING PERMIT

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

Permit No. MO-0133728

Owner: MDNR, Division of State Parks
Address: P.O. Box 176, Jefferson City, MO 65102

Continuing Authority: Same as Above
Address: Same as Above

Facility Name: MDNR, Washington State Park
Facility Address: 13041 State Highway 104, DeSoto, MO 63020

Legal Description: SE 1/4, NW 1/4, Sec 27, T39N, R3E, Washington County
UTM Coordinates: X=702567; Y=4217262

Receiving Stream: Unnamed Tributary to Big River (U)
First Classified Stream and ID: Big River (P) (2080) 303(d) list
USGS Basin & Sub-watershed No.: (07140104-0303)

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 – Domestic Wastewater - SIC# 7999 & 4952

No-Discharge System

Two cell storage lagoon/wastewater irrigation/sludge is retained in lagoon.

The use or operation of this facility does not require a **Certified Operator**.

Design population equivalent is 34.

Design flow is 7482 gallons per day (1-in-10 year design including net rainfall minus evaporation).

Average design flow is 6575 gallons per day (Dry weather flows).

Design sludge production is 0.5 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 644.051.6 of the Law.

April 13, 2012

Effective Date

Sara Parker Pauley

Sara Parker Pauley, Director, Department of Natural Resources

April 12, 2017

Expiration Date

Jackie D. Baker

Jackie D. Baker, Environmental Section Chief, Southeast Regional Office

Facility Description (continued)

Outfall #001 – Irrigation System Design

Receiving Stream Watershed: a gaining stream setting/state park

Facility Type: No-discharge Storage and Irrigation System for year round flows into lagoon.

<u>Design Basis:</u>	<u>Avg Annual</u>	<u>Recreational Season (April-Oct)</u>	<u>Winter (Nov-March)</u>
Design dry weather flows:	6575 gpd	6575 gpd	6575 gpd
Design with 1-in-10 year flows:	7482 gpd	7482 gpd	7482 gpd
Design PE: 34			

Storm Water Flows: (Washington County)

Average Annual Rainfall: 42 inches
 1-in-10 Year Annual Rainfall: 54.6 inches 25-year-24-hour storm: 6 inches

<u>1-in-10 year Flows:</u>	<u>Annual</u>
Runoff concrete and roof areas:	3.6 ft.
Runoff earth areas (lagoon berm, lots, etc):	2.5 ft.
Rainfall minus Evaporation (R-E) on lagoon water surface:	1.8 ft.

Lagoon Dimensions: **Surface Area** **Depth from Bottom** **Pump down depth (from spillway)**

Cell #1

Center Line Top Berm:	2368 sq. ft.	12 ft. depth	
Inside Top Berm:	1692 sq. ft.	12 ft. depth	
Emergency Spillway:	1620 sq. ft.	11 ft. depth	0 ft.
Freeboard (top berm to spillway):		1 ft. depth	
Maximum operating level:	16695 sq. ft.	10 ft. depth	1 ft.
Minimum operating level:		2 ft. depth	9 ft.
Aerobic BOD design basis:		3 ft. depth	
Storage volume (minimum to maximum water levels): 654438 gallons			
Berm top width: 8 ft.			
Berm runoff area (Centerline to Maximum Operating Level): 5680 sq. ft.			
1-in-10 year Annual Storm water flows into lagoon (R-E): 44251 cu. ft. (331042 gallons)			

Cell #2

Center Line Top Berm:	1456 sq. ft.	9 ft. depth	
Inside Top Berm:	1008 sq. ft.	9 ft. depth	
Emergency Spillway:	936 sq. ft.	8 ft. depth	0 ft.
Freeboard (top berm to spillway):		1 ft. depth	
Maximum operating level:	5504 sq. ft.	7 ft. depth	1 ft.
Minimum operating level:		2 ft. depth	6 ft.
Aerobic BOD design basis:		3 ft. depth	
Storage volume (minimum to maximum water levels): 130132 gallons			
Berm top width: 8 ft.			
Berm runoff area (Centerline to Maximum Operating Level): 3400 sq. ft.			
1-in-10 year Annual Storm water flows into lagoon (R-E): 18407 cu. ft. (137704 gallons)			

