

APPENDICES

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Appendix 1 Certificate of Good Standing

STATE OF MISSOURI



John R. Ashcroft
Secretary of State

CORPORATION DIVISION
CERTIFICATE OF GOOD STANDING

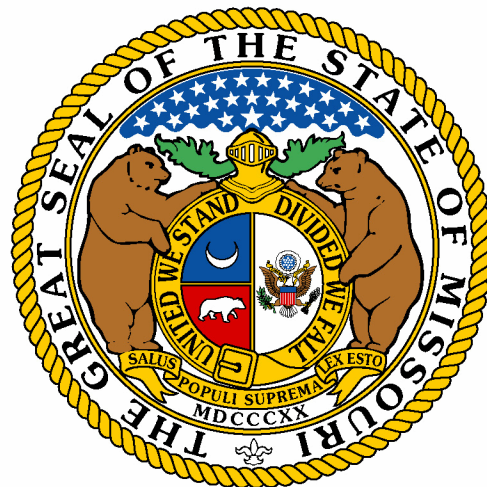
I, JOHN R. ASHCROFT, Secretary of State of the STATE OF MISSOURI, do hereby certify that the records in my office and in my care and custody reveal that

MRG UTILITIES, LLC
LC014487683

was created under the laws of this State on the 21st day of August, 2023, and is active, having fully complied with all requirements of this office.

IN TESTIMONY WHEREOF, I hereunto set my hand and cause to be affixed the GREAT SEAL of the State of Missouri. Done at the City of Jefferson, this 25th day of July, 2024.


Secretary of State



Certification Number: CERT-07252024-0016

Appendix 2 Registration of Fictitious Name

STATE OF MISSOURI



John R. Ashcroft
Secretary of State

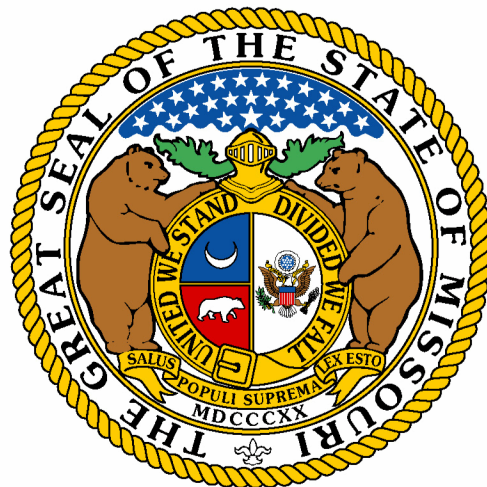
CORPORATION DIVISION
CERTIFICATE OF CORPORATE RECORDS

MRG UTILITIES
X001776130

I, JOHN R. ASHCROFT, Secretary of State of the State of Missouri and Keeper of the Great Seal thereof, do hereby certify that the annexed pages contain a full, true and complete copy of the original documents on file and of record in this office.

IN TESTIMONY WHEREOF, I hereunto set my hand and cause to be affixed the GREAT SEAL of the State of Missouri. Done at the City of Jefferson, this 25th day of July, 2024.


Secretary of State



Certification Number: CERT-07252024-0016

Appendix 3 Map and Legal Description

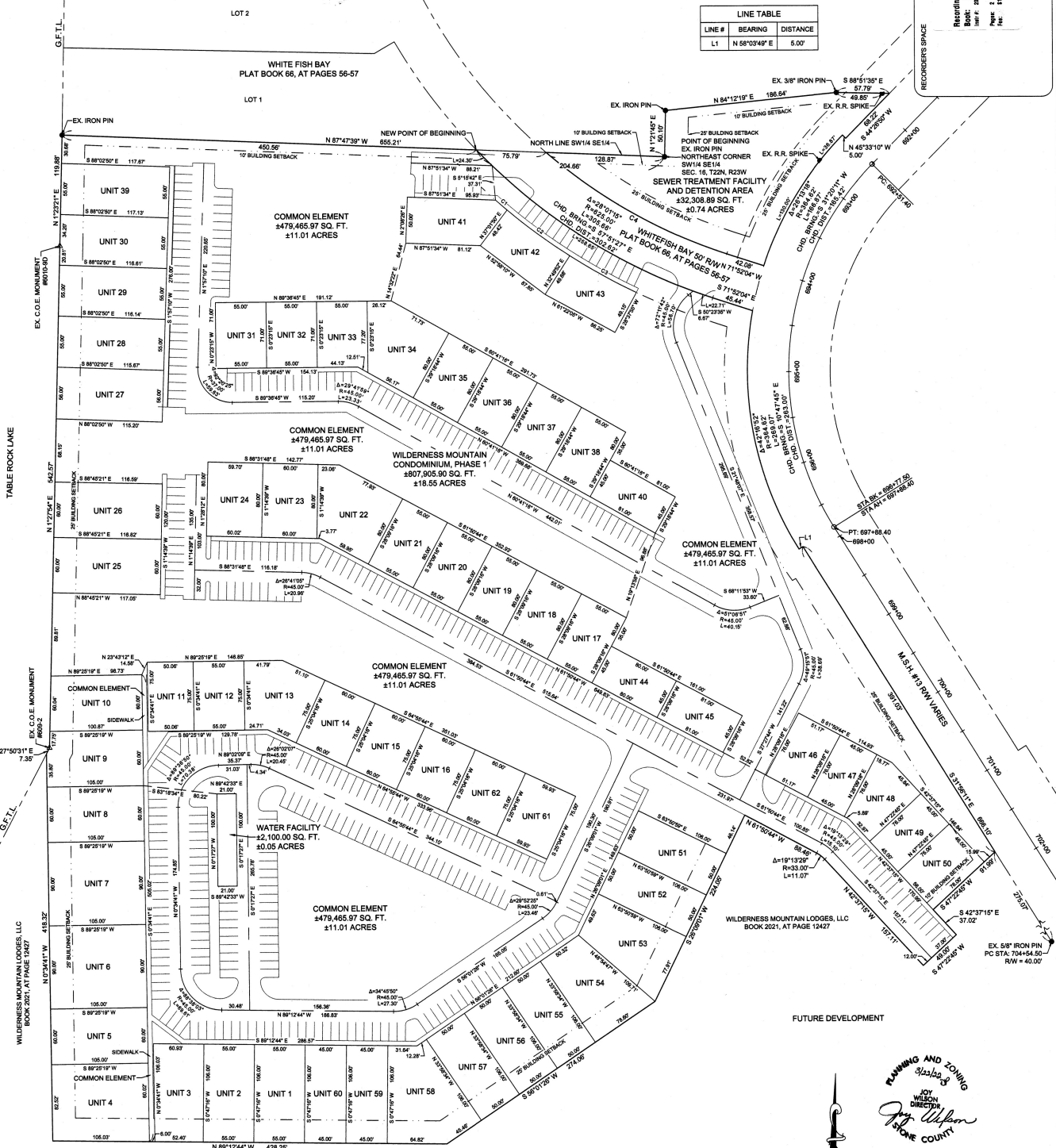
WILDERNESS MOUNTAIN CONDOMINIUM, PHASE 1
"THE FINAL PLAT"
LOCATED IN THE S1/2 OF THE SE1/4 OF
SECTION 16 TOWNSHIP 22 NORTH, RANGE 23 WEST
OF THE 5TH PRINCIPAL MERIDIAN
STONE COUNTY, MISSOURI

CURVE TABLE					
CURVE #	LENGTH	DELTA	CHD. BRNG.	CHD. DIST.	RADIUS
C1	16.49'	1°27'13"	S 49°17'30" E	16.49'	650.00'
C2	84.28'	7°25'44"	S 53°43'59" E	84.22'	650.00'
C3	82.67'	7°17'14"	S 61°00'28" E	82.62'	650.00'
C4	226.56'	22°34'32"	N 60°34'48" W	225.10'	575.00'

LINE TABLE		
LINE #	BEARING	DISTANCE
L1	N 58°03'46" E	5.00'

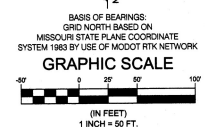
RECORDED IN STONE COUNTY, MISSOURI
RECORDING DATE/TIME: 03/22/2022 at 12:02:09 PM
Book: 87
Page: 74
J. E. HOUSEMAN
PLAT # 2018042753

RECORDERS SPACE



WILDERNESS MOUNTAIN LODGES, LLC
BOOK 2021, AT PAGE 12427

PLAT NOTES:
1. THIS PLAT CONSISTS OF SEPARATE SHEETS, NUMBERED 1 AND 2, EACH OF WHICH TOGETHER CONSTITUTE THE FINAL PLAT OF WILDERNESS MOUNTAIN CONDOMINIUM.
2. AS REQUIRED BY CODE THIS CONDOMINIUM DEVELOPMENT SHALL HAVE AT LEAST A 1 TO 10 PARKING STALLS TO 1 CONDOMINIUM UNIT RATIO.
3. ALL OWNERSHIP INFORMATION OF ADJOINING PARCELS, AS SHOWN HEREON, WAS GAINED FROM THE STONE COUNTY GIS MAPPING WEB SITE, FOUND AT (https://stonegis.com/). STATE OF MISSOURI, COUNTY OF STONE, NO GUARANTEE IS GIVEN TO THE ACCURACY OF THIS INFORMATION.



CERTIFICATION:
ALL DIMENSIONS AND ELEVATIONS SHOWN ARE A RESULT OF AN ACTUAL SURVEY. IN MY OPINION THE PLAT CONTAINS ALL INFORMATION REQUIRED BY CHAPTER 448.2 - 109 RSMO, OF THE "UNIFORM CONDOMINIUM ACT", AND THAT THIS SURVEY AND PLAT ARE IN COMPLIANCE WITH THE REQUIREMENTS FOR PROPERTY BOUNDARY SURVEYS ADOPTED BY MISSOURI BOARD OF ARCHITECTS, PROFESSIONAL ENGINEERS, AND LAND SURVEYORS AND WITH THE CURRENT STANDARDS FOR PROPERTY BOUNDARY SURVEYS AS PROMULGATED BY THE DEPARTMENT OF NATURAL RESOURCES.

JACK E. HOUSEMAN P.L.S. 2005019222
PLAT THAT DOES NOT SHOW A SEAL IMPRINT IN BLUE INK MAY HAVE BEEN FRAUDULENTLY ALTERED. DISREGARD ALL INFORMATION UNLESS VERIFIED BY THE PROFESSIONAL LAND SURVEYOR WHOSE SIGNATURE APPEARS ABOVE.

PREPARED FOR: WILDERNESS MOUNTAIN LODGES, LLC
PROJECT #: 2100067
DRAWING #: 2100067 COND 01
DATE: 11/15/2022
REVISION DATE: 3/17/2022
DRAWN BY: D. BRADEN
CHECKED BY: J. HOUSEMAN
SHEET: 2 OF 2
SCALE: 1" = 50'
MO. COA #: 2018042753

SECTIONAL MAP
SEC. 16, T22N, R23W
cpwg
Cribb Phelps Weaver Group, Inc.
110 Industrial Park Drive, Suite 1
Hollister, Missouri 64593
(417) 478-0000
www.cpwg-mapping.com

Appendix 4 Operating Permit from DNR

August 23, 2023

Wilderness Mountain Lodges, LLC
640 State Highway 248 #17
Branson, MO 65616

Dear Permittee:

Pursuant to the Federal Water Pollution Control Act, under the authority granted to the State of Missouri and in compliance with the Missouri Clean Water Law, we have issued and are enclosing your State Operating Permit to discharge from Wilderness Mountain WWTF.

Please read your permit and enclosed Standard Conditions. They contain important information on monitoring requirements, effluent limitations, sampling frequencies and reporting requirements.

Monitoring reports required by the special conditions must be submitted on a periodic basis via the Missouri Department of Natural Resources' electronic Discharge Monitoring Report (eDMR) system unless waived, or can be submitted on the enclosed forms if you are subject to an eDMR registration schedule as established in the permit. Upon registration, please access the eDMR system via the following link: [Missouri Gateway for Environmental Management \(MoGEM\) | Missouri Department of Natural Resources](#). If you experience difficulties with using the eDMR system, you may contact edmr@dnr.mo.gov or call 855-789-3889 or 573-526-2082 for assistance.

This permit may include requirements with which you may not be familiar. If you would like the Department of Natural Resources to meet with you to discuss how to satisfy the permit requirements, an appointment can be set up by contacting the Southwest Regional Office by phone at 417-891-4300, by email at SWRO@dnr.mo.gov, or by mail at 2040 W. Woodland, Springfield, MO 65807-5912. These visits are called Compliance Assistance Visits and focus on explaining the requirements to the permit holder.

This permit is both your Federal National Pollutant Discharge Elimination System Permit and your new Missouri State Operating Permit and replaces all previous State Operating Permits issued for this facility under this permit number. In all future correspondence regarding this facility, please refer to your State Operating Permit number and facility name as shown on page one of the permit.

If you were adversely affected by this decision, you may be entitled to an appeal before the Administrative Hearing Commission (AHC) pursuant to Section 621.250, RSMo. To appeal, you must file a petition with the AHC 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 mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC. Contact information for the AHC is: Administrative Hearing Commission, United States Post Office Building, Third Floor, 131 West High Street, P.O. Box 1557, Jefferson City, MO 65102, phone: 573-751-2422, fax: 573-751-5018, and website: www.oa.mo.gov/ahc.

Please be aware that this facility may also be subject to any applicable county or other local ordinances or restrictions.

If you have any questions concerning this permit, please do not hesitate to contact the Department's Water Protection Program at P.O. Box 176, Jefferson City, MO 65102, or by phone at 573-751-1300. Thank you.

Sincerely,

WATER PROTECTION PROGRAM



John Hoke
Director

JH/vs

Enclosure

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 RSMo, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No.: MO-0139939

Owner: Wilderness Mountain Lodges, LLC
Address: 640 St Highway 248 #17, Branson, MO 65616

Continuing Authority: Same as above
Address: Same as above

Facility Name: Wilderness Mountain WWTF
Facility Address: Highway 13, Lampe, MO 65819

Legal Description: Township 22 North, Range 23 West
UTM Coordinates: X = 461957 ; Y = 4051042

Receiving Stream: Tributary to Table Rock Lake
First Classified Stream and ID: Table Rock Lake (L2) (7313) 303(d) List
USGS Basin & Sub-watershed No.: (11010001-1401)

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 – Non-POTW

Settling / Flow Equalization / MBBR / Phosphorus removal / UV disinfection/sludge removed by contract hauler
Design population equivalent is 600.
Design flow is 36,000 gallons per day.
Design sludge production is 13.1 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.

September 1, 2023
Effective Date

August 31, 2028
Expiration Date

A handwritten signature in black ink, appearing to read "John Hoke", written over a horizontal line.

