

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

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

Box Canyon Watershed WWTF
Cape Cod Dr.
Branson, MO 65626

for the construction of (described facilities):

See attached.

Permit Conditions:

See attached.

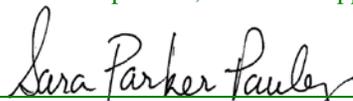
Construction of such proposed facilities shall be in accordance with the provisions of the Missouri Clean Water Law, Chapter 644, RSMo, and regulation promulgated thereunder, or this permit may be revoked by the Department of Natural Resources (Department).

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

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

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

April 27, 2016
Effective Date


Sara Parker Pauley, Director, Department of Natural Resources

April 26, 2018
Expiration Date


John Madras, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

The Box Canyon Watershed WWTF will be a three basin sequencing batch reactor (SBR) followed by tertiary filtration and ultraviolet disinfection. Preliminary screening is provided by a manual bar screen. Chemical addition is provided to facilitate phosphorus removal. The existing sludge basin will be converted to the third SBR basin and a new aerated sludge basin will be constructed. The facility provides aerobic sludge digestion of biological solids. The project will also include general site work appropriate to the scope and purpose of the project, with all necessary appurtenances to make a complete and usable wastewater collection system to serve an estimated design flow of 225,000 gpd.

II. 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 required to determine “findings of affordability” because the permit applies to a **combined or separate sanitary sewer system for a publically-owned treatment works**.

Cost Analysis for Compliance - The department has made a reasonable search for empirical data indicating the permit is affordable. The search consisted of a review of department records that might contain economic data on the community, a review of information provided by the applicant as part of the application, and public comments received in response to public notices of this draft permit. If the empirical cost data was used by the permit writer, this data may consist of median household income, any other ongoing projects that the department has knowledge, and other demographic financial information that the community provided as contemplated by Section 644. 145.3. See **Operating Permit Modification Appendix B: Cost Analysis for Compliance**

III. CONSTRUCTION PERMIT CONDITIONS

The permittee is authorized to construct subject to the following conditions:

1. This construction permit does not authorize discharge.
2. All construction shall be in accordance with the plans and specifications submitted by Crawford, Murphy, and Tilly Inc. on March 1, 2016 and April 11, 2016.
3. The department must be contacted in writing prior to making any changes to the approved plans and specifications that would directly or indirectly have an impact on the capacity, flow, system layout, or reliability of the proposed wastewater treatment facilities or any design parameter that is addressed by 10 CSR 20-8, in accordance with 10 CSR 20-8.110(8).

4. State and federal law does not permit bypassing of raw wastewater; therefore steps must be taken to ensure that raw wastewater does not discharge during construction. If a sanitary sewer overflow or bypass occurs, report the appropriate information to the department's Southwest Regional Office per 10 CSR 20-7.015(9)(E)2.
5. This construction permit is invalid for projects required to comply with the requirements contained in 10 CSR 20-4, "Grants and Loans"
6. Protection of drinking water supplies shall be in accordance with 10 CSR 20-8.120(10). "There shall be no physical connections between a public or private potable water supply system and a sewer, or appurtenance thereto which would permit the passage of any wastewater or polluted water into the potable supply. No water pipe shall pass through or come in contact with any part of a sewer manhole."
7. Sewers in relation to water works structures shall meet the requirements of 10 CSR 23-3.010 with respect to minimum distances from public water supply wells or other water supply sources and structures.
 - A. Sewer mains shall be laid at least 10 feet horizontally from any existing or proposed water main. The distances shall be measured edge-to-edge. In cases where it is not practical to maintain a 10 foot separation, the department may allow a deviation on a case-by-case basis, if supported by data from the design engineer. Such a deviation may allow installation of the sewer closer to a water main, provided that the water main is in a separate trench or on an undisturbed earth shelf located on either side of the sewer and at an elevation so the bottom of the water main is at least 18 inches above the top of the sewer. If it is impossible to obtain proper horizontal and vertical separation as described above for sewers, the sewer must be constructed of slip-on or mechanical joint pipe or continuously encased and be pressure tested to 150 pounds per square inch to assure water tightness.
 - B. Manholes should be located at least 10 feet horizontally from any existing or proposed water main.
 - C. Manholes shall be located with the top access at or above grade level.
 - D. Sewers crossing water mains shall be laid to provide a minimum vertical distance of 18 inches between the outside of the water main and the outside of the sewer. This shall be the case where the water main is either above or below the sewer. The crossing shall be arranged so that the sewer joints will be equidistant and as far as possible from the water main joints. Where a water main crosses under a sewer, adequate structural support shall be provided for the sewer to maintain line and grade. When it is impossible to obtain proper vertical separation as stipulated above, one of the following methods must be specified:
 - a. The sewer shall be designed and constructed equal to the water pipe and shall be pressure tested to assure water tightness prior to backfilling; or
 - b. Either the water main or sewer line may be continuously encased or enclosed in a watertight carrier pipe which extends 10 feet on both sides of the crossing, measured perpendicular to the water main. The carrier pipe shall be of materials approved by the department for use in water main construction.