Facility Description (continued)

<u>Storage Capacity:</u>	<u>Avg Annual</u>	<u>Days of Storage (Mar-Oct)</u>	<u>Winter</u>
Design for dry weather flows:	120 days	88 days	88 days
Design with 1-in 10 year flows:	106 days	87 days	87 days

Actual design storage period with 1-in 10 year flows is 90 days.

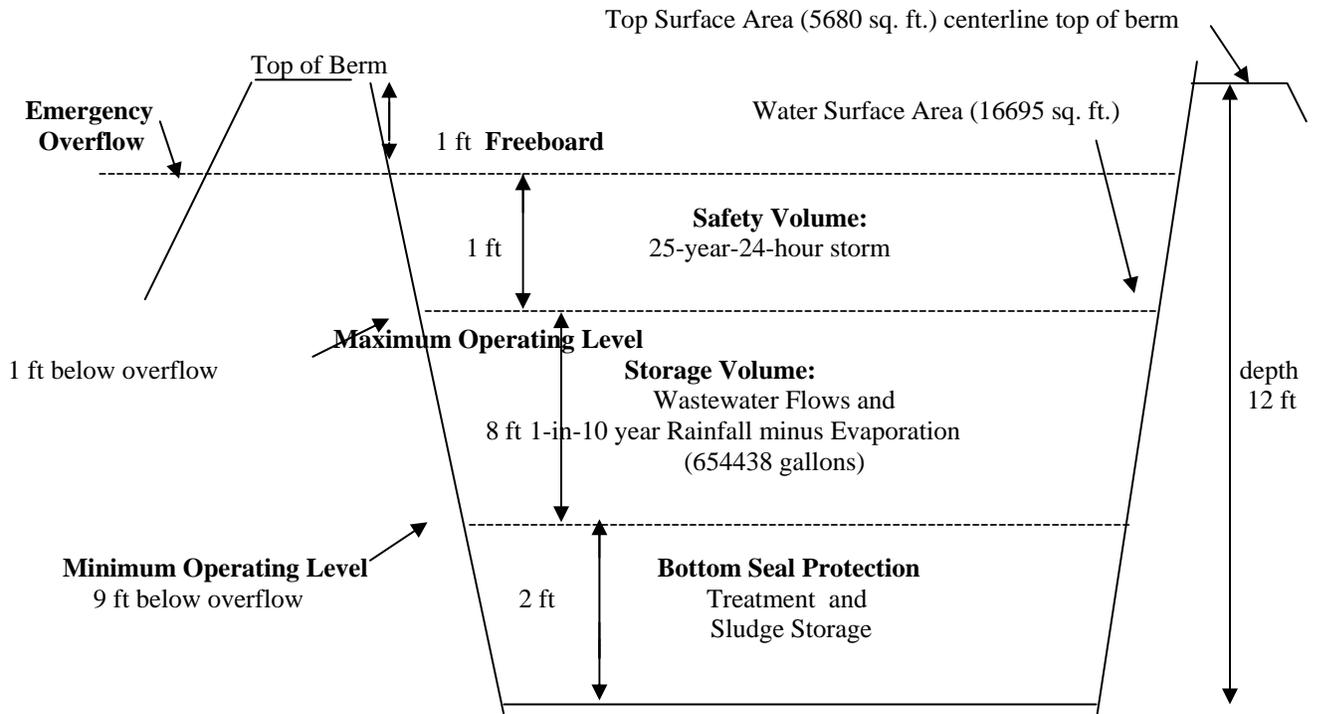
Land Application:

Irrigation Volume/year: 2537579 gallons (including 1-in-10 year flows)
 Irrigation areas: 4.92 acres at design loading (4.96 acres total available)
 Application rates/acre: 0.125 inch/hour; 1 inch/day; 3 inches/week; 19 inches/year
 Field slopes: up to 15 percent
 Equipment type: sprinklers
 Vegetation: timber
 Application rate is based on: hydraulic loading

Additional Comments:

LAGOON PROFILE

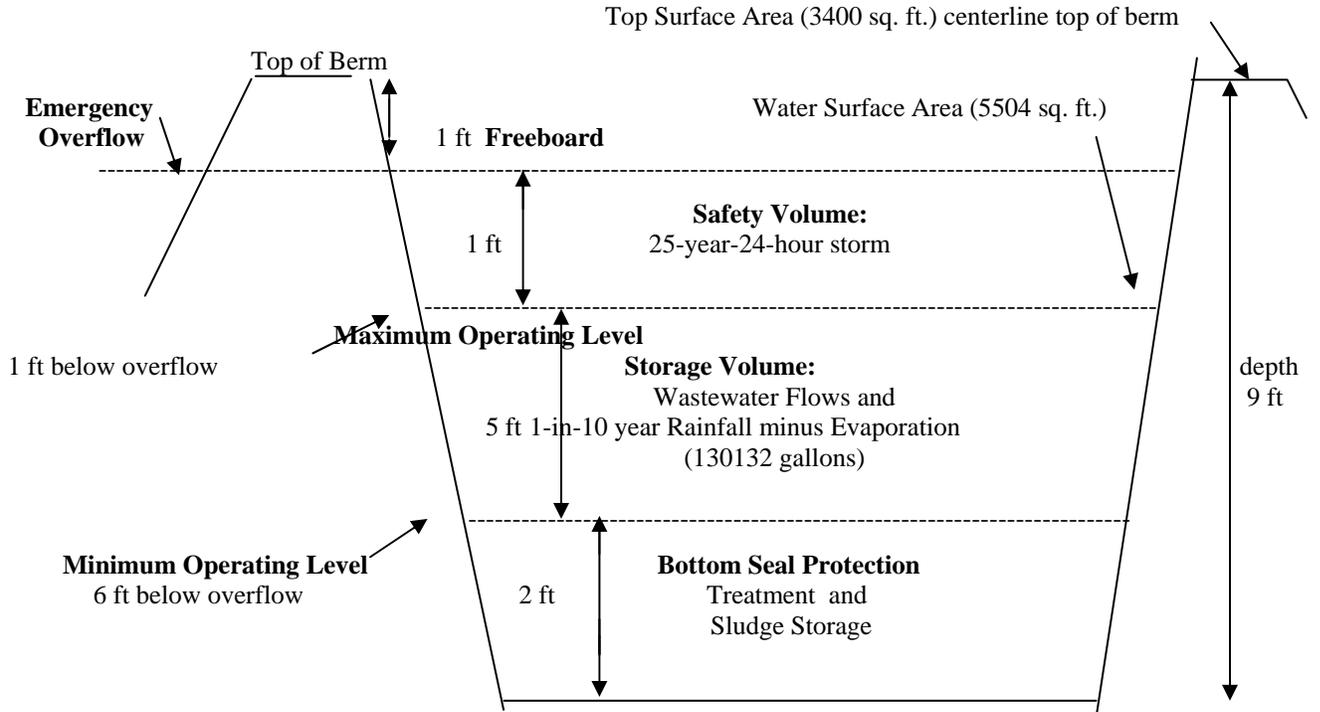
CELL #1



Facility Description (continued)

LAGOON PROFILE

CELL #2



A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					PAGE NUMBER 5 of 8	
					PERMIT NUMBER MO-013728	
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 – Emergency discharge from lagoon or irrigation site (Notes 1, 2 & 3)</u>						
Lagoon Freeboard	feet	*			once/month	measured
Rainfall	inches	*			daily	total
MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE <u>January 28, 2013</u> .						
<u>Outfall #001 – Land Application Operational Monitoring (Notes 1, 2 & 3)</u>						
Irrigation Period	hours	*			once/month	measured
Volume Irrigated	gallons	*			once/month	measured
Application Area	acres	*			once/month	measured
Application Rate	gallons/acre	*			once/month	measured
MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE <u>January 28, 2013</u> . 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 <u>Parts I & III</u> STANDARD CONDITIONS DATED <u>October 1, 1980 and August 15, 1994</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

* Monitoring and Report.