John Hoke, Director, Water Protection Program

OUTFALL #001	TABLE A-1. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					
The permittee is authorized to discharge from outfall number(s) as specified in the application for this permit. The final effluent limitations in Table A-1 shall become effective on September 1, 2023 . Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
eDMR Limit Set: Q						
Flow	MGD	*		*	once/quarter****	24 hr. total
Biochemical Oxygen Demand ₅	mg/L		15	10	once/quarter****	grab
Total Suspended Solids	mg/L		20	15	once/quarter****	grab
<i>E. coli</i>	#/100mL	630**		126**	once/quarter****	grab
Ammonia as N (Jan 1 – Mar 31)	mg/L	4.4		2.9	once/quarter****	grab
Ammonia as N (Apr 1 – Jun 30)	mg/L	2.9		1.9	once/quarter****	grab
Ammonia as N (Jul 1 – Sep 30)	mg/L	2.2		1.5	once/quarter****	grab
Ammonia as N (Oct 1 – Dec 31)	mg/L	4.4		2.9	once/quarter****	grab
Total Phosphorus	mg/L	*		0.5	once/quarter****	grab
Total Kjeldahl Nitrogen	mg/L	*		*	once/quarter****	grab
Nitrite + Nitrate	mg/L	*		*	once/quarter****	grab
Aluminum (Note 1)		*			once/quarter****	grab
EFFLUENT PARAMETER(S)	UNITS	MINIMUM		MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
pH – Units*****	SU	6.5		9.0	once/quarter****	grab
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY ; THE FIRST REPORT IS DUE JANUARY 28, 2024 .						

* Monitoring requirement only.

** #/100mL; the Monthly Average for *E. coli* is a geometric mean.

*** Once each weekday means: Monday, Tuesday, Wednesday, Thursday, and Friday.

**** See table below for quarterly sampling.

***** pH is measured in pH units and is not to be averaged.

Quarterly Minimum Sampling Requirements				
Quarter	Months	<i>E. coli</i>	All Other Parameters	Report is Due
First	January, February, March	Not required to sample.	Sample at least once during any month of the quarter	April 28 th
Second	April, May, June	Sample at least once during any month of the quarter	Sample at least once during any month of the quarter	July 28 th
Third	July, August, September	Sample at least once during any month of the quarter	Sample at least once during any month of the quarter	October 28 th
Fourth	October	Sample once during <u>October</u>	Sample at least once during any month of the quarter	January 28 th
	November & December	Not required to sample.		

Note 1 – If no Aluminum or Iron was used in a given sampling period, an actual analysis is not necessary. Simply report as “AG – Conditional Monitoring Not Required this Period”.

B. STANDARD CONDITIONS

In addition to specified conditions stated herein, this permit is subject to the attached Parts I & III standard conditions dated August 1, 2014 and August 1, 2019, and hereby incorporated as though fully set forth herein. Annual reports required per Standard Conditions Part III Section K shall be submitted online to the Department via the Department's eDMR system as an attachment. This supersedes Standard Conditions Part III Section K #4. EPA reports shall continue to be submitted online via the Central Data Exchange system.

C. SPECIAL CONDITIONS

1. Electronic Discharge Monitoring Report (eDMR) Submission System. Per 40 CFR Part 127 National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, reporting of effluent monitoring data and any report required by the permit (unless specifically directed otherwise by the permit) shall be submitted by the permittee via an electronic system to ensure timely, complete, accurate, and nationally consistent set of data about the NPDES program. All reports uploaded into the system shall be reasonably named so they are easily identifiable, such as “WET Test Chronic Outfall 002 Jan 2023,” or “Outfall 004 Daily Data Mar 2025.”
 - (a) eDMR Registration Requirements. The permittee must register with the Department’s eDMR system through the Missouri Gateway for Environmental Management (MoGEM) before the first report is due. Registration and other information regarding MoGEM can be found at <https://dnr.mo.gov/data-e-services/missouri-gateway-environmental-management-mogem>. Information about the eDMR system can be found at <https://dnr.mo.gov/water/business-industry-other-entities/reporting/electronic-discharge-monitoring-reporting-system-edmr>. The first user shall register as an Organization Official and the association to the facility must be approved by the Department. Regarding Standard Conditions Part I, Section B, #7, the eDMR system is currently the only Department approved reporting method for this permit unless a waiver is granted by the Department. See paragraph (c) below.
 - (b) Electronic Submissions. To access the eDMR system, use the following link in your web browser: <https://apps5.mo.gov/mogems/welcome.action>. If you experience difficulties with using the eDMR system you may contact edmr@dnr.mo.gov or call 855-789-3889 or 573-526-2082 for assistance.
 - (c) Waivers from Electronic Reporting. The permittee must electronically submit compliance monitoring data and reports unless a waiver is granted by the Department in compliance with 40 CFR Part 127. The permittee may obtain an electronic reporting waiver by first submitting an eDMR Waiver Request Form: <https://dnr.mo.gov/document-search/electronic-discharge-monitoring-report-waiver-request-form-mo-780-2692>. The Department will either approve or deny this electronic reporting waiver request within 120 calendar days.

2. The full implementation of this operating permit, which includes implementation of any applicable schedules of compliance, shall constitute compliance with all applicable federal and state statutes and regulations in accordance with §644.051.16, RSMo, and the Clean Water Act (CWA) section 402(k); however, this permit may be reopened and modified, or alternatively revoked and reissued:
 - (a) To 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 CWA, 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.
3. All outfalls must be clearly marked in the field.
4. Report as no-discharge when a discharge does not occur during the report period.
5. Reporting of Non-Detects:
 - (a) An analysis conducted by the permittee or their contracted laboratory shall be conducted in such a way that the precision and accuracy of the analyzed result can be enumerated.
 - (b) See sufficiently sensitive test method requirements in Standard Conditions Part I, Section A, No. 4 regarding proper testing and method minimum levels used for sample analysis.
 - (c) The permittee shall not report a sample result as “Non-Detect” without also reporting the method minimum level of the test. Reporting as “Non Detect” without also including the method minimum level, will be considered failure to report, which is a violation of this permit.
 - (d) The permittee shall provide the “Non-Detect” sample result using the less than symbol and the method minimum level (e.g., <50 µg/L, if the method minimum level for the parameter is 50 µg/L).
 - (e) Where the permit contains a Department determined Minimum Quantification Level (ML) and the permittee is granted authority in the permit to report zero in lieu of the < ML for a specified parameter (conventional, priority pollutants, metals, etc.), then zero (0) is to be reported for that parameter.
 - (f) For the daily maximum, the facility shall report the highest value. If the highest value was a non-detect, use the less than “<” symbol and the laboratory’s highest method minimum level.
 - (g) For reporting an average based on all non-detected values, remove the “<” sign from the values, average the values, and then add the “<” symbol back to the resulting average.
 - (h) For reporting an average based on a mix of detected and non-detected values (not including *E. coli*), assign a value of “0” for all non-detects for that reporting period and report the average of all the results.
 - (i) When *E. coli* is not detected above the method minimum level, the permittee must report the data qualifier signifying less than detection limit for that parameter (e.g., <1 #/100mL, if the method minimum level is 1 #/100mL). For reporting a geometric mean based on a mix of detected and non-detected values, use one-half of the detection limit (instead of zero) for non-detects when calculating geometric means.
 - (j) See the Fact Sheet Appendix - Non-Detect Example Calculations for further guidance.
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 submit a report to the Southwest Regional Office or via the Electronic Discharge Monitoring Report (eDMR) Submission System annually, by January 28th, for the previous calendar year. The report shall contain the following information:
 - (a) A summary of the efforts to locate and eliminate specific sources of excessive infiltration and inflow into the collection system serving the facility for the previous year.
 - (b) A summary of the general maintenance and repairs to the collection system serving the facility for the previous year.
 - (c) A summary of any planned maintenance and repairs to the collection system serving the facility for the upcoming calendar year. This list shall include locations (GPS, 911 address, manhole number, etc.) and actions to be taken.

8. Bypasses are not authorized at this facility unless they meet the criteria in 40 CFR 122.41(m). If a bypass occurs, the permittee shall report in accordance to 40 CFR 122.41(m)(3), and with Standard Condition Part I, Section B, subsection 2. Bypasses are to be reported to the Southwest Regional Office during normal business hours or by using the online Sanitary Sewer Overflow/Facility Bypass Application located at: <https://dnr.mo.gov/data-e-services/missouri-gateway-environmental-management-mogem> or the Environmental Emergency Response spill-line at 573-634-2436 outside of normal business hours. Once an electronic reporting system compliant with 40 CFR Part 127, the National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, is available all bypasses must be reported electronically via the new system. Blending, which is the practice of combining a partially-treated wastewater process stream with a fully-treated wastewater process stream prior to discharge, is not considered a form of bypass. If the permittee wishes to utilize blending, the permittee shall file an application to modify this permit to facilitate the inclusion of appropriate monitoring conditions.
9. The facility must be sufficiently secured to restrict entry by children, livestock and unauthorized persons as well as to protect the facility from vandalism.
10. 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.
11. An all-weather access road to the treatment facility shall be maintained.
12. The outfall sewer shall be protected and maintained against the effects of floodwater, ice, or other hazards as to reasonably ensure its structural stability, freedom from stoppage, and that a sample of the effluent can be obtained at a point after the final treatment process and before the discharge mixes with the receiving waters.

D. NOTICE OF RIGHT TO APPEAL

If you were adversely affected by this decision, you may be entitled to pursue an appeal before the administrative hearing commission (AHC) pursuant to Sections 621.250 and 644.051.6 RSMo. To appeal, you must file a petition with the AHC within thirty 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 mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC. Any appeal should be directed to:

Administrative Hearing Commission
U.S. Post Office Building, Third Floor
131 West High Street, P.O. Box 1557
Jefferson City, MO 65102-1557
Phone: 573-751-2422
Fax: 573-751-5018
Website: <https://ahc.mo.gov>

**MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF ISSUANCE
OF
MO-0139939
WILDERNESS MOUNTAIN WWTF**

The Federal Water Pollution Control Act ("Clean Water Act" Section 402 Public Law 92-500 as amended) established the National Pollutant 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 stormwater 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)(A)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.

Part I – Facility Information

Application Date: 06/28/2022
Expiration Date:

Facility Type and Description: Non - POTW - Settling / Flow Equalization / MBBR / Phosphorus removal / UV disinfection

OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE
001	0.05	Secondary	Domestic

Comments:

This is a new facility. Construction was covered under CP0002319, with the statement of work complete received August 8, 2023. The continuing authority is Wilderness Mountain Lodges, LLC which is registered with the Sec. of State's Office and has charter number: LC1805012.

Part II – Effluent Limitations and Monitoring Requirements

OUTFALL #001 – MAIN FACILITY OUTFALL

Effluent limitations derived and established in the below Effluent Limitations Table are based on current operations of the facility. Future permit action due to facility modification may contain new operating permit terms and conditions that supersede the terms and conditions, including effluent limitations, of this operating permit.

OUTFALL #001 - RECEIVING STREAM INFORMATION

RECEIVING STREAM(S) TABLE:

WATER-BODY NAME	CLASS	WBID	DESIGNATED USES*	12-DIGIT HUC	DISTANCE TO CLASSIFIED SEGMENT (MI)
Tributary to Table Rock Lake			General Criteria	11010001-1401	0
Table Rock Lake	L2	7313	AQL, HPP, IRR, LWW, SCR, WBC(A)		.01

*As per 10 CSR 20-7.031 Missouri Water Quality Standards, the Department defines the Clean Water Commission's water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and 1st classified receiving stream's beneficial water uses to be maintained are in the receiving stream table in accordance with [10 CSR 20-7.031(1)(C)].

Uses found in the receiving streams table, above:

10 CSR 20-7.031(1)(C)1.:

AHP = Aquatic Habitat Protection - To ensure the protection and propagation of fish, shellfish, and wildlife. AHP is further subcategorized as:

WWH = Warm Water Habitat;

CLH = Cool Water Habitat;

CDH = Cold Water Habitat;

EAH = Ephemeral Aquatic Habitat;

MAH = Modified Aquatic Habitat;

LAH = Limited Aquatic Habitat.

This permit uses Aquatic Life Protection effluent limitations in 10 CSR 20-7.031 Table A for all aquatic habitat designations unless otherwise specified.

10 CSR 20-7.031(1)(C)2.: Recreation in and on the water

WBC = Whole Body Contact recreation where the entire body is capable of being submerged. WBC is further subcategorized as:

WBC-A = Whole body contact recreation that supports swimming uses and has public access;

WBC-B = Whole body contact recreation that supports swimming;

SCR = Secondary Contact Recreation (like fishing, wading, and boating).

10 CSR 20-7.031(1)(C)3. to 7.:

HHP = Human Health Protection as it relates to the consumption of fish;

IRR = Irrigation - Application of water to cropland or directly to cultivated plants that may be used for human or livestock consumption;

LWP = Livestock and wildlife protection - Maintenance of conditions in waters to support health in livestock and wildlife;

DWS = Drinking water supply;

IND = Industrial water supply

10 CSR 20-7.031(1)(C)8-11.: Wetlands (10 CSR 20-7.031 Table A currently does not have corresponding habitat use criteria for these defined uses)

WSA = Storm- and flood-water storage and attenuation;

WHP = Habitat for resident and migratory wildlife species;

WRC = Recreational, cultural, educational, scientific, and natural aesthetic values and uses;

WHC = Hydrologic cycle maintenance.

10 CSR 20-7.031(6):

GRW = Groundwater

RECEIVING STREAM(S) LOW-FLOW VALUES:

RECEIVING STREAM	LOW-FLOW VALUES (CFS)		
	1Q10	7Q10	30Q10
Tributary to Table Rock Lake	0.0	0.0	0.0

MIXING CONSIDERATIONS

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

Mixing Zone:

Mixing Zone (MZ) Parameters: According to the USGS 1:24,000K Quadrangle, the mainstem lake width near the assumed new facility outfall location is approximately 600 feet (ft.). Using “normal” water levels of 600 ft. wide and one-quarter of this width equals 150 ft. Therefore, because 100 feet is less than 150 ft., MZ = 100 feet [10 CSR 20-7.031(5)(A)5.B.(IV)(a)].

Mixing Zone Volume: 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) = 100 ft., and depth (D) = 9 ft. Depth was obtained using mixing zone length projected 100 ft. from shoreline to the intersecting contour on an online water depth map ([Table Rock Lake \(AR, MO\) water depth map - marine chart \(fishermap.org\)](#)).

$$\text{Volume} = L * W * (D * (0.5)) = (100') * (100') * (9' * (0.5)) = 45,000 \text{ ft}^3.$$

The flow volume of 45,000 ft³ is assumed as the daily mixing zone. Therefore;
 $30Q10 = (45,000 \text{ ft}^3/\text{day}) * (1 \text{ day}/86,400 \text{ sec}) = 0.52 \text{ ft}^3/\text{sec}.$

Receiving Water Body's Water Quality

- ✓ The Department has not conducted a stream survey for this waterbody. When a stream survey is conducted, more information may be available about the receiving stream.