8. In addition to the requirements for a construction permit, 10 CSR 20-6.200 requires land disturbance activities of one acre or more to obtain a Missouri state operating permit to discharge stormwater. The permit requires best management practices sufficient to control runoff and sedimentation to protect waters of the state. Land disturbance permits will only be obtained by means of the department's ePermitting system available online at www.dnr.mo.gov/env/wpp/epermit/help.htm. See www.dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm for more information.
9. A United States (U.S.) Army Corps of Engineers (COE) permit (404) and a Water Quality Certification (401) issued by the department or permit waiver may be required for the activities described in this permit. This permit is not valid until these requirements are satisfied. If construction activity will disturb any land below the ordinary high water mark of jurisdictional waters of the U.S. then a 404/401 will be required. Since the COE makes determinations on what is jurisdictional, you must contact the COE to determine permitting requirements. You may call the department's Water Protection Program at 573-751-1300 for more information. See www.dnr.mo.gov/env/wpp/401/ for more information.
10. Upon completion of construction;
 - A. Stone County Public Sewer District #1 will become the continuing authority for operation, maintenance, and modernization of these facilities;
 - B. Submit the enclosed form Statement of Work Completed to the department in accordance with 10 CSR 20-6.010(5)(D) and request the operating permit modification be issued; and
 - C. Submit an electronic copy of the as built if the project was not constructed in accordance with previously submitted plans and specifications.

IV. REVIEW SUMMARY

1. AMMONIA

The Water Protection Program is providing this notice to inform permittees that EPA's published ammonia criteria for aquatic life protection is lower than the current Missouri criteria. The department has initiated stakeholder discussions on this topic and at this time, there is no firm target date for starting the rulemaking to adopt new standards. More information can be found at <http://dnr.mo.gov/pubs/pub2481.htm>.

The facility purposed as part of the 2015 Antidegradation Analysis to expand the SBR and to meet effluent limits that met EPA's 2013 Ammonia Criteria, specifically a summer monthly average of 0.6 mg/L and a winter monthly average of 2.1 mg/L.

2. CONSTRUCTION PURPOSE

Box Canyon is expanding their sequencing batch reactor (SBR) to handle the variable flows experienced throughout the year and the construction ongoing in the watershed development area.

3. FACILITY DESCRIPTION

The existing facility has influent bar screens, influent lift station, two sequencing batch reactor basin, an aerated sludge storage basin, post equalization, disk filtration, and ultraviolet disinfection. This construction will convert the existing aerated sludge storage basin into the third sequencing batch reactor, add a second disk filtration unit, and construct a new sludge holding tank. Chemical addition is provided to facilitate phosphorus removal. The WWTF has a design flow of 225,000 gpd. The facility provides aerobic sludge digestion of biological solids. Sludge disposal is provided by a contract hauler. The discharge is to a tributary of Table Rock Lake.

4. COMPLIANCE PARAMETERS

Box Canyon Watershed WWTP is expanding to handle increased flows. As a result of the Antidegradation Analysis in 2015, the facility purposed to meet the following effluent limits.