Note 1 – Emergency Discharge. Outfall 001 may only discharge if rainfall exceeds the 1 in 10 year (Data taken from the Missouri Climate Atlas) or the 24 hour, 25 year (Data taken from NRCS Urban Hydrology for Small Watersheds) rainfall events.

Discharge for any other reason shall constitute a permit violation and shall be recorded in accordance with Standard Conditions, Part 1, Section B.2.b. Monitoring shall take place once per day while discharging. Test results are due on the 28th day of the following month after the cessation of the discharge. Permittee shall monitor for the following constituents:

Constituent	Units
Flow	MGD
Biochemical Oxygen Demand ₅	mg/L
Total Suspended Solids	mg/l
Total Ammonia Nitrogen	mg/L
Temperature	°C
pH – Units	Standard Units

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

Note 2 - Lagoon freeboard shall be reported as lagoon water level in feet below the overflow level. See Special Conditions for Wastewater Irrigation System requirements.

Note 3 - Records shall be maintained and summarized into an annual operating report, which shall be submitted by January 28th of each year for the previous calendar year period. The report shall include the following:

- a. Record of maintenance and repairs performed during the year, average number of times per month the facility is checked to see if it is operating properly, and description of any unusual operating conditions encountered during the year;
- b. The number of days the lagoon has discharged during the year, the discharge flow, the reasons discharge occurred and effluent analysis performed; and
- c. A summary of the irrigation operations including freeboard at the start and end of the irrigation season, the number of days of irrigation for each month, the total gallons irrigated, the total acres used, crops grown, crop yields per acre, the application rate in inches/acre per day and for the year, the monthly and annual precipitation received at the facility and summary of testing results.

C. 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 a facility with an area-wide management plan per 10 CSR 20-6.010(3)(B) 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. It is a violation of the Missouri Clean Water Law to fail to pay fees associated with this permit (644.055 RSMo).
7. 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.

C. SPECIAL CONDITIONS (continued)

8. 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 Southeast Regional Office.
9. 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.
10. A least one gate, constructed of materials comparable to the fence, must be provided to access the lagoon and provide for maintenance and mowing. The gate shall remain locked except when opened by the permittee to perform operational monitoring, sampling, maintenance or mowing, and for inspections by the Department.
11. 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.
12. 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.
13. The inner and outer berm slopes shall not be steeper than three to one (3:1). Inner berm slopes shall not be flatter than four to one (4:1). Consideration may be given to steeper inner slopes provided special attention is given to stabilizing the slope with rip-rap, concrete, or other rigid materials.
14. The berms of storage basins shall be mowed and kept free of any trees, muskrat dens, or other potential sources of damage to the berms.
15. 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.
16. Wastewater Irrigation System.
 - a. Discharge Reporting. Any unauthorized discharge from the lagoon or irrigation system shall be reported to the department as soon as possible but always within 24 hours. Discharge is allowed only as described in the Facility Description and Effluent Limitations sections of this permit.
 - b. Irrigation Design. Permittee shall operate the land application system in accordance with the design parameters listed in the Facility Description section of this permit:

C. SPECIAL CONDITIONS (continued)

16. Wastewater Irrigation System

- (1) No-Discharge System. When the Facility Description is “No-Discharge”, wastewater must be stored and irrigated at appropriate times. There shall be no-discharge from the irrigation site or storage lagoon except due to precipitation exceeding either the 1-in-10 year rainfall event for the design storage period or the 25-year-24-hour rainfall event.
- c. Lagoon Operating Levels - No-discharge Systems. The minimum and maximum operating water levels for the storage lagoon shall be clearly marked. Each lagoon shall be operated so that the maximum water elevation does not exceed one foot below the overflow point except due to exceedances of the 1-in-10 year or 25-year-24 hour storm events. Wastewater shall be land applied whenever feasible based on soil and weather conditions and permit requirements. Storage lagoon(s) shall be lowered to the minimum operating level prior to each winter by November 30.
- d. Emergency Spillway. Lagoons and earthen storage basins should have an emergency spillway to protect the structural integrity of earthen structures during operation at near full water levels and in the event of overflow conditions. The spillway shall be at least one foot below top of berm. The department may waive the requirement for overflow structures on small existing basins.
- e. General Irrigation Requirements. The wastewater irrigation system shall be operated so as to provide uniform distribution of irrigated wastewater over the entire irrigation site. A complete ground cover of vegetation shall be maintained on the irrigation site unless the system is approved for row crop irrigation. Wastewater shall be land applied only during daylight hours. The wastewater irrigation system shall be capable of irrigating the annual design flow during an application period of less than 100 days or 800 hours per year.
- f. Saturated/Frozen Conditions. There shall be no irrigation during frozen, snow covered, or saturated soil conditions.
- g. Buffer Zones. There shall be no irrigation within 300 feet of any down gradient pond, lake, sinkhole, losing stream or water supply withdrawal; 100 feet of gaining streams or tributaries; 150 feet of dwelling; or 50 feet of the property line.
- h. Public Access Restrictions. Public access shall not be allowed to the irrigation site(s).
- i. Equipment Checks during Irrigation. The irrigation system and application site shall be visually inspected at once/day during wastewater irrigation to check for equipment malfunctions and runoff from the irrigation site.

Missouri Department of Natural Resources
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO-0133728
MDNR, Washington State Park No-Discharge Wastewater Treatment Facility

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: State Park/Domestic Sewage
 Facility SIC Code(s): 7999 & 4952

Outfall #001 – Domestic Wastewater - SIC# 7999 & 4952

No-Discharge System

Two cell storage lagoon/wastewater irrigation/sludge is retained in lagoon.

The use or operation of this facility does not require a **Certified Operator**.

Design population equivalent is 34.

Design flow is 7482 gallons per day (1-in-10 year design including net rainfall minus evaporation).

Average design flow is 6575 gallons per day (Dry weather flows).

Design sludge production is 0.5 dry tons/year.

Receiving Stream Watershed: a gaining stream setting (Big River).

Facility Type: No-discharge Storage and Irrigation System for year round flows into lagoon.

<u>Design Basis:</u>	<u>Avg Annual</u>	<u>Recreational Season (April-Oct)</u>	<u>Winter (Nov-March)</u>
Design dry weather flows:	6575 gpd	6575 gpd	6575 gpd
Design with 1-in-10 year flows:	7482 gpd	7482 gpd	7482 gpd
Design PE: 34			

<u>Storage Capacity:</u>	<u>Avg Annual</u>	<u>Days of Storage (Mar-Oct)</u>	<u>Winter</u>
Design for dry weather flows:	120 days	88 days	88 days
Design with 1-in 10 year flows:	106 days	87 days	87 days
Actual design storage period with 1-in 10 year flows is 90 days.			