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 (BOD₅).** Effluent limits of 10 mg/L average monthly and 15 mg/L average weekly maximum were established as a result of a discharging technology alternatives analysis conducted by the applicant. These limits are at least as stringent as the minimum effluent regulations established in 10 CSR 20-7.015(3)(A)1.A.
- **Total Suspended Solids (TSS).** Effluent limits of 15 mg/L average monthly and 20 mg/L average weekly maximum were established as a result of a discharging technology alternatives analysis conducted by the applicant. These limits are at least as stringent as the minimum effluent regulations established in 10 CSR 20-7.015(3)(A)1.A.
- ***Escherichia coli (E. coli)*.** Monthly average of 126 per 100 mL as a geometric mean and Daily Maximum of 630 per 100 mL as a geometric mean during the recreational season (April 1 – October 31), for discharges within two miles upstream of segments or lakes with Whole Body Contact Recreation (A) designated use of the receiving stream, as per 10 CSR 20-7.015(9)(B). An effluent limit for both monthly average and daily maximum is required by 40 CFR 122.45(d). The Geometric Mean is calculated by multiplying all of the data points and then taking the nth root of this product, where n = # of samples collected. For example: Five *E. coli* samples were collected with results of 1, 4, 6, 10, and 5 (#/100mL). Geometric Mean = 5th root of (1)(4)(6)(10)(5) = 5th root of 1,200 = 4.1 #/100mL.
- **Total Ammonia Nitrogen.** Early Life Stages Present Total Ammonia Nitrogen criteria apply [10 CSR 20-7.031(5)(B)7.C. & Table B3]. Background total ammonia nitrogen = 0.01 mg/L. No Zone of Initial Dilution allowed [10 CSR 20-7.031(5)(A)4.B.(IV)(b)].

The Department previously followed the 2007 Ammonia Guidance method for derivation of ammonia limits. However, the EPA's Technical Support Document for Water Quality-based Toxic Controls (TSD) establishes other alternatives to limit derivation. The Department has determined that the approach established in Section 5.4.2 of the TSD, which allows for direct application of both the acute and chronic wasteload allocations (WLA) as permit limits for toxic pollutants, is more appropriate limit derivation approach. Using this method for a discharge to a waterbody where mixing is not allowed, the criterion continuous concentration (CCC) and the criterion maximum concentration (CMC) will equal the chronic and acute WLA respectively. The WLAs are then applied as effluent limits, per Section 5.4.2 of the TSD, where the CMC is the Daily Maximum and the CCC is the Monthly Average. The direct application of both acute and chronic criteria as WLA is also applicable for facilities that discharge into receiving waterbodies with mixing considerations. The CCC and CMC will need to be calculated into WLA with mixing considerations using the mass-balance equation:

$$C_e = \frac{(Q_e + Q_s)C - (Q_s \times C_s)}{(Q_e)}$$

Where C = downstream concentration Ce = effluent concentration
Cs = upstream concentration Qe = effluent flow
Qs = upstream flow

In the event that mixing considerations derive an AML less stringent than the MDL, the AML and MDL will be equal and based on the MDL.

Quarter	Temp (°C)*	pH (SU)*	Total Ammonia Nitrogen CCC (mg/L)	Total Ammonia Nitrogen CMC (mg/L)
1 st	11	7.8	3.1	12.1
2 nd	21	7.8	3.1	12.1
3 rd	25.4	7.8	3.1	12.1
4 th	14.6	7.8	2.7	12.1

* Ecoregion Data (Ozark Highlands)

1st Quarter

Chronic WLA:

$$C_e = ((0.05 + 0.52)3.1 - (0.52 * 0.01)) / 0.05 = 35.2 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.05 + 0.0)12.1 - (0.0 * 0.01)) / 0.05 = 12.1 \text{ mg/L}$$

Chronic WLA = AML = **12.1 mg/L**

Acute WLA = MDL = **12.1 mg/L**

3rd Quarter

Chronic WLA:

$$C_e = C_e = ((0.05 + 0.52)3.1 - (0.52 * 0.01)) / 0.05 = 35.2 \text{ mg/L}$$

Acute WLA:

$$C_e = C_e = ((0.05 + 0.0)12.1 - (0.0 * 0.01)) / 0.05 = 12.1 \text{ mg/L}$$

Chronic WLA = AML = **12.1 mg/L**

Acute WLA = MDL = **12.1 mg/L**

2nd Quarter

Chronic WLA:

$$C_e = C_e = ((0.05 + 0.52)3.1 - (0.52 * 0.01)) / 0.05 = 35.2 \text{ mg/L}$$

Acute WLA:

$$C_e = C_e = ((0.05 + 0.0)12.1 - (0.0 * 0.01)) / 0.05 = 12.1 \text{ mg/L}$$

Chronic WLA = AML = **12.1 mg/L**

Acute WLA = MDL = **12.1 mg/L**

4th Quarter

Chronic WLA:

$$C_e = ((0.05 + 0.52)2.7 - (0.52 * 0.01)) / 0.05 = 30.7 \text{ mg/L}$$

Acute WLA:

$$C_e = ((0.05 + 0.0)12.1 - (0.0 * 0.01)) / 0.05 = 12.1 \text{ mg/L}$$

Chronic WLA = AML = **12.1 mg/L**

Acute WLA = MDL = **12.1 mg/L**

- **Total Phosphorus.** The facility is located in the watershed of Table Rock Lake and must therefore meet the lake's phosphorus limit of 0.5 mg/L [10 CSR 20-7.015(3)(F)].
- **Total Kjeldahl Nitrogen, & Nitrate + Nitrite.** Effluent monitoring for Total Kjeldahl Nitrogen and Nitrate + Nitrite are required per 10 CSR 20-7.015(9)(D)8.
- **pH.** 6.5-9.0 SU. pH limitations of 6.0-9.0 SU [10 CSR 20-7.015] are not protective of the in-stream Water Quality Standard, which states that water contaminants shall not cause pH to be outside the range of 6.5-9.0 SU.
- **Aluminum, Total Recoverable.** Monitoring requirement only. This facility uses chemicals for phosphorous removal that may contain aluminum. Monitoring is required to determine if reasonable potential exists for this facility's discharge to exceed water quality standards for Aluminum (Total Recoverable).

OUTFALL #001 – GENERAL CRITERIA CONSIDERATIONS:

In accordance with 40 CFR 122.44(d)(1), effluent limitations shall be placed into the permit for those pollutants which have been determined to cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality. The rule further states that pollutants which have been determined to cause, have the reasonable potential to cause, or contribute to an excursion above a narrative criterion within an applicable State water quality standard, the permit shall contain a numeric effluent limitation to protect that narrative criterion. In order to comply with this regulation, the permit writer will complete reasonable potential determinations on whether the discharge will violate any of the general criteria listed in 10 CSR 20-7.031(4). These specific requirements are listed below followed by derivation and discussion (the lettering matches that of the rule itself, under 10 CSR 20-7.031(4)). It should also be noted that Section 644.076.1, RSMo as well as Section D – Administrative Requirements of Standard Conditions Part I of this permit states that it shall be unlawful for any person to cause or

permit any discharge of water contaminants from any water contaminant or point source located in Missouri that is in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law or any standard, rule or regulation promulgated by the commission.

- (A) 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. The discharge from this facility is made up of treated domestic wastewater. This facility will utilize secondary treatment technology. Therefore, the discharge does not have the reasonable potential to cause or contribute to an excursion of this criterion.
- (B) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses. Please see (A) above as justification is the same.
- (C) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses. Please see (A) above as justification is the same.
- (D) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life. This permit contains final effluent limitations which are protective of both acute and chronic toxicity for various pollutants that are either expected to be discharged by domestic wastewater facilities or that were disclosed by this facility on the application for permit coverage. Based on the information reviewed during the drafting of this permit, it has been determined if the facility meets final effluent limitations established in this permit, there is no reasonable potential for the discharge to cause an excursion of this criterion.
- (E) Waters shall provide for the attainment and maintenance of water quality standards downstream including waters of another state. Please see (D) above as justification is the same.
- (F) There shall be no significant human health hazard from incidental contact with the water. Please see (D) above as justification is the same.
- (G) There shall be no acute toxicity to livestock or wildlife watering. Please see (D) above as justification is the same.
- (H) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community. Please see (A) above as justification is the same.
- (I) 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. The discharge from this facility is made up of treated domestic wastewater. No evidence of an excursion of this criterion has been observed by the Department in the past and the facility has not disclosed any other information related to the characteristics of the discharge on their permit application which has the potential to cause or contribute to an excursion of this narrative criterion. Additionally, any solid wastes received or produced at this facility are wholly contained in appropriate storage facilities, are not discharged, and are disposed of offsite. This discharge is subject to Standard Conditions Part III, which contains requirements for the management and disposal of sludge to prevent its discharge. Therefore, this discharge does not have reasonable potential to cause or contribute to an excursion of this criterion.

Part III – 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.

- ✓ The facility does not discharge to a Losing Stream as defined by [10 CSR 20-2.010(40)] & [10 CSR 20-7.031(1)(O)].

ANTI-BACKSLIDING:

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

- ✓ This is a new facility; therefore, backsliding does not apply.

ANTIDEGRADATION:

In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(3)], for domestic wastewater discharge with new, altered, or expanding discharges, the Department is to document by means of Antidegradation Review that the use of a water body's available assimilative capacity is justified. In accordance with Missouri's water quality regulations for antidegradation [10 CSR 20-7.031(3)], degradation may be justified by documenting the socio-economic importance of a discharge after determining the necessity of the discharge. Facilities must submit the antidegradation review request to the Department prior to establishing, altering, or expanding discharges. See <https://dnr.mo.gov/document-search/antidegradation-implementation-procedure>.

- ✓ This permit contains new discharge; please see **APPENDIX FOR ANTIDEGRADATION ANALYSIS**.

AREA-WIDE WASTE TREATMENT MANAGEMENT & CONTINUING AUTHORITY:

As per [10 CSR 20-6.010(2)(C)], an applicant may utilize a lower preference continuing authority when a higher level authority is available by submitting information as part of the application to the Department for review and approval, provided it does not conflict with any area-wide management plan approved under section 208 of the Federal Clean Water Act or any other regional sewage service and treatment plan approved for higher preference authority by the Department.

BIOSOLIDS & SEWAGE SLUDGE:

Biosolids are solid materials resulting from domestic wastewater treatment that meet federal and state criteria for beneficial uses (i.e. fertilizer). 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.

✓ Permittee is not authorized to land apply biosolids. Sludge/biosolids are removed by contract hauler.

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.

Facility Performance History:

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

CONTINUING AUTHORITY:

Each application for an operating permit shall identify the person, as that term is defined in section 644.016(15), RSMo, that is the owner of, operator of, or area-wide management authority for a water contaminant source, point source, wastewater treatment facility, or sewer collection system. This person shall be designated as the continuing authority and shall sign the application. By doing so, the person designated as the continuing authority acknowledges responsibility for compliance with all permit conditions.

10 CSR 20-6.010(2) establishes preferential levels for continuing authorities: Levels 1 through 5 (with Level 1 as the highest level), and generally requires permits to be issued to a higher preference continuing authority if available. A Level 3, 4, or 5 applicant may constitute a continuing authority by showing that Level 1 and Level 2 authorities are not available; do not have jurisdiction; are forbidden by state statute or local ordinance from providing service to the person; or that the Level 3, 4, or 5 applicant has met one of the requirements listed in paragraphs (2)(C)1.–7. of 10 CSR 20-6.010(2). The seven options in paragraphs (2)(C)1.–7. for a lower-level authority to demonstrate that it is the valid continuing authority are:

1. A waiver from the existing higher authority declining the offer to accept management of the additional wastewater or stormwater;
2. A written statement or a demonstration of non-response from the higher authority;
3. A to-scale map showing all parts of the legal boundary of the facility's property are beyond 2000 feet from the collection (sewer) system operated by the higher preference authority;
4. A proposed connection or adoption charge by the higher authority that would equal or exceed what is economically feasible for the applicant, which may be in the range of one hundred twenty percent (120%) of the applicant's cost for constructing or operating a wastewater treatment system;
5. A proposed service fee on the users of the system by the higher authority that is above what is affordable for existing homeowners in that area;
6. Terms for connection or adoption by the higher authority that would require more than two (2) years to achieve full sewer service; or
7. A demonstration that the terms for connection or adoption by the higher authority are not viable or feasible to homeowners in the area.

Permit applicants that are Levels 3, 4, and 5 must, as part of their application, identify their method of compliance with this regulation. The following are the methods to comply.

- No higher level authorities are available to the facility;
- No higher level authorities have jurisdiction;

- Higher level authorities are forbidden by state statute or local ordinance from providing service to the person;
- The existing higher level authority is available to the facility, however the facility has proposed the use of a lower preference continuing authority and has submitted one of the following as part of their application provided it does not conflict with any area-wide management plan approved under section 208 of the Clean Water Act or by the Missouri Clean Water Commission. (See Fact Sheet Appendix - Continuing Authority for more information on these options):
 - A waiver from the existing higher authority;
 - A written statement or a demonstration of non-response from the higher authority;
 - A to-scale map showing all parts of the legal boundary of the facility's property are beyond 2000 feet from the collection (sewer) system operated by the higher preference authority;
 - Documentation that the proposed connection or adoption charge by the higher authority would equal or exceed what is economically feasible for the applicant, which may be in the range of one hundred twenty percent (120%) of the applicant's cost for constructing or operating a wastewater treatment system;
 - Documentation that the proposed service fee on the users of the system by the higher authority is above what is affordable for existing homeowners in that area;
 - Documentation that the terms for connection or adoption by the higher authority would require more than two (2) years to achieve full sewer service;
 - A demonstration that the terms for connection or adoption by the higher authority are not viable or feasible to homeowners in the area;
- ✓ The continuing authority listed on the application form is for a business entity which is incorporated under the laws of Missouri. The business entity is registered with the Missouri Secretary of State's office and is assigned Charter Number LC1805012 per the Secretary of State's webpage. The corporation name with that charter number was verified by the permit writer to match the corporation name on the application form. The corporation has a status of "Good Standing" on the Secretary of State's webpage at the time of the drafting of this permit, and therefore a Level 4 Authority. The applicant has shown that:
 - A higher level authority is not available to the facility;

ELECTRONIC DISCHARGE MONITORING REPORT (EDMR) SUBMISSION SYSTEM:

The U.S. Environmental Protection Agency (EPA) promulgated a final rule on October 22, 2015, to modernize Clean Water Act reporting for municipalities, industries, and other facilities by converting to an electronic data reporting system. This final rule requires regulated entities and state and federal regulators to use information technology to electronically report data required by the National Pollutant Discharge Elimination System (NPDES) permit program instead of filing paper reports. To comply with the federal rule, the Department is requiring all permittees to begin submitting discharge monitoring data and reports online. In an effort to aid facilities in the reporting of applicable information electronically, the Department has created several new forms including operational control monitoring forms and an I&I location and reduction form. These forms are optional and can be provided upon request to the Department.

Per 40 CFR 127.15 and 127.24, permitted facilities may request a temporary waiver for up to 5 years or a permanent waiver from electronic reporting from the Department. To obtain an electronic reporting waiver, a permittee must first submit an eDMR Waiver Request Form: <https://dnr.mo.gov/document-search/electronic-discharge-monitoring-report-waiver-request-form-mo-780-2692>. Each facility must make a request. If a single entity owns or operates more than one facility, then the entity must submit a separate request for each facility based on its specific circumstances. An approved waiver is non-transferable.