PARAMETER	Unit	Daily Maximum	Weekly Average	Monthly Average
Flow	MGD	*		*
BOD ₅	mg/L		30	20
TSS	mg/L		30	20
pH	SU	6.5 – 9.0		
Ammonia as N (April 1 – Sept 30)	mg/L	1.7		0.6
Ammonia as N (Oct 1 – March 31)	mg/L	5.6		2.1
Dissolved Oxygen (DO)**	mg/L	6.0		6.0
Escherichia coli (<i>E. Coli</i>)	#colonies/100 mL		630	126
Oil & Grease	mg/L	15		10
Total Nitrogen	mg/L	*		*
Total Phosphorus	mg/L	*		0.50
Aluminum, Total Recoverable	mg/L	0.75		0.37
Iron, Total Recoverable	mg/L	*		*
Acute Whole Effluent Toxicity	TUa	*		

*monitoring only

5. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

The construction of the existing two sequencing batch reactors, disk filtration, aerated sludge storage, and ultraviolet disinfection system was covered under CP0001635. This construction permit is for the expansion of flows to 0.225 MGD daily average flow and 0.45 MGD maximum daily flow by converting the aerated sludge storage basin into a third sequencing batch reactor, construction of sludge storage, a second disk filtration system, and flow equalization.

The influent pump station will have the existing pumps replaced with larger pumps to handle the increase in flow. With increasing the pump size, the access hatch will be increased. The existing influent pumps will be utilized in the new digester design as sludge loading pumps. The peaking factor is 3.35 to provide a peak flow of 523 gpm.

The blower system will be modified to handle the increased flows, by having the two blowers operate at the same time, with the third blower becoming the stand-by blower.

The expansion will create three sequencing batch reactors with a hydraulic retention time of 0.963 days. The average design flow of the three basins is 0.225 MGD with a maximum design flow of 0.45 MGD. The basins are designed with 2.3 feet of freeboard, a minimum water depth of 9 feet, an average water depth of 11.4 feet and a maximum water depth of 13.7 feet. The basins will operate on five cycles per day per basin, with each cycle duration being 4.8 hours. Aeration is provided by coarse air bubble diffusers providing up to 486 scfm per basin (1458 scfm for aeration for all three basins). The actual oxygen requirements are 871 lbs/day for the entire system.

The decant system will have a flow rate at maximum design flow is 556 gpm. The decant duration is 54 minutes with 15 decants per day (5 decants per basin per day).

The post SBR equalization basin will be one rectangular basin with a minimum water depth of 1.5 feet and maximum water depth of 4.4 feet to provide a maximum volume of 19,881 gallons. The equalization basin has 58 minutes of detention time during pumping time plus 38 minutes of idle time until the next decant.

The expansion will include a second tertiary disc filtration unit with four cloth disk assemblies and 10.8 square feet of effective submerged filtration area per disk assembly. The backwash/waste pump is rated for 130 gpm at 24 feet total dynamic head.

The sludge holding basin will have a maximum operating level of 13.7 sidewater depth. The sludge holding basin will have 66 days of storage based on design average flow. The volume of the basin is designed to 121,050 gallons. The design average solids loading rate is 308 lbs/day. The solids are pumped and hauled to another permitted facility for treatment and processing.

The existing ultraviolet disinfection system was sized to accommodate the proposed expansion. There are four lamps per module, three modules per bank, one bank designed to treat a maximum daily flow of 0.45 MGD with a UV transmissivity of 65% at 35,000 $\mu\text{Ws}/\text{cm}^2$ and 253.7 nm. The UV system will have a detection system with UV intensity sensors on each bank.

6. OPERATING PERMIT MODIFICATION

Operating permit MO-0129470 will require a modification to reflect the construction activities. Stone County submitted their modification fee and Form B with their construction permit application on March 1, 2016. The draft operating permit with the antidegradation review was public noticed July 31, 2015-August 31, 2015 and no comments were received on the draft. Upon completion of construction, Box Canyon needs to submit a Statement of Work Complete and a request to issue the operating permit.