Land Application:

Irrigation Volume/year: 2537579 gallons (including 1-in-10 year flows)

Irrigation areas: 4.92 acres at design loading (4.96 acres total available)

Application rates/acre: 0.125 inch/hour; 1 inch/day; 3 inches/week; 19 inches/year

Field slopes: up to 15 percent

Equipment type: sprinklers

Vegetation: timber

Application rate is based on: hydraulic loading

Application Date: October 20, 2011

Expiration Date: April 12, 2012

Last Inspection: September 30, 2011

In Compliance ;

Non-Compliance

OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE	DISTANCE TO CLASSIFIED SEGMENT (MI)
001	.01	Equivalent to Secondary (No-Discharge-Land Application)	Treated Domestic Sewage	0.8

Legal Description: SE 1/4, NW 1/4, Sec 27, T39N, R3E, Washington County
UTM Coordinates: X=702567; Y=4217262

Receiving Stream: Unnamed Tributary to Big River (U)
First Classified Stream and ID: Big River (P) (2080) 303(d) list
USGS Basin & Sub-watershed No.: (07140104-0303)

Comments:

No-discharge system with land application

Part II – Operator Certification Requirements

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

Check boxes below that are applicable to the facility;

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

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

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 list effluent limitations for specific parameters, which are presented in each outfall’s Effluent Limitation Table and further discussed in the Derivation & Discussion of Limits section.

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

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

RECEIVING STREAM(S) TABLE:

WATERBODY NAME	CLASS	WBID	DESIGNATED USES*	8-DIGIT HUC	EDU**
Unnamed Trib to Big River	U	----	General Criteria	07140104	Big River
Big River	P	2080	LWW, AQL, IND, WBC(A)***,		

* - 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

*** A use attainability analysis has not been conducted.

RECEIVING STREAM(S) LOW-FLOW VALUES TABLE:

RECEIVING STREAM (U, C, P)	LOW-FLOW VALUES (CFS)		
	1Q10	7Q10	30Q10
Unnamed Trib to Big River (U)	0	0	0
Big River (P) at Bonne Terre	17.8	19.8	25.5

Washington State Park is located between Bonne Terre and the USGS Gauge Station near Richwoods. Data from USGS Gauge Station 0718100 located on Big River near Richwoods, MO is located downstream of the City of Bonne Terre's wastewater discharge. The data was used to calculate the 1Q10, 7Q10, and 30Q10 flows for that location utilizing a Log-Person Type III Probability Distribution. The calculated flows based on gauging data are 44.1 cfs, 48.7 cfs, and 61.7 cfs respectively which is below the State Park. The gauging station has contributing point sources that are in its watershed that are not in the watershed of the City of Bonne Terre. The total point source contributions outside of the City of Bonne Terre's watershed is approximately 2.9 cfs and will be subtracted from the 1Q10, 7Q10, and 30Q10 calculated flows. This yields flows of 41.2 cfs, 45.8 cfs, and 58.8 cfs respectively. A percentage reduction in stream flow will be made by comparing watershed areas to arrive at the projected flows in the stream at the City of Bonne Terre's discharge location. The gauging station watershed area is approximately 735 square miles and the watershed area above the City of Bonne Terre is approximately 318 square miles. The City's watershed is approximately 43.3% smaller. The calculated flows at the City's discharge location would be 17.8 cfs, 19.8 cfs, and 25.5 cfs respectively for the 1Q10, 7Q10, and 30Q10. Stream flows at the park would be between those calculated for the City and those calculated for the Gauge Station.

RECEIVING STREAM MONITORING REQUIREMENTS:

No receiving water monitoring requirements recommended at this time. No Discharge Facility.

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

Pursuant to Section 644.145, RSMo., the Department is required to determine whether a permit or decision is affordable and make a finding of affordability for each permit or decision. This requirement applies to discharges from combined or separate sanitary sewer systems or publicly-owned treatment works.

 Not Applicable;

The Department is not required to determine findings of affordability because the facility is not a **combined or separate sanitary sewer system or a publicly-owned treatment works**.

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.

ANTI-BACKSLIDING:

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

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

ANTIDegradation:

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

- Renewal no degradation proposed and no further review necessary. No discharge system.

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.

Applicable ;

Sludge/biosolids are removed by contract hauler or are stored in the lagoon.

COMPLIANCE AND ENFORCEMENT:

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

Not Applicable ;

The permittee/facility is not currently under Water Protection Program enforcement action.