The Department must review and notify the facility within 120 calendar days of receipt if the waiver request has been approved or rejected [40 CFR 124.27(a)]. During the Department review period as well as after a waiver is granted, the facility must continue submitting a hard-copy of any reports required by their permit. The Department will enter data submitted in hard-copy from those facilities allowed to do so and electronically submit the data to the EPA on behalf of the facility.

- ✓ The permittee/facility is currently using the eDMR data reporting system.

NUMERIC LAKE NUTRIENT CRITERIA:

- This facility discharges into a lake watershed (Table Rock Lake) where numeric lake nutrient criteria are applicable; however, regulations established in 10 CSR 20-7.015 as well as the Department's lake nutrient criteria implementation plan do not require nutrient monitoring for facilities with design flows less than or equal to 0.1 MGD. The Department issued a memorandum on December 11, 2020 regarding facilities excluded from Table Rock Lake reasonable potential analysis which states, "All minor domestic wastewater treatment facilities located in subwatersheds that are not directly adjacent to Table Rock Lake were found to contribute minimal nutrients compared to nonpoint sources. These facilities do not have reasonable potential to cause or contribute to water quality impairments in Table Rock Lake". In accordance with 10 CSR 7.015(3), Total Phosphorus limit of 0.5 mg/L is required.

OPERATOR CERTIFICATION REQUIREMENTS:

As per [10 CSR 20-6.010(8) Terms and Conditions of a Permit], the permittee shall operate and maintain facilities to comply with the Missouri Clean Water Law and applicable permit conditions and regulations. Operators 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 20-9.020(2)(A)], requirements for operation by certified personnel shall apply to all wastewater treatment systems with population equivalents greater than 200 and are owned or operated by or for municipalities, public sewer districts, counties, public water supply districts, private sewer companies regulated by the Public Service Commission and state or federal agencies.

- ✓ This facility is not required to have a certified operator as it is not owned or operated by or for a municipality, public sewer district, county, public water supply district, private sewer company regulated by the PSC, state or federal agency.

OPERATIONAL CONTROL TESTING:

Missouri Clean Water Commission regulation 10 CSR 20-9.010 requires certain publicly owned treatment works and privately owned facilities regulated by the Public Service Commission to conduct internal operational control monitoring to further ensure proper operation of the facility and to be a safeguard or early warning for potential plant upsets that could affect effluent quality. This requirement is only applicable if the publicly owned treatment works and privately owned facilities regulated by the Public Service Commission has a calculated Population Equivalent greater than two hundred (200).

10 CSR 20-9.010(3) allows the Department to modify the monitoring frequency required in the rule based upon the Department's judgement of monitoring needs for process control at the specified facility.

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

PFAS VOLUNTARY SAMPLING:

The Department is implementing voluntary sampling of per- and polyfluoroalkyl substances, or PFAS. PFAS are a family of compounds common in industrial processes which degrade slowly in the environment and have suspected health effects such as cancer, decreased immune response, hepatotoxicity, and low infant birth rate at levels as low as parts per trillion. Domestic POTWs may receive wastewater from industries which utilize PFAS. EPA plans to require additional testing for facilities most at risk of discharging PFAS, promulgate Effluent Limitation Guidelines for these facilities, and designate PFAS as CERCLA hazardous substances prior to 2024, per their PFAS Strategic Roadmap. Removal technologies for PFAS remain both traditionally expensive and resource-intensive. As such, understanding this facility's reasonable potential to violate future effluent limitations prior to their implementation will inform required process improvements in the future.

- ✓ This facility has no known PFAS sources. However, CDC has been collecting data regarding PFAS exposure in humans since 1999. Nearly every person surveyed had measurable amounts of PFOS, PFOA, PFHxS, and PFNA in their blood serum, indicating widespread exposure. Despite this facility having no known PFAS sources, voluntary testing may still be prudent to ensure that unknown industries are not discharging to the POTW. If the facility wishes to test for PFAS, the Department recommends sampling using a modified Test Method 537.1, found here: https://cfpub.epa.gov/si/si_public_record_report.cfm?dirEntryId=348508&Lab=CESER&simpleSearch=0&showCriteria=2&searchAll=537.1&TIMSType=&dateBeginPublishedPresented=03%2F24%2F2018. It is advisable to test for all 40 analytes described in CWA Test Method 1633. Sample results may be submitted with this permit's renewal application.

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.

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

REASONABLE POTENTIAL (RP):

Federal regulation [40 CFR Part 122.44(d)(1)(i)] and State Regulation [10 CSR 20-7.015(9)(A)2] 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.

In accordance with [40 CFR Part 122.44(d)(1)(iii)] if the permit writer determines that any given pollutant has the reasonable potential to cause, or contribute to an in-stream excursion above the WQS, the permit must contain effluent limits for that pollutant.

A reasonable potential analysis (RPA) is a numeric RP decision calculated using effluent data provided by the facility for parameters that have a numeric Water Quality Standard (WQS).

Reasonable potential determinations (RPD) are based on physical conditions of the site as provided in Sections 3.1.2, 3.1.3, and 3.2 of the TSD using best professional judgement. An RPD consists of evaluating visual observations for compliance with narrative criteria, non-numeric information, or small amounts of numerical data (such as 3 data points supplied in the application). Narrative criteria with RP typically translate to a numeric WQS, so a parameter's establishment being based on narrative criteria does not necessarily make the decision an RPD vs RP—how the data is collected does, however. When insufficient data is received to make a determination on RP based on numeric effluent data, the RPD decisions are based on best professional judgment considering the sources of influent wastewater, type of treatment, and historical overall management of the site.

- ✓ An RPA was not conducted for this facility. Ammonia is a constituent of domestic wastewater. A RPD was made, that a potential to violate water quality standards exists. Please see Derivation and Discussion of Limits.

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.

- ✓ Influent monitoring is not being required to determine percent removal.

SANITARY SEWER OVERFLOWS (SSO) AND INFLOW AND INFILTRATION (I&I):

Sanitary Sewer Overflows (SSOs) are defined as untreated sewage releases and are considered bypassing under state regulation [10 CSR 20-2.010(12)] and should not be confused with the federal definition of bypass. SSOs result from a variety of causes including blockages, line breaks, and sewer defects that can either allow wastewater to backup within the collection system during dry weather conditions or allow excess stormwater and groundwater to enter and overload the collection system during wet weather conditions. SSOs can also result from lapses in sewer system operation and maintenance, inadequate sewer design and construction, power failures, and vandalism. SSOs include overflows out of manholes, cleanouts, broken pipes, and other into waters of the state and onto city streets, sidewalks, and other terrestrial locations.

Inflow and Infiltration (I&I) is defined as unwanted intrusion of stormwater or groundwater into a collection system. This can occur from points of direct connection such as sump pumps, roof drain downspouts, foundation drains, and storm drain cross-connections or through cracks, holes, joint failures, faulty line connections, damaged manholes, and other openings in the collection system itself. I&I results from a variety of causes including line breaks, improperly sealed connections, cracks caused by soil erosion/settling, penetration of vegetative roots, and other sewer defects. In addition, excess stormwater and groundwater entering the collection system from line breaks and sewer defects have the potential to negatively impact the treatment facility.

Missouri RSMo §644.026.1.(13) mandates that the Department issue permits for discharges of water contaminants into the waters of this state, and also for the operation of sewer systems. Such permit conditions shall ensure compliance with all requirements as established by sections 644.006 to 644.141. Standard Conditions Part I, referenced in the permit, contains provisions requiring proper operation and maintenance of all facilities and systems of treatment and control. Missouri RSMo §644.026.1.(15) instructs the Department to require proper maintenance and operation of treatment facilities and sewer systems and proper disposal of residual waste from all such facilities. To ensure that public health and the environment are protected, any noncompliance which may endanger public health or the environment must be reported to the Department within 24 hours of the time the permittee becomes aware of the noncompliance. Standard Conditions Part I, referenced in the permit, contains the reporting requirements for the permittee when bypasses and upsets occur.

- ✓ 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):

Per 644.051.4 RSMo, a permit may be issued with a Schedule of Compliance (SOC) to provide time for a facility to come into compliance with new state or federal effluent regulations, water quality standards, or other requirements. Such a schedule is not allowed if the facility is already in compliance with the new requirement, or if prohibited by other statute or regulation. A SOC includes 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. *See also* Section 502(17) of the Clean Water Act, and 40 CFR §122.2. For new effluent limitations, the permit may include interim monitoring for the specific parameter to demonstrate the facility is not already in compliance with the new requirement. Per 40 CFR § 122.47(a)(1), 10 CSR 20-7.031(11), and 10 CSR 20-7.015(9), compliance must occur as soon as possible. If the permit provides a schedule for meeting

new water quality based effluent limits, a SOC must include an enforceable, final effluent limitation in the permit even if the SOC extends beyond the life of the permit.

A SOC is not allowed:

- For effluent limitations based on technology-based standards established in accordance with federal requirements, if the deadline for compliance established in federal regulations has passed. 40 CFR § 125.3.
- For a newly constructed facility in most cases. Newly constructed facilities must meet applicable effluent limitations when discharge begins, because the facility has installed the appropriate control technology as specified in a permit or antidegradation review. A SOC is allowed for a new water quality based effluent limit that was not included in a previously public noticed permit or antidegradation review, which may occur if a regulation changes during construction.
- To develop a TMDL, UAA, or other study that may result in site-specific criteria or alternative effluent limits. A facility is not prohibited from conducting these activities, but a SOC may not be granted for conducting these activities.

In order to provide guidance to Permit Writers in developing SOC's, and attain a greater level of consistency, on April 9, 2015 the Department issued an updated policy on development of SOC's. This policy provides guidance to Permit Writers on the standard time frames for schedules for common activities, and guidance on factors that may modify the length of the schedule such as a Cost Analysis for Compliance.

✓ This permit does not contain an SOC.

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.

✓ 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(86)], 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.

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

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

Where C = downstream concentration C_e = effluent concentration
Cs = upstream concentration Q_e = effluent flow
Q_s = upstream 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).

Number of Samples "n":

Additionally, in accordance with the TSD for water quality-based permitting, effluent quality is determined by the underlying distribution of daily values, which is determined by the Long Term Average (LTA) associated with a particular Wasteload Allocation (WLA) and by the Coefficient of Variation (CV) of the effluent concentrations. Increasing or decreasing the monitoring frequency does not affect this underlying distribution or treatment performance, which should be, at a minimum, be targeted to comply with the values dictated by the WLA. Therefore, it is recommended that the actual planned frequency of monitoring normally be used to determine the value of "n" for calculating the AML. However, in situations where monitoring frequency is once per month or less, a higher value for "n" must be assumed for AML derivation purposes. Thus, the statistical procedure being employed using an assumed number of samples is "n = 4" at a minimum. For Total Ammonia as Nitrogen, "n = 30" is used.

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.

- ✓ 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.

Under the federal Clean Water Act (CWA) §101(a)(3), requiring WET testing is reasonably appropriate for site-specific Missouri State Operating Permits for discharges to waters of the state issued under the National Pollutant Discharge Elimination System (NPDES). WET testing is also required by 40 CFR 122.44(d)(1). WET testing ensures that the provisions in the 10 CSR 20-6.010(8)(A) and the Water Quality Standards 10 CSR 20-7.031(4)(D),(F),(G),(J)2.A & B are being met. Under [10 CSR 20-6.010(8)(B)], the Department may require other terms and conditions that it deems necessary to assure compliance with the Clean Water Act and related regulations of the Missouri Clean Water Commission. In addition the following MCWL apply: §§644.051.3 requires the Department to set permit conditions that comply with the MCWL and CWA; 644.051.4 specifically references toxicity as an item we must consider in writing permits (along with water quality-based effluent limits, pretreatment, etc...); and 644.051.5 is the basic authority to require testing conditions. WET test will be required by facilities meeting the following criteria:

- ☐ Facility is a designated Major.
- ☐ Facility continuously or routinely exceeds its design flow.
- ☐ Facility that exceeds its design population equivalent (PE) for BOD₅ whether or not its design flow is being exceeded.
- ☐ Facility (whether primarily domestic or industrial) that alters its production process throughout the year.
- ☐ Facility handles large quantities of toxic substances, or substances that are toxic in large amounts.
- ☐ Facility has Water Quality-based Effluent Limitations for toxic substances (other than NH₃)
- ☐ Facility is a municipality with a Design Flow ≥ 22,500 gpd.
- ☐ Other – please justify.

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

40 CFR 122.41(M) - BYPASSES:

The federal Clean Water Act (CWA), Section 402 prohibits wastewater dischargers from “bypassing” untreated or partially treated sewage (wastewater) beyond the headworks. A bypass is defined as an intentional diversion of waste streams from any portion of a treatment facility, [40 CFR 122.41(m)(1)(i)]. Additionally, Missouri regulation 10 CSR 20-7.015(9)(G) states a bypass means the intentional diversion of waste streams from any portion of a treatment facility, except in the case of blending, to waters of the state. Only under exceptional and specified limitations do the federal regulations allow for a facility to bypass some or all of the flow from its treatment process. Bypasses are prohibited by the CWA unless a permittee can meet all of the criteria listed in 40 CFR 122.41(m)(4)(i)(A), (B), & (C). Any bypasses from this facility are subject to the reporting required in 40 CFR 122.41(l)(6) and per Missouri’s Standard Conditions I, Section B, part 2.b. Additionally, Anticipated Bypasses include bypasses from peak flow basins or similar devices designed for peak wet weather flows.

- ✓ This facility does not anticipate bypassing.

Part IV – Cost Analysis for Compliance

Pursuant to Section 644.145, RSMo, when issuing permits under this chapter that incorporate a new requirement for discharges from publicly owned combined or separate sanitary or storm sewer systems or publicly owned treatment works, or when enforcing provisions of this chapter or the Federal Water Pollution Control Act, 33 U.S.C. 1251 et seq., pertaining to any portion of a publicly owned combined or separate sanitary or storm sewer system or [publicly owned] treatment works, the Department of Natural Resources shall make a “finding of affordability” on the costs to be incurred and the impact of any rate changes on ratepayers upon which to base such permits and decisions, to the extent allowable under this chapter and the Federal Water Pollution Control Act. This process is completed through a cost analysis for compliance. Permits that do not include new requirements may be deemed affordable.

- ✓ The Department is not required to complete a cost analysis for compliance because the facility is not a combined or separate sanitary sewer system for a publicly-owned treatment works.

Part V – 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.

WATER QUALITY STANDARD REVISION:

In accordance with section 644.058, RSMo, the Department is required to utilize an evaluation of the environmental and economic impacts of modifications to water quality standards of twenty-five percent or more when making individual site-specific permit decisions.

- ✓ This operating permit does not contain requirements for a water quality standard that has changed twenty-five percent or more since the previous operating permit.