MAR 01 2016



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION CONTROL BRANCH

Water Protection Program

FORM B2 – APPLICATION FOR CONSTRUCTION OR OPERATING PERMIT FOR FACILITIES WHICH RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW MORE THAN 100,000 GALLONS PER DAY

FACILITY NAME Box Canyon Watershed WWTP	
PERMIT NO. MO-0129470	COUNTY Stone County, MO
APPLICATION OVERVIEW	
Form B2 has been developed in a modular format and consists of Parts A, B and C and a Supplemental Application Information (Parts D, E, F and G) packet. All applicants must complete Parts A, B and C. Some applicants must also complete parts of the Supplemental Application Information packet. The following items explain which parts of Form B2 you must complete. Submittal of an incomplete application may result in the application being returned.	
BASIC APPLICATION INFORMATION	
<p>A. Basic Application Information for all Applicants. All applicants must complete Part A.</p> <p>B. Additional Application Information for all Applicants. All applicants must complete Part B.</p> <p>C. Certification. All applicants must complete Part C.</p>	
SUPPLEMENTAL APPLICATION INFORMATION	
<p>D. Expanded Effluent Testing Data. A treatment works that discharges effluent to surface water of the United States and meets one or more of the following criteria must complete <i>Part D - Expanded Effluent Testing Data</i>:</p> <ol style="list-style-type: none"> 1. Has a design flow rate greater than or equal to 1 million gallons per day. 2. Is required to have or currently has a pretreatment program. 3. Is otherwise required by the permitting authority to provide the information. <p>E. Toxicity Testing Data. A treatment works that meets one or more of the following criteria must complete <i>Part E - Toxicity Testing Data</i>:</p> <ol style="list-style-type: none"> 1. Has a design flow rate greater than or equal to 1 million gallons per day. 2. Is required to have or currently has a pretreatment program. 3. Is otherwise required by the permitting authority to provide the information. <p>F. Industrial User Discharges and Resource Conservation and Recovery Act / Comprehensive Environmental Response, Compensation and Liability Act Wastes. A treatment works that accepts process wastewater from any significant industrial users, also known as SIUs, or receives a Resource Conservation and Recovery Act or CERCLA wastes must complete <i>Part F - Industrial User Discharges and Resource Conservation and Recovery Act / CERCLA Wastes</i>.</p> <p>SIUs are defined as:</p> <ol style="list-style-type: none"> 1. All Categorical Industrial Users, or CIUs, subject to Categorical Pretreatment Standards under 40 Code of Federal Regulations 403.6 and 40 Code of Federal Regulations 403.6 and 40 CFR Chapter 1, Subchapter N. 2. Any other industrial user that meets one or more of the following: <ol style="list-style-type: none"> i. Discharges an average of 25,000 gallons per day or more of process wastewater to the treatment works (with certain exclusions). ii. Contributes a process waste stream that makes up five percent or more of the average dry weather hydraulic or organic capacity of the treatment plant. iii. Is designated as an SIU by the control authority. <p>G. Combined Sewer Systems. A treatment works that has a combined sewer system must complete <i>Part G - Combined Sewer Systems</i>.</p>	
ALL APPLICANTS MUST COMPLETE PARTS A, B and C	

RECEIVED MO-0129470

MAR 01 2016

CP0001826 215789

Water Protection Program

AP23009



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION CONTROL BRANCH
FORM B2 – APPLICATION FOR CONSTRUCTION OR OPERATING PERMIT FOR FACILITIES WHICH RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW MORE THAN 100,000 GALLONS PER DAY

FOR AGENCY USE ONLY

CHECK NUMBER 4103	
DATE RECEIVED 3/1/16	FEE SUBMITTED \$750.00

PART A – BASIC APPLICATION INFORMATION

1. This application is for:

An operating permit and antidegradation review public notice.

A construction permit following an appropriate operating permit and antidegradation review public notice.

A construction permit, a concurrent operating permit and antidegradation review public notice.