PRETREATMENT PROGRAM:

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

Pretreatment programs are required at any POTW (or combination of POTW operated by the same authority) and/or municipality with a total design flow greater than 5.0 MGD and receiving industrial wastes that interfere with or pass through the treatment works or are otherwise subject to the pretreatment standards. Pretreatment programs can also be required at POTWs/municipals with a design flow less than 5.0 MGD if needed to prevent interference with operations or pass through.

Several special conditions pertaining to the permittee's pretreatment program may be included in the permit, and are as follows:

- Implementation and enforcement of the program,
- Annual pretreatment report submittal,
- Submittal of list of industrial users,
- Technical evaluation of need to establish local limitations, and
- Submittal of the results of the evaluation

Not Applicable ;

The permittee, at this time, is not required to have a Pretreatment Program or does not have an approved pretreatment program.

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 (BOD₅) 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.

Not Applicable ;

This wastewater treatment facility is no-discharge and 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.

SCHEDULE OF COMPLIANCE (SOC):

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

Not Applicable ;

This permit does not contain a SOC.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP):

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

Not Applicable ;

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

VARIANCE:

As per the Missouri Clean Water Law § 644.061.4, variances shall be granted for such period of time and under such terms and conditions as shall be specified by the commission in its order. The variance may be extended by affirmative action of the commission. In no event shall the variance be granted for a period of time greater than is reasonably necessary for complying with the Missouri Clean Water Law §§644.006 to 644.141 or any standard, rule or regulation promulgated pursuant to Missouri Clean Water Law §§644.006 to 644.141.

Not Applicable ;

This operating permit is not drafted under premises of a petition for variance.

WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:

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

Not Applicable ;

Wasteload allocations were not calculated.

WLA MODELING:

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

Applicable ;

Big River and Flat River Creek is listed on the 1998 Missouri 303(d) List for lead, non volatile suspended solids, and zinc.

– This facility is not considered to be a source of the above listed pollutant(s) or considered to contributed to the impairment of Big River or Flat River Creek.

Part V – Effluent Limits Determination

Outfall #001 – Storage Basins

EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
LAGOON FREEBOARD	FEET	9	*		*	NO	*
RAINFALL	INCHES	9	*		*	NO	*
IRRIGATION PERIOD	HOURS	9	*		*	NO	*
VOLUME IRRIGATED	GALLONS	9	*		*	NO	*
APPLICATION AREA	ACRES	9	*		*	NO	*
APPLICATION RATE	GALLONS /ACRE	9	*		*	NO	*
MONITORING FREQUENCY	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

* - Discharge for reasons other than those allowed in the permit will constitute a violation. Monitoring requirement only.

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

N/A – Not applicable

Basis for Limitations Codes:

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

OUTFALL #001 – DERIVATION AND DISCUSSION OF LIMITS:

- **Rainfall, Lagoon Freeboard, Irrigation Period, Volume Irrigated, Irrigation Area, No-Discharge Facility.** Necessary parameters to determine compliance with No-Discharge Requirements in 10 CSR 20-6.015.
- **Minimum Sampling and Reporting Frequency Requirements** Monitoring frequencies have been established in accordance with best professional judgment and knowledge of understanding operation of a no-discharge system. The Daily flow and rainfall frequency has been established to determine compliance with meeting the definition of no discharge. No discharge facilities are designed, constructed and operated to hold or irrigate, or otherwise dispose without discharge to surface or subsurface waters of the state, all process wastes and associated storm water flows except for discharges that are caused by catastrophic and chronic storm events. These storm events are the 1-in-10 year storm event and the 25 year 24 hour storm event. No discharge facilities are allowed to discharge excess water caused by these storm events in accordance with the emergency discharge limits when these storm events are exceeded. Daily records for land application are being required to determine if wastewater is being properly land applied. Reports are summarized and submitted annually for review.

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:

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.

DATE OF FACT SHEET: DECEMBER 27, 2011

COMPLETED BY:

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