PERMIT SYNCHRONIZATION:

The Department of Natural Resources is currently undergoing a synchronization process for operating permits. Permits are normally issued on a five-year term, but to achieve synchronization many permits will need to be issued for less than the full five years allowed by regulation. The intent is that all permits within a watershed will move through the Watershed Based Management (WBM) cycle together will all expire in the same fiscal year. This will allow further streamlining by placing multiple permits within a smaller geographic area on public notice simultaneously, thereby reducing repeated administrative efforts. This will also allow the Department to explore a watershed based permitting effort at some point in the future. Renewal applications must continue to be submitted within 180 days of expiration, however, in instances where effluent data from the previous renewal is less than 4 years old, that data may be re-submitted to meet the requirements of the renewal application. If the permit provides a schedule of compliance for meeting new water quality based effluent limits beyond the expiration date of the permit, the time remaining in the schedule of compliance will be allotted in the renewed permit. If the Department issues the permit at this time, the effective period of the permit would be less than one year in length. To ensure efficient use of Department staff, reduce the Department's permitting back log and to provide better service to the permittee by avoiding another renewal application to be submitted in such a short time period this operating permit will be issued for the maximum timeframe of five years and synced with other permits in the watershed at a later date.

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 September 30, 2022 to October 30, 2022. No comments were received.

DATE OF FACT SHEET: AUGUST 29, 2022

COMPLETED BY:

**BERN JOHNSON, ASSOCIATE ENGINEER
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
ENGINEERING SECTION**

Appendices

APPENDIX – Non-Detect Example Calculations:

Example: Permittee has four samples for Pollutant X which has a method minimum level of 5 mg/L and is to report a Daily Maximum and Monthly Average.

Week 1 = 11.4 mg/L

Week 2 = Non-Detect or <5.0 mg/L

Week 3 = 7.1 mg/L

Week 4 = Non-Detect or <5.0 mg/L

For this example, use subpart (h) - For reporting an average based on a mix of detected and non-detected values (not including *E. coli*), assign a value of “0” for all non-detects for that reporting period and report the average of all the results.

$$11.4 + 0 + 7.1 + 0 = 18.5 \div 4 \text{ (number of samples)} = 4.63 \text{ mg/L.}$$

The Permittee reports a Monthly Average of 4.63 mg/L and a Daily maximum of 11.4 mg/L (Note the < symbol was dropped in the answers).

Example: Permittee has five samples for Pollutant Y that has a method minimum level of 9 µg/L and is to report a Daily Maximum and Monthly Average.

Day 1 = Non-Detect or <9.0 µg/L

Day 2 = Non-Detect or <9.0 µg/L

Day 3 = Non-Detect or <9.0 µg/L

Day 4 = Non-Detect or <9.0 µg/L

Day 5 = Non-Detect or <9.0 µg/L

For this example, use subpart (g) - For reporting an average based on all non-detected values, remove the “<” sign from the values, average the values, and then add the “<” symbol back to the resulting average.

$$(9 + 9 + 9 + 9 + 9) \div 5 \text{ (number of samples)} = <9 \text{ µg/L.}$$

The Permittee reports a Monthly Average of <9.0 µg/L (retain the ‘less than’ symbol) and a Daily Maximum of <9.0 µg/L.

Example: Permittee has four samples for Pollutant Z where the first two tests were conducted using a method with a method minimum level of 4 µg/L and the remaining two tests were conducted using a different method that has a method minimum level of <6 µg/L and is to report a Monthly Average and a Weekly Average.

Week 1 = Non-Detect or <4.0 µg/L

Week 2 = Non-Detect or <4.0 µg/L

Week 3 = Non-Detect or <6.0 µg/L

Week 4 = Non-Detect or <6.0 µg/L

For this example, use subpart (g) - For reporting an average based on all non-detected values, remove the “<” sign from the values, average the values, and then add the “<” symbol back to the resulting average.

$$(4 + 4 + 6 + 6) \div 4 \text{ (number of samples)} = <5 \text{ µg/L. (Monthly)}$$

The facility reports a Monthly Average of <5.0 µg/L and a Weekly Average of <6.0 µg/L.

APPENDIX – Non-Detect Example Calculations (Continued):

Example: Permittee has five samples for Pollutant Z where the first two tests were conducted using a method with a method minimum level of 4 µg/L and the remaining three tests were conducted using a different method that has a method minimum level of <6 µg/L and is to report a Monthly Average and a Weekly Average.

Week 1 = Non-Detect or <4.0 µg/L

Week 2 = Non-Detect or <4.0 µg/L

Week 2 = Non-Detect or <6.0 µg/L

Week 3 = Non-Detect or <6.0 µg/L

Week 4 = Non-Detect or <6.0 µg/L

For this example, use subpart (g) - For reporting an average based on all non-detected values, remove the “<” sign from the values, average the values, and then add the “<” symbol back to the resulting average.

$(4 + 4 + 6 + 6 + 6) \div 5$ (number of samples) = <5.2 µg/L. (Monthly)

$(4 + 6) \div 2$ (number of samples) = <5 µg/L. (Week 2)

The facility reports a Monthly Average of <5.2 µg/L and a Weekly Average of <6.0 µg/L (report highest Weekly Average value)

Example: Permittee has four samples for Pollutant Z where the tests were conducted using a method with a method minimum level of 10 µg/L and is to report a Monthly Average and Daily Maximum. The permit lists that Pollutant Z has a Department determined Minimum Quantification Level (ML) of 130 µg/L.

Week 1 = 12 µg/L

Week 2 = 52 µg/L

Week 3 = Non-Detect or <10 µg/L

Week 4 = 133 µg/L

For this example, use subpart (h) - For reporting an average based on a mix of detected and non-detected values (not including *E. coli*), assign a value of “0” for all non-detects for that reporting period and report the average of all the results.

For this example, $(12 + 52 + 0 + 133) \div 4$ (number of samples) = $197 \div 4 = 49.3$ µg/L.

The facility reports a Monthly Average of 49.3 µg/L and a Daily Maximum of 133 µg/L.

Example: Permittee has five samples for *E. coli* which has a method minimum level of 1 #/100mL and is to report a Weekly Average (seven (7) day geometric mean) and a Monthly Average (thirty (30) day geometric mean).

Week 1 = 102 #/100mL

Week 2 (Monday) = 400 #/100mL

Week 2 (Friday) = Non-Detect or <1 #/100mL

Week 3 = 15 #/100mL

Week 4 = Non-Detect or <1 #/100mL

For this example, use subpart (i) - When *E. coli* is not detected above the method minimum level, the permittee must report the data qualifier signifying less than detection limit for that parameter (e.g., <1 #/100mL, if the method minimum level is 1 #/100mL). For reporting a geometric mean based on a mix of detected and non-detected values, use one-half of the detection limit (instead of zero) for non-detects when calculating geometric means. The Geometric Mean is calculated by multiplying all of the data points and then taking the nth root of this product, where n = # of samples collected.

The Monthly Average (30 day Geometric Mean) = 5th root of $(102)(400)(0.5)(15)(0.5) = 5\text{th root of } 153,000 = 10.9$ #/100mL.

The 7 day Geometric Mean = 2nd root of $(400)(0.5) = 2\text{nd root of } 200 = 14.1$ #/100mL. (Week 2)

The Permittee reports a Monthly Average (30 day Geometric Mean) of 10.9 #/100mL and a Weekly Average (7 day geometric mean) of 102 #/100mL (report highest Weekly Average value)

APPENDIX – ANTIDEGRADATION ANALYSIS:

Water Quality and Antidegradation Review

For the Protection of Water Quality
and Determination of Effluent Limits for Discharge to

Table Rock Lake
by
Lifestyle Contractors
Wilderness Mountain WWTF



February 2022

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PURPOSE OF ANTIDEGRADATION REVIEW REPORT

The proposed project is for 44 single unit condominiums at Table Rock Lake in Stone County. The proposed design flow is 31,680 gallons/day.

Michael Stalzer, P.E. of CPWG, prepared the application and antidegradation report.

The applicant elected to assume that all pollutants of concern (POC), except Total Nitrogen and Total Phosphorus, significantly degrade the receiving waterbody in the absence of existing water quality. An alternatives analysis was conducted to fulfill the requirements of the Antidegradation Implementation Policy (AIP). Table Rock Lake is on the 303(d) list for nutrients. Therefore, nutrients are treated as non-degrading.

FACILITY INFORMATION

Facility Name:	Wilderness Mountain
Address:	Highway 13, Lampe
Permit #:	New Facility
County:	Stone
Facility Type:	Domestic
Owner:	Lifestyle Contractors
Continuing Authority:	same
UTM Coordinates:	X = 461957 ; Y = 4051042
Legal Description:	Township 22 North, Range 23 West
Ecological Drainage Unit:	Ozark / White

FACILITY HISTORY

This is a new facility and has no history. It will serve a new development on Table Rock Lake.

FACILITY PERFORMANCE HISTORY:

There is no performance history for this facility since it is a new and proposed discharging facility.

RECEIVING WATERBODY INFORMATION

OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE
001	0.05	Secondary	Domestic

RECEIVING STREAM(S) TABLE:

WATER-BODY NAME	CLASS	WBID	DESIGNATED USES*	12-DIGIT HUC	DISTANCE TO CLASSIFIED SEGMENT (MI)
Tributary to Table Rock Lake			General Criteria	11010001-1401	0
Table Rock Lake	L2	7313	AQL, HPP, IRR, LWL, SCR, WBC(A)		.01

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

RECEIVING STREAM(S) LOW-FLOW VALUES:

RECEIVING STREAM	LOW-FLOW VALUES (CFS)		
	1Q10	7Q10	30Q10
Tributary to Table Rock Lake	0.0	0.0	0.0

Receiving Water Body Segment Outfall #1:		
Upper end segment* UTM coordinates:	X = 462159 ; Y = 4050986	outfall
Lower end segment* UTM coordinates:	X = 462005 ; Y = 4050450	entrance to lake

*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.

A Geohydrologic Evaluation was not submitted with the request, but is identical to many other facilities in the area. The receiving stream is gaining for discharge purposes.

EXISTING WATER QUALITY

No existing water quality data was submitted. The facility discharges to an existing drainage swale 500 linear feet from Table Rock Lake. Table Rock Lake is on the 303(d) list for nutrients.

MIXING CONSIDERATIONS

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

Mixing Zone:

Mixing Zone (MZ) Parameters: According to the USGS 1:24,000K Quadrangle, the mainstem lake width near the assumed new facility outfall location is approximately 600 feet (ft.). Using “normal” water levels of 600 ft. wide and one-quarter of this width equals 150 ft. Therefore, because 100 feet is less than 150 ft., MZ = 100 feet [10 CSR 20-7.031(5)(A)5.B.(IV)(a)].

Mixing Zone Volume: 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) = 100 ft., and depth (D) = 9 ft. Depth was obtained using mixing zone length projected 100 ft. from shoreline to the intersecting contour on an online water depth map ([Table Rock Lake \(AR, MO\) water depth map - marine chart \(fishermap.org\)](#)).

$$\text{Volume} = L * W * (D * 0.5) = (100') * (100') * (9' * 0.5) = 45,000 \text{ ft}^3$$

The flow volume of 45,000 ft³ is assumed as the daily mixing zone. Therefore;
 $30Q10 = (45,000 \text{ ft}^3/\text{day}) * (1 \text{ day}/86,400 \text{ sec}) = 0.52 \text{ ft}^3/\text{sec}$.

PERMIT LIMITS AND MONITORING INFORMATION

Proposed Monitoring Parameters and Effluent Limits

PARAMETER	Unit	Basis for Limits	Daily Maximum	Weekly Average	Monthly Average	Previous Permit Limit	Sampling Frequency	Reporting Frequency	Sample Type ****
Flow	MGD		*		*				
BOD ₅	mg/L	PEL		15	10				
TSS	mg/L	PEL		20	15				
<i>Escherichia coli</i> **	#/100mL	PEL	630**		126**				
Ammonia as N**** (Jan 1 – Mar 31) (Apr 1 – Jun 30) (Jul 1 – Sep 30) (Oct 1 – Dec 31)	mg/L	PEL	4.4 2.9 2.2 4.4		2.9 1.9 1.5 2.9				
Oil & Grease	mg/L								
Total Phosphorus	mg/L	PEL	*		0.5				
Total Kjeldahl Nitrogen	mg/L								
PARAMETER	Unit	Basis for Limits	Minimum		Maximum	Previous Permit Limit	Sampling Frequency	Reporting Frequency	Sample Type
pH	SU	PEL	6.5		9.0				
PARAMETER	Unit	Basis for Limits	Daily Minimum		Monthly Avg. Min	Previous Permit Limit	Sampling Frequency	Reporting Frequency	Sample Type
Dissolved Oxygen (DO)	mg/L								
BOD ₅ Percent Removal	%								
TSS Percent Removal	%								

* - Monitoring requirement only

** - #/100mL; the Monthly Average for *E. coli* is a geometric mean.

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

**** - Values obtained by using base case value (1.5 mg/L as 3rd Q AML) and scaling others using WQBEL ratios.

Basis for Limitations Codes:

MDL – Minimally Degrading Effluent Limit

TBEL – Technology-Based Effluent Limit

NDEL – Non-Degrading Effluent Limit

WQBEL – Water Quality-Based Effluent Limit

PEL – Preferred Effluent Limit

RECEIVING WATER MONITORING REQUIREMENTS

No receiving water monitoring requirements recommended at this time.

ANTIDEGRADATION REVIEW INFORMATION

In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(3)] and federal antidegradation policy at Title 40 Code of Federal Regulation (CFR) Section 131.12 (a), the department 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, and revised July 13, 2016, a facility is required to use Missouri's AIP for new and expanded wastewater discharges.

The AIP specifies that if the proposed activity results in significant degradation then a demonstration of necessity (i.e., alternatives analysis) and a determination of social and economic importance are required.

The following is a review of the Antidegradation Report – Wastewater Treatment System Wilderness Mountain dated October 11, 2021.

A. TIER DETERMINATION

Waterbodies are assigned Tier 1, 2, or 3 protection levels.

Tier 1 protection is applied to a waterbody on a pollutant by pollutant basis for pollutants may cause or contribute to the impairment of a beneficial use or violation of Water Quality Criteria (WQC); and prohibit further degradation of Existing Water Quality (EWQ) where additional pollutants of concern (POCs) would result in the water being included on the 303(d) List.

Tier 2 level protection is assigned to the waterbody on a pollutant by pollutant basis that prohibits the degradation of water quality of a surface water unless a review of reasonable alternatives and social and economic considerations justifies the degradation in accordance with the methods presented in the AIP.

Tier 3 protection prohibits any degradation of water quality of Outstanding National Resource Waters and Outstanding State Resource Waters as identified in Tables D and E of the Water Quality Standards (WQS). Temporary degradation of water receiving Tier 3 protection may be allowed by the Department on a case-by-case basis as explained in Section VI of the AIP.

Below is a list of POCs reasonably expected and identified by the permittee in their application to be in the discharge. Pollutants of concern are defined as those pollutants “proposed for discharge that affect beneficial use(s) in waters of the state.” They include pollutants that “create conditions unfavorable to beneficial uses in the water body receiving the discharge or proposed to receive the discharge” (AIP, Page 6).

Table Rock Lake is on the 303(d) list for nutrients (phosphorus). It is Tier 1. All others are Tier 2.