A construction permit (submitted before Aug. 30, 2008 or antidegradation review is not required).

An operating permit for a new or unpermitted facility. Construction Permit # _____

An operating permit renewal: Permit #MO- _____ Expiration Date _____

An operating permit modification: Permit #MO- _____ Reason: _____

1.1 Is this a Federal/State Funded Project? Yes No Funding Agency/Project #: District fund

1.2 Is the appropriate fee included with the application (See instructions for appropriate fee)? Yes No

2. FACILITY

NAME Box Canyon Watershed WWTP		TELEPHONE NUMBER WITH AREA CODE 417-338-5231	
ADDRESS (PHYSICAL) 118 NOTCH LANE, SUITE 'C'	CITY Branson West	STATE MO	ZIP 65737

2.1 LEGAL DESCRIPTION (Plant Site): NW ¼, SW ¼, NE ¼, Sec. , T , R 22 County Stone

2.2 UTM Coordinates Easting (X): 471416 Northing (Y): 4054970
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

3. OWNER STONE COUNTY PUBLIC SEWER DISTRICT #1

NAME Kathy Isaacs		TITLE District Administrator		TELEPHONE NUMBER WITH AREA CODE 417-338-5231	
ADDRESS 118 Notch Lane, Suite C	CITY Branson West	STATE MO	ZIP 65737		

3.1 Request review of draft permit prior to Public Notice? Yes No

4. CONTINUING AUTHORITY: Permanent organization which will serve as the continuing authority for the operation, maintenance and modernization of the facility.

NAME STONE COUNTY PUBLIC SEWER DISTRICT #1		CITY Branson West			
ADDRESS 118 Notch Lane, Suite C	CERTIFICATE NUMBER (IF APPLICABLE)	STATE MO	ZIP 65737		

5. OPERATOR

NAME Roger Mullis, RK Water Operation, LLC		TITLE Owner		TELEPHONE NUMBER WITH AREA CODE 870-577-1566	
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6. FACILITY CONTACT

NAME Kathy Isaacs,		TITLE District Administrator			
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MO 780-1805 (09-08)

FACILITY NAME Box Canyon Watershed WWTP	PERMIT NO. MO- 0129470	OUTFALL NO. 001
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PART A - BASIC APPLICATION INFORMATION

7. ADDITIONAL FACILITY INFORMATION

7.1 BRIEF DESCRIPTION OF FACILITIES

Convert exist sludge holding basin to SBR-3 and construct new aerated sludge holding basin on-site, add another new package disk filter, and blower; associated civil, site, structural, mechanical

7.2 TOPOGRAPHIC MAP. ATTACH TO THIS APPLICATION A TOPOGRAPHIC MAP OF THE AREA EXTENDING AT LEAST ONE MILE BEYOND FACILITY PROPERTY BOUNDARIES. THIS MAP MUST SHOW THE OUTLINE OF THE FACILITY AND THE FOLLOWING INFORMATION. (YOU MAY SUBMIT MORE THAN ONE MAP IF ONE MAP DOES NOT SHOW THE ENTIRE AREA.)

- a. The area surrounding the treatment plant, including all unit processes.
- b. The location of the downstream landowner(s). (See Item 10.)
- c. The major pipes or other structures through which wastewater enters the treatment works and the pipes or other structures through which treated wastewater is discharged from the treatment plant. Include outfalls from bypass piping, if applicable.
- d. The actual point of discharge.
- e. Wells, springs, other surface water bodies and drinking water wells that are: 1) within ¼ mile of the property boundaries of the treatment works, and 2) listed in public record or otherwise known to the applicant.
- f. Any areas where the sewage sludge produced by the treatment works is stored, treated or disposed.
- g. If the treatment works receives waste that is classified as hazardous under the Resource Conservation and Recovery Act, or RCRA, by truck, rail or special pipe, show on the map where that hazardous waste enters the treatment works and where it is treated, stored or disposed.