Pollutants of Concern and Tier Determination

Pollutants of Concern	Tier	Degradation	Comment
Biological Oxygen Demand (BOD ₅)/DO	2*	Significant	
Total Suspended Solids (TSS)	2*	“	
Ammonia as N	2*	“	
<i>Escherichia coli</i> (<i>E. coli</i>)	2*	“	
Phosphorus, Total	1	Non-degrading	
pH	***		

* Tier assumed.

** Tier determination not possible: No in-stream standards for these parameters.

*** Standards for these parameters are ranges.

Tier 1 Review

Table Rock Lake is on the 303(d) list for nutrients (phosphorus). Effluent must meet the 0.5 mg/L regulatory limit.

According to the AIP, the waters may receive the POCs that are causing impairments if 1) the discharge would not cause or contribute to a violation of the WQS, 2) all other conditions of the state permitting requirements are met (i.e., no discharge options are explored and technology based requirements (including ELGs) are met); and 3) the permit is issued with the highest statutory and regulatory requirements.

B. NECESSITY OF DEGRADATION

The AIP specifies 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. Part of that analysis as shown below is the evaluation of non-degrading alternatives, such as regionalization or no discharge systems.

The applicant has the option of assuming discharge will be significant and proceeding directly to the alternatives analysis, thereby avoiding the determination of the assimilative capacity of the receiving water. The applicant has elected this option.

Regionalization

The only nearby treatment facilities are small and without sufficient capacity to accept the planned discharge. The nearest POTW is across the lake at City of Branson West Aunt's Creek.

No Discharge Evaluation

There is insufficient acreage for surface spraying and too rocky for subsurface discharge.

Alternatives to No discharge

The applicant considered three treatment technologies: extended aeration, recirculating gravel filter bed, and moving bed bioreactor (MBBR). Although it is the most expensive, the applicant selected the MBBR.

Alternatives Analysis Comparison

Pollutant	Alternative 1 (Base Case) extended aeration t	Alternative 2 recirculating gravel filter bed	Alternative 3 MBBR
BOD ₅	≤ 20 mg/l	≤ 20 mg/l	≤ 3 mg/l
TSS	≤ 20 mg/l	≤ 20 mg/l	≤ 3 mg/l
Ammonia as N	≤ 1.5 mg/l	≤ 1.5 mg/l	≤ 0.8 mg/l
Escherichia coli (E. coli)	≤ 126 CFU/100ml	≤ 126 CFU/100ml	≤ 126 CFU/100ml
Phosphorus, Total	≤ 0.5 mg/l	≤ 0.5 mg/l	≤ 0.5 mg/l
Life Cycle Cost**	\$437,316	\$477,680	\$581,316
Ratio	100%	109%	133%

* monitoring requirement

**Life cycle cost at 20 year design life and 8% interest

C. SOCIAL AND ECONOMIC IMPORTANCE

The development is near Kimberling City, town of 2,304. The resort will add to the local tax base. The visitors will patronize local retail shops, restaurants, and other area services. The construction activity related to infrastructure and new buildings will employ numerous persons.

D. NATURAL HERITAGE REVIEW

A Missouri Department of Conservation Natural Heritage Review was obtained by the applicant. Three species of bats; Indiana, Northern Long-Eared and Gray; may be present in the project area. The following recommendations were made for construction activities:

- Manage construction to minimize sedimentation and run-off to nearby streams.
- At stream and drainage crossings, avoid erosion, silt introduction, petroleum or chemical pollution, and disruption or realignment of stream banks and beds.
- If any trees need to be removed for the project, contact the U.S. Fish and Wildlife Service for coordination under the Endangered Species Act.

RECEIVING WATER MONITORING REQUIREMENTS

No receiving water monitoring requirements recommended at this time.

DERIVATION AND DISCUSSION OF PARAMETERS AND LIMITS

Wasteload allocations and limits were calculated using two methods:

A. Water quality-based – 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
- 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 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).

- B. Alternative Analysis-based** – Using the preferred alternative’s treatment capacity for conventional pollutants such as BOD₅ 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).

Note: Significantly-degrading effluent limits have been based on the authority included in Section I.A. 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 BOD₅ and TSS effluent values 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 BOD₅ and TSS effluent values could be achievable through proper operation and maintenance of the treatment works, considering the design capability of the treatment process.

Outfall #001 – Main Facility Outfall

- **Flow.** Though not limited itself, the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations [40 CFR Part 122.44(i)(1)(ii)]. 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. Influent monitoring has been and will be required for this facility in its Missouri State Operating Permit.
- **Biochemical Oxygen Demand (BOD₅).** Effluent limits of 10 mg/L average monthly and 15 mg/L average weekly maximum were established as a result of a discharging technology alternatives analysis conducted by the applicant. These limits are at least as stringent as the minimum effluent regulations established in 10 CSR 20-7.015(3)(A)1.A.
- **Total Suspended Solids (TSS).** Effluent limits of 15 mg/L average monthly and 20 mg/L average weekly maximum were established as a result of a discharging technology alternatives analysis conducted by the applicant. These limits are at least as stringent as the minimum effluent regulations established in 10 CSR 20-7.015(3)(A)1.A.
- **Escherichia coli (E. coli).** Effluent limits of 126 CFU per 100 mL monthly average and 630 CFU per 100 mL as a daily max of geometric mean during the recreation season (April 1 – October 31) were established as a result of a discharging technology alternatives analysis conducted by the applicant. Disinfection to meet whole body contact requirements is not required because the manufacturer guarantees the system will meet the limit. (10 CSR 20-7.031(9)(J)1.
- **Total Ammonia Nitrogen.** Early Life Stages Present Total Ammonia Nitrogen criteria apply [10 CSR 20-7.031(5)(B)7.C. & Table B3]. Background total ammonia nitrogen = 0.01 mg/L

Quarter	Temp (°C)*	pH (SU)*	Total Ammonia Nitrogen CCC (mg/L)	Total Ammonia Nitrogen CMC (mg/L)
1 st	11	7.8	3.1	12.1
2 nd	21	7.8	3.1	12.1
3 rd	25.4	7.8	3.1	12.1
4 th	14.6	7.8	2.7	12.1

* Ecoregion Data (Ozark Highlands)

1st Quarter

Chronic WLA: $C_e = ((0.05 + 0.52)3.1 - (0.52 * 0.01)) / 0.05 = 35.2 \text{ mg/L}$
 Acute WLA: $C_e = ((0.05 + 0.0)12.1 - (0.0 * 0.01)) / 0.05 = 12.1 \text{ mg/L}$
 AML = 12.1 mg/L
 MDL = 12.1 mg/L

2nd Quarter

Chronic WLA: $C_e = ((0.05 + 0.52)3.1 - (0.52 * 0.01)) / 0.05 = 35.2 \text{ mg/L}$
 Acute WLA: $C_e = ((0.05 + 0.0)12.1 - (0.0 * 0.01)) / 0.05 = 12.1 \text{ mg/L}$
 AML = 12.1 mg/L
 MDL = 12.1 mg/L

3rd Quarter

Chronic WLA: $C_e = ((0.05 + 0.52)3.1 - (0.52 * 0.01)) / 0.05 = 35.2 \text{ mg/L}$

Acute WLA: $C_e = ((0.05 + 0.0)12.1 - (0.0 * 0.01)) / 0.05 = 12.1 \text{ mg/L}$
AML = 12.1 mg/L
MDL = 12.1 mg/L

4th Quarter

Chronic WLA: $C_e = ((0.05 + 0.52)2.7 - (0.52 * 0.01)) / 0.05 = 30.7 \text{ mg/L}$
Acute WLA: $C_e = ((0.05 + 0.0)12.1 - (0.0 * 0.01)) / 0.05 = 12.1 \text{ mg/L}$
AML = 12.1 mg/L
MDL = 12.1 mg/L

The MBR is capable of much better ammonia control than WQBEL; therefore, the recommended limits are those that the MBR system is capable of meeting.

- **Total Phosphorus.** The facility is located in the watershed of Table Rock Lake and must therefore meet the lake's phosphorus limit of 0.5 mg/L [10 CSR 20-7.015(3)].
- **pH.** The preferred alternative selected for ammonia treatment serves as the base case for pH with effluent limit range of 6.0-9.0 SU. Technology based limits, 6.0/9.0 SU are protective of the water quality standard [10 CSR 20-7.031(5)(E)], due to the buffering capacity of the mixing zone.

GENERAL ASSUMPTIONS OF THE WATER QUALITY AND ANTIDEGRADATION REVIEW

- 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.
- 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.
- Changes to Federal and State Regulations (FSR) made after the drafting of this WQAR may alter Water Quality Based Effluent Limits (WQBEL).
- Effluent limitations derived from FSR may be WQBEL or Effluent Limit Guidelines (ELG).
- WQBEL supersede ELG only when they are more stringent. Mass limits derived from technology based limits are still appropriate.
- A WQAR does not allow discharges to waters of the State, and shall not be construed as a National Pollution Discharge Elimination System (NPDES) or Missouri State Operating Permit to discharge or a permit to construct, modify, or upgrade.
- Limitations and other requirements in a WQAR may change as Water Quality Standards (WQS), Methodology, and Implementation procedures change.
- Nothing in this WQAR removes any obligations to comply with county or other local ordinances or restrictions.
- 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 review engineer determines the proposed technology will not consistently meet proposed effluent limits, the permittee will be required to revise their Antidegradation Report.

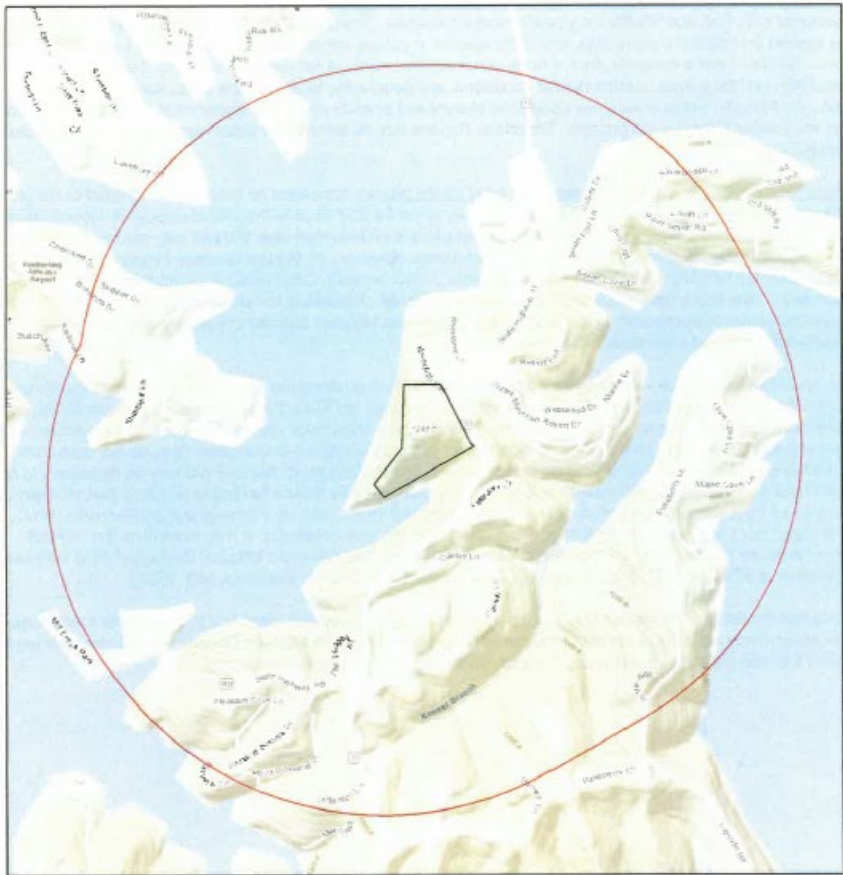
ANTIDEGRADATION REVIEW PRELIMINARY DETERMINATION

The proposed new facility discharge will result in significant degradation of Table Rock Lake. An extended aeration plant was found to be the base case technology (lowest cost alternative that meets technology and water quality based effluent limitations). However, the MBR plant was found to be less degrading, and economically efficient and was determined to be the preferred alternative.

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. The Department has determined that the submitted review is sufficient and meets the requirements of the AIP. No further analysis is needed for this discharge.

Reviewer: Bern Johnson
Date: February 2022
Unit Chief: John Rustige, P.E.

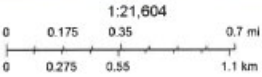
Appendix A: Map of Discharge Location



September 28, 2021

□ Project Boundary

□ Buffered Project Boundary



Appendix B: Natural Heritage Review



Missouri Department of Conservation

Missouri Department of Conservation's Mission is to protect and manage the forest, fish, and wildlife resources of the state and to facilitate and provide opportunities for all citizens to use, enjoy and learn about these resources.

Natural Heritage Review Level Three Report: Species Listed Under the Federal Endangered Species Act

There are records of species listed under the Federal Endangered Species Act, and possibly also records for species listed Endangered by the state, or Missouri Species and/or Natural Communities of Conservation Concern within or near the the defined Project Area. Please contact the U.S. Fish and Wildlife Service and the Missouri Department of Conservation for further coordination.

Foreword: Thank you for accessing the Missouri Natural Heritage Review Website developed by the Missouri Department of Conservation with assistance from the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, Missouri Department of Transportation and NatureServe. The purpose of this website is to provide information to federal, state and local agencies, organizations, municipalities, corporations and consultants regarding sensitive fish, wildlife, plants, natural communities and habitats to assist in planning, designing and permitting stages of projects.

PROJECT INFORMATION

Project Name and ID Number: Wilderness Mountain #9748

User Project Number: Lifestyle Contractors

Project Description: Proposed multi unit development in Stone County adjacent to Table Rock Lake off of Hwy 13 south.

Project Type: Waste Transfer, Treatment, and Disposal, Liquid waste/Effluent, Wastewater treatment plant, Construction or expansion

Contact Person: Michael Stalzer

Contact Information: michael.stalzer@cpwgengineering.com or 8139062851

Disclaimer: The NATURAL HERITAGE REVIEW REPORT produced by this website identifies if a species tracked by the Natural Heritage Program is known to occur within or near the area submitted for your project, and shares suggested recommendations on ways to avoid or minimize project impacts to sensitive species or special habitats. If an occurrence record is present, or the proposed project might affect federally listed species, the user must contact the Department of Conservation or U.S. Fish and Wildlife Service for more information. The Natural Heritage Program tracks occurrences of sensitive species and natural communities where the species or natural community has been found. Lack of an occurrence record does not mean that a sensitive plant, animal or natural community is not present on or near the project area. Depending on the project, current habitat conditions, and geographic location in the state, surveys may be necessary. Additionally, because land use conditions change and animals move, the existence of an occurrence record does not mean the species/habitat is still present. Therefore, Reports include information about records near but not necessarily on the project site.