7.3 PROCESS FLOW DIAGRAM OR SCHEMATIC. PROVIDE A DIAGRAM SHOWING THE PROCESSES OF THE TREATMENT PLANT. ALSO, PROVIDE A WATER BALANCE SHOWING ALL TREATMENT UNITS, INCLUDING DISINFECTION (E.G. CHLORINATION AND DECHLORINATION). THE WATER BALANCE MUST SHOW DAILY AVERAGE FLOW RATES AT INFLUENT AND DISCHARGE POINTS AND APPROXIMATE DAILY FLOW RATES BETWEEN TREATMENT UNITS. INCLUDE A BRIEF NARRATIVE DESCRIPTION OF THE DIAGRAM.

7.4 FACILITY SIC CODE <u>4952</u>	DISCHARGE SIC CODE: <u>4952</u>	FACILITY NAICS CODE: <u>2213</u>	DISCHARGE NAICS CODE: <u>2213</u>
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7.5 NUMBER OF SEPARATE DISCHARGE POINTS
001

7.6 NUMBER OF PEOPLE PRESENTLY CONNECTED OR POPULATION EQUIVALENT _____ DESIGN POPULATION EQUIVALENT _____
650

NUMBER OF UNITS PRESENTLY CONNECTED
HOMES _____ APARTMENTS 308 TRAILERS _____ OTHER _____

TOTAL DESIGN FLOW (ALL OUTFALLS) <u>225,000 gpd</u>	ACTUAL FLOW <u>varies: 20,000 - 65,000 gpd</u>
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7.7 DOES ANY BYPASSING OCCUR ANYWHERE IN THE COLLECTION SYSTEM OR AT THE TREATMENT FACILITY?
Yes No (If Yes, attach an explanation.)

7.8 LENGTH OF THE SANITARY SEWER COLLECTION SYSTEM IN MILES
3.0

7.9 IS INDUSTRIAL WASTE DISCHARGED TO THE FACILITY IDENTIFIED IN ITEM 2? Yes No

7.10 WILL THE DISCHARGE BE CONTINUOUS THROUGH THE YEAR? Yes No

A. DISCHARGE WILL OCCUR DURING THE FOLLOWING MONTHS <u>12 months</u>	B. HOW MANY DAYS OF THE WEEK WILL THE DISCHARGE OCCUR? <u>seven</u>
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7.11 IS WASTEWATER LAND APPLIED? (If Yes, Attach Form I) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	7.12 DOES THIS FACILITY DISCHARGE TO A LOSING STREAM OR SINKHOLE? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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7.13 HAS A WASTE LOAD ALLOCATION STUDY BEEN COMPLETED FOR THIS FACILITY?
Yes No

7.14 LIST ALL PERMIT VIOLATIONS, INCLUDING EFFLUENT LIMIT EXCEEDANCES IN THE LAST FIVE YEARS. ATTACH A SEPARATE SHEET IF NECESSARY. IF NONE, WRITE NONE.

8. LABORATORY CONTROL INFORMATION

8.1 LABORATORY WORK CONDUCTED BY PLANT PERSONNEL

Lab work conducted outside of plant.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Push-button or visual methods for simple test such as pH, settleable solids.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Additional procedures such as Dissolved Oxygen, Chemical Oxygen Demand, Biological Oxygen Demand, titrations, solids, volatile content.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
More advanced determinations such as BOD seeding procedures, fecal coliform, nutrients, total oils, phenols, etc.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Highly sophisticated instrumentation, such as atomic absorption and gas chromatograph.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

FACILITY NAME Box Canyon Watershed WWTP	PERMIT NO. MO- 0129470	OUTFALL NO. 001
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PART A – BASIC APPLICATION INFORMATION

9. SLUDGE HANDLING, USE AND DISPOSAL

9.1 IS THE SLUDGE A HAZARDOUS WASTE AS DEFINED BY 10 CSR 25?
 Yes No

9.2 SLUDGE PRODUCTION, INCLUDING SLUDGE RECEIVED FROM OTHERS
 Design Dry Tons/Year 39.5 Actual Dry Tons/Year n/a

9.3 CAPACITY OF SLUDGE HOLDING STRUCTURES

9.4 SLUDGE STORAGE PROVIDED
 Cubic Feet ¹¹⁶⁵⁰ Days of Storage ³³ Average Percent Solids of Sludge ¹ No Sludge Storage is Provided