The Natural Heritage Report is not a site clearance letter for the project. It provides an indication of whether or not public lands and sensitive resources are known to be (or are likely to be) located close to the proposed project. Incorporating information from the Natural Heritage Program into project plans is an important step that can help reduce unnecessary impacts to Missouri's sensitive fish, forest and wildlife resources. However, the Natural Heritage Program is only one reference that should be used to evaluate potential adverse project impacts. Other types of information, such as wetland and soils maps and on-site inspections or surveys, should be considered. Reviewing current landscape and habitat information, and species' biological characteristics would additionally ensure that Missouri Species of Conservation Concern are appropriately identified and addressed in planning efforts.

U.S. Fish and Wildlife Service – Endangered Species Act (ESA) Coordination: Lack of a Natural Heritage Program occurrence record for federally listed species in your project area does not mean the species is not present, as the area may never have been surveyed. Presence of a Natural Heritage Program occurrence record does not mean the project will result in negative impacts. The information within this report is not intended to replace Endangered Species Act consultation with the U.S. Fish and Wildlife Service (USFWS) for listed species. Direct contact with the USFWS may be necessary to complete consultation and it is required for actions with a federal connection, such as federal funding or a federal permit; direct contact is also required if ESA concurrence is necessary. Visit the USFWS Information for Planning and Conservation (IPaC) website at <https://ecos.fws.gov/ipac/> for further information. This site was developed to help streamline the USFWS environmental review process and is a first step in ESA coordination. The Columbia Missouri Ecological Field Services Office may be reached at 573-234-2132, or by mail at 101 Park Deville Drive, Suite A, Columbia, MO 65203.

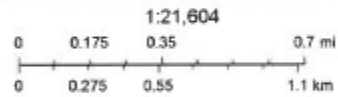
Transportation Projects: If the project involves the use of Federal Highway Administration transportation funds, these recommendations may not fulfill all contract requirements. Please contact the Missouri Department of Transportation at 573-526-4778 or visit <https://www.modot.org/> for additional information on recommendations.

Wilderness Mountain



September 28, 2021

- Project Boundary
- Buffered Project Boundary



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), Swisstopo, Swisstopo, IGN, Esri, the GIS User Community

Species or Communities of Conservation Concern within the Area:

There are records of species listed under the Federal Endangered Species Act, and possibly also records for species listed Endangered by the state, or Missouri Species and/or Natural Communities of Conservation Concern within or near the the defined Project Area. Please contact the U.S. Fish and Wildlife Service and the Missouri Department of Conservation for further coordination.

MDC Natural Heritage Review
Science Branch
P.O. Box 180
Jefferson City, MO
65102-0180
Phone: 573-522-4115 ext. 3182
NaturalHeritageReview@mdc.mo.gov

U.S. Fish and Wildlife Service
Ecological Service
101 Park Deville Drive
Suite A
Columbia, MO
65203-0007
Phone: 573-234-2132

Other Special Search Results:

The project occurs on or near public land, MARK TWAIN NF, TABLE ROCK LAKE USACOE, please contact USFS, COE.

Project Type Recommendations:

Waste Transfer, Treatment and Disposal -Wastewater treatment plant: New or Maintenance; [Clean Water Act](#) permits issued by other agencies regulate both construction and operation of wastewater systems, and provide many important protections for fish and wildlife resources throughout the project area and at some distance downstream. Fish and wildlife almost always benefit when unnatural pollutants are removed from water, and concerns are minimal if construction is managed to minimize erosion and sedimentation/runoff to nearby streams and lakes, including adherence to any "Clean Water Permit" conditions.

Revegetation of disturbed areas is recommended to minimize erosion, as is restoration with of native plant species compatible with the local landscape and for wildlife needs. Annuals like ryegrass may be combined with native perennials for quicker green-up. Avoid aggressive exotic perennials such as crown vetch and sericea lespedeza.

Management Recommendations for Construction Projects Affecting Missouri Streams and Rivers is a Conservation Department publication available at http://mdc.mo.gov/sites/default/files/resources/2013/02/constprojnearstreams_2013.pdf

Project Location and/or Species Recommendations:

Endangered Species Act Coordination - Indiana bats (*Myotis sodalis*, federal- and state-listed endangered) and Northern long-eared bats (*Myotis septentrionalis*, federal-listed threatened) may occur near the project area. Both of these species of bats hibernate during winter months in caves and mines. During the summer months, they roost and raise young under the bark of trees in wooded areas, often riparian forests and upland forests near perennial streams. During project activities, avoid degrading stream quality and where possible leave snags standing and preserve mature forest canopy. Do not enter caves known to harbor Indiana bats or Northern long-eared bats, especially from September to April. **If any trees need to be removed for your project, please contact the U.S. Fish and Wildlife Service (Ecological Services, 101 Park Deville Drive, Suite A, Columbia, Missouri 65203-0007; Phone 573-234-2132 ext. 100 for Ecological Services) for further coordination under the Endangered Species Act.**

The submitted project location is within the range of the Gray Myotis (i.e., Gray Bat) in Missouri. Depending on habitat conditions of your project's location, Gray Myotis (*Myotis grisescens*, federal and state-listed endangered) could occur within the project area, as they forage over streams, rivers, lakes, and reservoirs. Avoid entry or disturbance of any cave inhabited by Gray Myotis and when possible retain forest vegetation along the stream and from the cave opening to the stream.

Invasive exotic species are a significant issue for fish, wildlife and agriculture in Missouri. Seeds, eggs, and larvae may be moved to new sites on boats or construction equipment. Please inspect and clean equipment thoroughly before moving between project sites. See

<https://mdc.mo.gov/community-conservation/managing-invasive-species-your-community> for more information.

- Remove any mud, soil, trash, plants or animals from equipment before leaving any water body or work area.
- Drain water from boats and machinery that have operated in water, checking motor cavities, live-well, bilge and transom wells, tracks, buckets, and any other water reservoirs.
- When possible, wash and rinse equipment thoroughly with hard spray or HOT water (>140° F, typically available at do-it-yourself car wash sites), and dry in the hot sun before using again.

Streams and Wetlands – Clean Water Act Permits: Streams and wetlands in the project area should be protected from activities that degrade habitat conditions. For example, soil erosion, water pollution, placement of fill, dredging, in-stream activities, and riparian corridor removal, can modify or diminish aquatic habitats. Streams and wetlands may be protected under the Clean Water Act and require a permit for any activities that result in fill or other modifications to the site. Conditions provided within the U.S. Army Corps of Engineers (USACE) Clean Water Act Section 404 permit (<http://www.nwk.usace.army.mil/Missions/RegulatoryBranch.aspx>) and the Missouri Department of Natural Resources (DNR) issued Clean Water Act Section 401 Water Quality Certification (<http://dnr.mo.gov/env/wpp/401/index.html>), if required, should help minimize impacts to the aquatic organisms and aquatic habitat within the area. Depending on your project type, additional permits may be required by the Missouri Department of Natural Resources, such as permits for stormwater, wastewater treatment facilities, and confined animal feeding operations. Visit <http://dnr.mo.gov/env/wpp/permits/index.html> for more information on DNR permits. Visit both the USACE and DNR for more information on Clean Water Act permitting.

For further coordination with the Missouri Department of Conservation and the U.S. Fish and Wildlife Services, please see the contact information below:

MDC Natural Heritage Review
Science Branch
P.O. Box 180
Jefferson City, MO
65102-0180
Phone: 573-522-4115 ext. 3182
NaturalHeritageReview@mdc.mo.gov

U.S. Fish and Wildlife Service
Ecological Service
101 Park Deville Drive
Suite A
Columbia, MO
65203-0007
Phone: 573-234-2132


Miscellaneous Information

FEDERAL Concerns are species/habitats protected under the Federal Endangered Species Act and that have been known near enough to the project site to warrant consideration. For these, project managers must contact the U.S. Fish and Wildlife Service Ecological Services (101 Park Deville Drive Suite A, Columbia, Missouri 65203-0007; Phone 573-234-2132; Fax 573-234-2181) for consultation.

STATE Concerns are species/habitats known to exist near enough to the project site to warrant concern and that are protected under the Wildlife Code of Missouri (RSMo 3 CSR 1 0). "State Endangered Status" is determined by the Missouri Conservation Commission under constitutional authority, with requirements expressed in the Missouri Wildlife Code, rule 3CSR 10-4.111. Species tracked by the Natural Heritage Program have a "State Rank" which is a numeric rank of relative rarity. Species tracked by this program and all native Missouri wildlife are protected under rule 3CSR 10-4.110 General Provisions of the Wildlife Code.

See https://mdc.mo.gov/sites/default/files/mo_nature/downloads/2021_SOCC.pdf for a complete list of species and communities of conservation concern. Detailed information about the animals and some plants mentioned may be accessed at https://mdc12.mdc.mo.gov/applications/mofwis/mofwis_search1.aspx. If you would like printed copies of best management practices cited as internet URLs, please contact the Missouri Department of Conservation.

Appendix C: Antidegradation Review Summary Attachments

	<p>MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER PROTECTION PROGRAM, WATER POLLUTION CONTROL BRANCH ANTIDEGRADATION REVIEW SUBMITTAL VOLUNTARY TIER 2 – SIGNIFICANT DEGRADATION FOR DOMESTIC WASTEWATER FACILITIES WITH DESIGN FLOW LESS THAN 50,000 GALLONS PER DAY</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: left; padding: 2px;">FOR DEPARTMENT USE ONLY</th> </tr> <tr> <td style="padding: 2px;">APP NO.</td> <td style="padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;">CHECK NO. 1007</td> <td style="padding: 2px;">CHECK NO. \$500.00</td> </tr> <tr> <td colspan="2" style="padding: 2px;">DATE RECEIVED 10-22-21</td> </tr> </table>	FOR DEPARTMENT USE ONLY		APP NO.		CHECK NO. 1007	CHECK NO. \$500.00	DATE RECEIVED 10-22-21					
FOR DEPARTMENT USE ONLY														
APP NO.														
CHECK NO. 1007	CHECK NO. \$500.00													
DATE RECEIVED 10-22-21														
<p>1. APPLICABILITY</p> <p>If you answer "Yes" to any of the below questions, a site-specific alternatives analysis may be required.</p> <p>The Missouri Department of Natural Resources' alternatives analysis is <i>not</i> applicable to facilities that have a Total Maximum Daily Load (TMDL) or are 303(d) or 305(b) listed for the pollutants of concern addressed in this alternatives analysis, with an exception for <i>E. coli</i> since disinfection will be required.</p> <p>Facilities currently under enforcement will need to coordinate with the Water Protection Program's compliance and enforcement section to determine applicability for the department's alternatives analysis.</p> <p>1.1 Does the receiving waterbody or downstream waterbody have a Total Maximum Daily Load (TMDL)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>1.2 Is the receiving waterbody or downstream waterbody 303(d) or 305(b) listed as impaired or potentially impaired? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>1.3 Is the facility currently under enforcement with the department or the U.S. Environmental Protection Agency? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>1.4 Is the design flow 50,000 gallons per day or more? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>1.5 Is a non-discharging system a viable option? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Submit the following with this form:</p> <p><input type="checkbox"/> Regionalization and No Discharge Evaluation Form – Available on the department's website</p> <p><input type="checkbox"/> Copy of the Geohydrologic Evaluation – Submit request through the Missouri Geological Survey website</p> <p><input type="checkbox"/> Copy of the Missouri Natural Heritage Review from the Missouri Department of Conservation website</p>														
<p>2. FACILITY</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="padding: 2px;">NAME Wilderness Mountain WWTF</td> <td colspan="2" style="padding: 2px;">COUNTY Stone</td> </tr> <tr> <td style="padding: 2px;">ADDRESS (PHYSICAL) Highway 13</td> <td style="padding: 2px;">CITY Lampe</td> <td style="padding: 2px;">STATE MO</td> <td style="padding: 2px;">ZIP CODE 65686</td> </tr> </table>			NAME Wilderness Mountain WWTF		COUNTY Stone		ADDRESS (PHYSICAL) Highway 13	CITY Lampe	STATE MO	ZIP CODE 65686				
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ADDRESS (PHYSICAL) Highway 13	CITY Lampe	STATE MO	ZIP CODE 65686											
<p>3. OWNER</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="4" style="padding: 2px;">NAME Lifestyle Contractors</td> </tr> <tr> <td style="padding: 2px;">ADDRESS 640 St. Hwy 248 #17</td> <td style="padding: 2px;">CITY Branson</td> <td style="padding: 2px;">STATE MO</td> <td style="padding: 2px;">ZIP CODE 65616</td> </tr> <tr> <td colspan="2" style="padding: 2px;">EMAIL ADDRESS</td> <td colspan="2" style="padding: 2px;">TELEPHONE NUMBER WITH AREA CODE 417-320-6014</td> </tr> </table>			NAME Lifestyle Contractors				ADDRESS 640 St. Hwy 248 #17	CITY Branson	STATE MO	ZIP CODE 65616	EMAIL ADDRESS		TELEPHONE NUMBER WITH AREA CODE 417-320-6014	
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EMAIL ADDRESS		TELEPHONE NUMBER WITH AREA CODE 417-320-6014												
<p>4. CONTINUING AUTHORITY The regulatory requirement regarding continuing authority is found in 10 CSR 20-6.010(2).</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="padding: 2px;">NAME Same as Owner</td> <td colspan="2" style="padding: 2px;">SECRETARY OF STATE CHARTER NUMBER</td> </tr> <tr> <td style="padding: 2px;">ADDRESS</td> <td style="padding: 2px;">CITY</td> <td style="padding: 2px;">STATE</td> <td style="padding: 2px;">ZIP CODE</td> </tr> <tr> <td colspan="2" style="padding: 2px;">EMAIL ADDRESS</td> <td colspan="2" style="padding: 2px;">TELEPHONE NUMBER WITH AREA CODE</td> </tr> </table>			NAME Same as Owner		SECRETARY OF STATE CHARTER NUMBER		ADDRESS	CITY	STATE	ZIP CODE	EMAIL ADDRESS		TELEPHONE NUMBER WITH AREA CODE	
NAME Same as Owner		SECRETARY OF STATE CHARTER NUMBER												
ADDRESS	CITY	STATE	ZIP CODE											
EMAIL ADDRESS		TELEPHONE NUMBER WITH AREA CODE												

RECEIVED

OCT 22 2021

5. RECEIVING WATER BODY SEGMENT #1	
NAME Table Rock Lake	
5.1 Upper end of segment – Location of discharge UTM: X= _____, Y= _____ OR Lat _____, Long _____	
5.2 Lower end of segment – UTM: X= _____, Y= _____ OR Lat _____, Long _____ Per the Missouri Antidegradation Implementation Procedure (AIP), the definition of a segment is: "A section of water that is bound, at a minimum, by significant existing sources and confluences with other significant water bodies."	
6. WATER BODY SEGMENT #2 (If Necessary)	
NAME	
6.1 Upper end of segment – End of Segment #1 UTM: X= _____, Y= _____ OR Lat _____, Long _____	
6.2 Lower end of segment – UTM: X= _____, Y= _____ OR Lat _____, Long _____	
7. SOCIAL AND ECONOMIC IMPORTANCE OF THE PREFERRED ALTERNATIVE	
This section must be completed with adequate and thorough descriptions of the social and economic importance associated with the proposed project in accordance with the Antidegradation Implementation Procedure Section II.E. for discharge to be allowed. 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.	
7.1 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 project is located immediately south of the Kimberling City Bridge on the west side of Highway 13.	
7.2 Identify the important social and economic development associated with the project:	
Will the proposed discharging activity:	
Create or expand employment?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> N/A
Increase median family income?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Don't know <input type="checkbox"/> N/A
Reduce the number of households below the poverty line?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Don't know <input type="checkbox"/> N/A
Increase the community tax base?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> N/A
Increase needed housing supply?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Don't know <input type="checkbox"/> N/A
Provide necessary public services (e.g., school, infrastructure, fire department, etc.)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Don't know <input type="checkbox"/> N/A
Correct a public health, safety, or environmental problem?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> N/A
Other:	

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

The applicant must describe the expected changes in the factors identified in question 7.2 that are associated with the project and provide information on any additional items demonstrating important social and economic development. The applicant should first describe the existing condition of the affected community. This base condition should then be compared to the predicted change (benefit) in social and economic condition after the discharge is allowed. The social and economic measures identified above do not constitute a comprehensive list. Each situation and community is different and will require an analysis of unique social and economic factors in accordance with the Antidegradation Implementation Procedure Section II.E.1.