9.5 TYPE OF STORAGE
 Holding Tank Basin Building Concrete Pad Other (Describe) _____

9.6 SLUDGE TREATMENT
 Anaerobic Digester Storage Tank Lime Stabilization Lagoon
 Aerobic Digester Air or Heat Drying Composting Other (Attach Description)

9.7 SLUDGE USE OR DISPOSAL
 Land Application Contract Hauler Hauled to Another Treatment Facility Solid Waste Landfill
 Surface Disposal (Sludge Disposal Lagoon, Sludge Held For More Than Two Years) Incineration
 Other (Attach Explanation Sheet) _____

9.8 PERSON RESPONSIBLE FOR HAULING SLUDGE TO DISPOSAL FACILITY

NAME
Tillman and Sons Septic Tank Cleaning

ADDRESS 147 Victory Lane	CITY Branson West	STATE MO	ZIP 65737
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CONTACT PERSON Kenny Tillman	TELEPHONE NUMBER WITH AREA CODE 417-739-4780	PERMIT NO. MO- 6910
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9.9 SLUDGE USE OR DISPOSAL FACILITY
 By Applicant By Others (Complete Below)

NAME
Tillman and Sons Septic Tank Cleaning

ADDRESS P.O. Box 11	CITY Kimberling City	STATE MO	ZIP 65686
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CONTACT PERSON Kenny Tillman	TELEPHONE NUMBER WITH AREA CODE 417-739-4780	PERMIT NO. MO- 6910
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9.10 DO THE SLUDGE OR BIOSOLIDS DISPOSAL COMPLY WITH FEDERAL SLUDGE REGULATIONS UNDER 40 CFR 503?
 Yes No (Attach Explanation)

10. DOWNSTREAM LANDOWNER(S). (ATTACH ADDITIONAL SHEETS AS NECESSARY.)

NAME
Supermarket Merchandising & Supply, Inc.

ADDRESS 5200 Virginia Avenue	CITY St. Louis	STATE MO	ZIP 63111
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11. DRINKING WATER SUPPLY INFORMATION

11.1 SOURCE OF YOUR DRINKING WATER SUPPLY

A. PUBLIC SUPPLY (MUNICIPAL OR WATER DISTRICT WATER) (IF PUBLIC, PLEASE GIVE NAME OF PUBLIC SUPPLY)
 Stone County Public Water Supply District #2

B. PRIVATE WELL

C. SURFACE WATER (LAKE, POND OR STREAM)

11.2 DOES YOUR DRINKING WATER SOURCE SERVE AT LEAST 25 PEOPLE AT LEAST 60 DAYS PER YEAR (NOT NECESSARILY CONSECUTIVE DAYS)?
 Yes No

11.3 DOES YOUR SUPPLY SERVE HOUSING THAT IS OCCUPIED YEAR ROUND BY THE SAME PEOPLE? THIS DOES NOT INCLUDE HOUSING THAT IS OCCUPIED SEASONALLY?
 Yes No

END OF PART A

MO 780-1805 (09-08)