The development is located near the town of Kimberling City in Stone County. According to available statistics, there are 2,304 people living in the zip code 65686. The development is located adjacent to Table Rock Lake at Whitefish Bay Road. The resort will add to the tax roll which will benefit the community. The individuals who visit the Resort will patronize the local retail shops, restaurants, and other services available to the community. The construction activity related to infrastructure, as well as new building construction will employ numerous people and trades. Building material supply companies will also benefit from the project.

7.4 Is any other written correspondence or documentation included with this application to provide further evidence of social and economic importance:

☒ No

☐ Yes

☐ Letter(s) from the mayor or community in support of the proposed project

☐ Rezoning approval

☐ Other:

8. NO DISCHARGE ALTERNATIVES EVALUATION

According to the Antidegradation Implementation Procedure Sections I.B. and II.B.1., the feasibility of no-discharge alternatives must be considered. No-discharge alternatives may include connection to a regional treatment facility, surface land application, subsurface land application, and recycle or reuse.

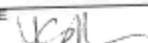
You must submit the Regionalization and No-Discharge Evaluation Form (780-2805) to demonstrate that a non-discharging alternative is not feasible. If sufficient information is not provided on the No-Discharge Evaluation Form to demonstrate that a non-discharging facility is not feasible, a more detailed evaluation of no discharge options must be submitted.

9. IDENTIFY PREFERRED TREATMENT ALTERNATIVE

Describe your preferred treatment alternative that has been recommended or approved by a registered professional engineer licensed to practice in Missouri. The preferred treatment alternative must be capable of meeting the effluent limits in the table under item 10 of this form.

Applicants choosing to use a new wastewater technology considered an "unproven technology" in Missouri must comply with the requirements set forth in the Innovative Technology factsheet found on the department's website.

The MBR alternative was determined to be the preferred alternative given land value, and the desire to maintain the water quality of the lake.

ENGINEERING CONSULTANT NAME Michael Stalzer, P.E.		COMPANY NAME CPWG	
ADDRESS 131 Industrial Park Dr, Suite 1, Hollister	STATE MO	ZIP CODE 65762	TELEPHONE NUMBER WITH AREA CODE 417-860-9697
SIGNATURE 		EMAIL ADDRESS michael.stalzer@madrifcpwg.com	

10. SUMMARY OF THE POLLUTANTS OF CONCERN AND EFFLUENT LIMITS

Pollutants of concern to be considered include those pollutants reasonably expected to be present in the discharge per the Antidegradation Implementation Procedure Section II.A. and assumed or demonstrated to cause significant degradation. The tier protection levels are specified and defined in rule at 10 CSR 20-7.031(2). All POCs in this alternatives analysis were considered to be Tier 2 and significantly degrading in the absence of existing water quality.

As a result of this alternatives analysis review, the department has determined, depending on site specific conditions, there are treatment technologies available that may be economically efficient and practicable, which are capable of meeting the effluent limitations below. If the facility owners do not believe there is a treatment technology that is economically efficient, affordable, or practicable for their facility to meet these limits, a site-specific alternatives analysis will be required.

The chosen alternative must be capable of meeting the following effluent limitations:

EFFLUENT LIMITS – OUTFALLS TO LAKES

Pollutant of Concern*	Units	Daily Maximum	Weekly Average	Monthly Average
BOD ₅	MG/L		15	10
TSS	MG/L		20	15
pH	SU	6.5– 9.0		6.5 – 9.0
Ammonia as N Summer	MG/L	3.6		1.4
Ammonia as N Winter	MG/L	7.5		2.9
Total Phosphorus****	MG/L	*		0.5
<i>Escherichia coli</i> (E. coli)	#/100ML	630***		126

EFFLUENT LIMITS – ALL OTHER OUTFALLS

BOD ₅	mg/L		15	10
TSS	mg/L		15	10
pH	SU	6.5– 9.0		6.5 – 9.0
Ammonia as N Summer	mg/L	1.7		0.6
Ammonia as N Winter	mg/L	5.6		2.1
Total Phosphorus****	mg/L	*		0.5
<i>Escherichia coli</i> (E. coli)	WBC(A) AND WBC (B)	#/100 ML	630***	126
	Losing Stream**	#/100 ML	126***	Monitoring only

* Permit limits for other parameters, including oil and grease, total residual chlorine and nitrates, will be included in the operating permit based on applicable water quality standards and criteria.

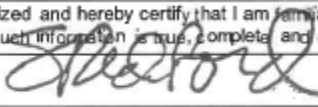
Total residual chlorine (TRC) effluent limits of 0.017 mg/L daily maximum, 0.008 mg/L monthly average are recommended if chlorine is used as a disinfectant. Standard compliance language for TRC, including the minimum level (ML), may be included in the operating permit.

** For any facility that will discharge to a waterbody designated as a losing stream or within two miles flow distance upstream of a losing stream.

*** Publicly owned treatment works will receive a weekly average limit and private facilities will receive a daily maximum limit.

**** Total Phosphorus limits are only applicable to discharges to a lake or watershed of a lake that is a water of the state and has an area of at least 10 acres during normal pool conditions.

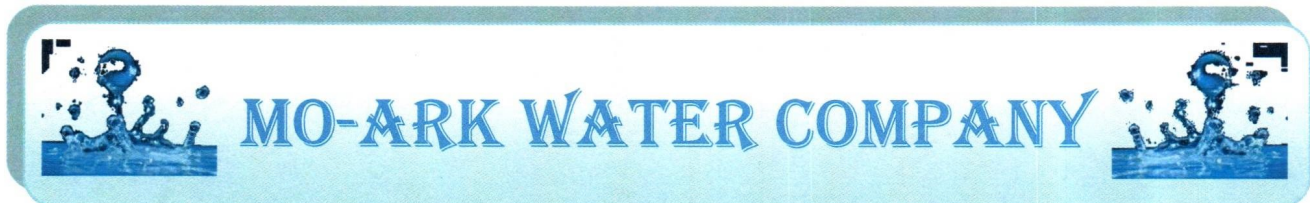
If any Tier 1 Pollutants of Concern not addressed in this alternatives analysis will be discharged, the applicant must submit *Attachment D: Tier 1 Review* for those pollutants.

11. APPLICATION FEE	
<input type="checkbox"/> CHECK NUMBER	<input type="checkbox"/> JETPAY CONFIRMATION NUMBER
12. SIGNATURE	
I am authorized and hereby certify that I am familiar with the information contained in this document and to the best of my knowledge and belief such information is true, complete and accurate.	
SIGNATURE 	DATE 10-15-21
PRINT NAME Steve Redford	TITLE Manager
PLEASE IDENTIFY YOUR STATUS FOR THIS PROJECT: <input type="checkbox"/> OWNER <input type="checkbox"/> CONTINUING AUTHORITY <input type="checkbox"/> CONSULTANT	

Appendix 5 Confidential - Ozark Environmental Services Operator Contract

20 CSR 4240-2.135(2)(A)4

Appendix 6 Letter from Mo-Ark Water Company



PO BOX 397 • 6554 STATE HWY 13 • LAMPE MO 65681 • MOARKWATER@TOTALHIGHSPEED.COM • WWW.MOARKWATER.COM

Clayton Resz,

Someone came to our board meeting from Wilderness Mountain Subdivision and the board informed them we need to have each unit individually metered. Wilderness Mountain Subdivision was against this and wanted to install one master meter. The board voted to let them do their own well even if our water lines are near their property. Mo-Ark Water Company is unaware if we could service them water due to, we never researched to see if we could provide reliable service. Mo-Ark Water Company is waiving its higher preference continuing operating authority, so they may drill their own well.

Thanks

A handwritten signature in blue ink, which appears to read "Jennifer Campbell", is written over the printed name.

Jennifer Campbell
System Manager

Appendix 7 Ten residents / landowners in the service area

Appendix 7

1. Milla Manor, LLC; 208 Pioneer Peak Rd, Kimberling City, MO 65686
2. Nathan & Candis Maurer; 196 Pioneer Peak Rd, Kimberling City, MO 65686
3. KL Lake View, LLC; 186 Pioneer Peak Rd, Kimberling City, MO 65686
4. Cheryl & Michael Czyzewski; 17 Frontier Way, Kimberling City MO 65686
5. RBI Capital 1, LLC; 39 Frontier Way, Kimberling City, MO 65686
6. B Appreciative, LLC; 53 Frontier Way, Kimberling City, MO 65686
7. BTS Ventures, LLC; 186 Settlers Cove, Kimberling City, MO 65686
8. Brian & Holly Beckham; 200 Settlers Cove, Kimberling City, MO 65686
9. Tony & Connie Witter; 216 Settlers Cove, Kimberling City, MO 65686
10. Casady Property, LLC; 155 Settlers Cove, Unit 2, Kimberling City MO 65686

Appendix 8 Original Cost of Water and Sewer Systems documentation

CONTINUATION SHEET

AIA DOCUMENT G703

PAGE OF PAGES

AIA Document G702, APPLICATION AND CERTIFICATION FOR PAYMENT, containing

APPLICATION NO: Twentyfive

Contractor's signed certification is attached.

APPLICATION DATE:

In tabulations below, amounts are stated to the nearest dollar

PERIOD TO: 6/1/2024

Use Column I on Contracts where variable retainage for line items may apply.

ARCHITECT'S PROJECT NO: Wilderness

Mountain Infra

A ITEM	B DESCRIPTION OF WORK	C SCHEDULED VALUE	D WORK COMPLETED		F MATERIALS PRESENTLY STORED (NOT IN D OR E)	G TOTAL COMPLETED AND STORED TO DATE (D+E+F)	G % (G ÷ C)	H BALANCE TO FINISH (C - G)
			FROM PREVIOUS APPLICATION (D + E)	THIS PERIOD				
A	MASS EXCAVATING & BLASTING							
1.00	GRUBBING/CLEARING BASED ON 70 ACRES - 2,500	126,000.00	79,251.14			79,251.14	63%	46,748.86
2.00	MASS EXCAVATOR BASED ON 1-3-22 SITE PLAN, BOYCE BID ON-SITE TRUCK @ \$3.60, ON-SITE DOZER @ 3.25, NEW SITE PLAN HAS 153,000 YDS. EST. NEW PRICE AT \$3.60 OVERALL	1,429,680.00	1,208,052.04			1,208,052.04	84%	221,627.96
3.00	SILT SOX	56,448.00	34,395.79			34,395.79	61%	22,052.21
4.00	BLASTING - ESTIMATE	520,800.00	359,543.56			359,543.56	69%	161,256.44
5.00	FINAL GRADE EXTRA MACHINE TIME	252,000.00	291,645.70	3,515.00		295,160.70	117%	(43,160.70)
B	STORM DRAINS							
1.00	LUMP SUM ESTIMATE - 1600' OF 12"-15"	118,860.00	147,745.93			147,745.93	124%	(28,885.93)
2.00	STORM DRAIN BOXES - 17 EACH	8,400.00	14,758.99			14,758.99	176%	(6,358.99)
C	RETAINING WALLS							
1.00	LUMP SUM ESTIMATE - 12,800 SF	1,008,000.00	732,114.90			732,114.90	73%	275,885.10
2.00	CLEAN ROCK & DRAIN PIPE	67,200.00	64,943.61			64,943.61	97%	2,256.39
D	SEWER SYSTEM / PLANT							
1.00	SEWER LINE 6"/8" 5,325' @ \$50	672,000.00	627,567.50	607.20		628,174.70	93%	43,825.30
2.00	L.P. LINE 480' @ \$60	50,400.00	57,765.95			57,765.95	115%	(7,365.95)
3.00	GRINDER PUMP: 5 - 4 BR @ 120 GAL. PER DAY PER BEDROOM	33,600.00	30,620.09			30,620.09	91%	2,979.91
4.00	SEWER PLANT BID & DELIVERY	807,720.00	647,591.13			647,591.13	80%	160,128.87
5.00	PLANT EXCAVATION AND BACKFILL	42,000.00	61,922.00			61,922.00	147%	(19,922.00)
6.00	INSTALL COST BEYOND BID	0.00	32,656.65			32,656.65		(32,656.65)
7.00	3 PHASE ELECTRIC	16,800.00	58,189.94			58,189.94	346%	(41,389.94)
8.00	ELECTRICAL		23,500.00			23,500.00		(23,500.00)
E	WATER / FIRE & DOMESTICS LINES							
1.00	DISTRIBUTION LINE - 4,350 OF 4"	297,360.00	282,872.10			282,872.10	95%	14,487.90
2.00	WATER / FIRE & DOMESTICS LINES - INCLUDED ABOVE	0.00						
3.00	GROUND STORAGE TANK CONCRETE W/ROOF SYSTEM 25 X 60 X 8	168,000.00	180,320.85			180,320.85	107%	(12,320.85)
4.00	PUMPS - INSTALL ELECTRIC	67,200.00						67,200.00
5.00	WELL	294,000.00	232,339.02			232,339.02	79%	61,660.98
6.00	3 PHASE ELECTRIC	16,800.00	11,654.34			11,654.34	69%	5,145.66
F	ELECTRIC							

Appendix 9 Verified Declaration

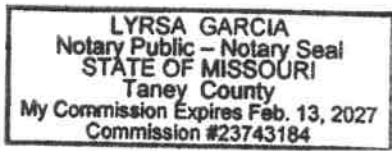
Verified Declaration

State of Missouri)
) ss.
County of Taney)

I, Karl Finkenbinder, hereby verify:

1. I have read and verify that the allegations contained in this Application are true and accurate to the best of my knowledge and belief, and

2. that neither I, nor any other members of this filing party, has had communications with a Commissioner, Commissioner Advisor, Regulatory Law Judge, or any member of their support team in the one hundred fifty (150) days prior to the filing date of this application regarding any substantive issue included in this filing.




Karl Finkenbinder, MRG Utilities, LLC

Subscribed and sworn before me this 30 day of August 2024.

My Commission Expires: Feb 13th 2027