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL			
FACILITY NAME Box Canyon Watershed WWTP		PERMIT NO. MO- 0129470	OUTFALL NO. 001
PART B – ADDITIONAL APPLICATION INFORMATION			
20. INFLOW AND INFILTRATION			
ESTIMATE THE AVERAGE NUMBER OF GALLONS PER DAY THAT FLOW INTO THE TREATMENT WORKS FROM INFLOW AND INFILTRATION. Gallons Per Day 1500			
BRIEFLY EXPLAIN ANY STEPS UNDERWAY OR PLANNED TO MINIMIZE INFLOW AND INFILTRATION. System mapping, visual inspection of manholes, investigate unauthorized connections,			
20.1 OPERATION AND MAINTENANCE PERFORMED BY CONTRACTOR(S)			
ARE ANY OPERATIONAL OR MAINTENANCE ASPECTS (RELATED TO WASTEWATER TREATMENT AND EFFLUENT QUALITY) OF THE TREATMENT WORKS THE RESPONSIBILITY OF A CONTRACTOR? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If Yes, list the name, address, telephone number and status of each contractor and describe the contractor's responsibilities. (Attach additional pages if necessary.)			
NAME Roger Mullis, RK Water Operation, LLC			
MAILING ADDRESS 8357 Windrock Lane; Harrison, AR 72601			
TELEPHONE NUMBER WITH AREA CODE (870) 437-5353			
RESPONSIBILITIES OF CONTRACTOR Daily system operation, maintenance, repairs			
20.2 SCHEDULED IMPROVEMENTS AND SCHEDULES OF IMPLEMENTATION. PROVIDE INFORMATION ABOUT ANY UNCOMPLETED IMPLEMENTATION SCHEDULE OR UNCOMPLETED PLANS FOR IMPROVEMENTS THAT WILL AFFECT THE WASTEWATER TREATMENT, EFFLUENT QUALITY OR DESIGN CAPACITY OF THE TREATMENT WORKS. IF THE TREATMENT WORKS HAS SEVERAL DIFFERENT IMPLEMENTATION SCHEDULES OR IS PLANNING SEVERAL IMPROVEMENTS, SUBMIT SEPARATE RESPONSES FOR EACH. (IF NONE, GO TO QUESTION B-20.3.)			
A. List the outfall number that is covered by this implementation schedule Outfall No.		B. Indicate whether the planned improvements or implementation schedule are required by local, state or federal agencies. Yes <input type="checkbox"/> No <input type="checkbox"/>	
20.3 WASTEWATER DISCHARGES: COMPLETE QUESTIONS 20.4 THROUGH 20.7 ONCE FOR EACH OUTFALL (INCLUDING BYPASS POINTS) THROUGH WHICH EFFLUENT IS DISCHARGED. DO NOT INCLUDE INFORMATION ON COMBINED SEWER OVERFLOWS IN THIS SECTION.			
20.4 DESCRIPTION OF OUTFALL			
OUTFALL NUMBER 001			
A. LOCATION ¼ <u>NW</u> ¼ <u>SW</u> ¼ <u>NE</u> Section <u>04</u> Township <u>22</u> Range <u>22</u> <input type="checkbox"/> E <input checked="" type="checkbox"/> W UTM Coordinates Easting (X): <u>411416</u> Northing (Y): <u>4054970</u> For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)			
B. Distance from Shore (If Applicable) _____ ft.		C. Depth Below Surface (If Applicable) _____ ft.	
D. Average Daily Flow Rate <u>0.06</u> mgd			
E. Does this outfall have either an intermittent or periodic discharge? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Provide the following information:			
Number of Days Per Year Discharge Occurs: <u>365</u>	Average Duration of Each Discharge: <u>10-15 minutes</u>	Average Flow Per Discharge: <u>0.0006</u> mgd	Months in Which Discharge Occurs: <u>12 months</u>
Is Outfall Equipped with a Diffuser? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
20.5 DESCRIPTION OF RECEIVING WATER			
B. Name of Receiving Water unnamed tributary to Table Rock Lake (U)			
B. Name of Watershed (If Known) n/a		U.S. Soil Conservation Service 14-Digit Watershed Code (If Known)	
B. Name of State Management/River Basin (If Known)		U.S. Geological Survey 8-Digit Hydrologic Cataloging Unit Code (If Known) 11010001-170003	
B. Critical Flow of Receiving Stream (If Applicable) Acute _____ cfs Chronic _____ cfs		B. Total Hardness of Receiving Stream at Critical Low Flow (If Applicable) mg/L of CaCO ₃	

MO 780-1805 (09-08)

FACILITY NAME Box Canyon Watershed WWTP	PERMIT NO. MO- 0129470	OUTFALL NO. 001
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PART B - ADDITIONAL APPLICATION INFORMATION (CONTINUED)

20.6 DESCRIPTION OF TREATMENT

A. WHAT LEVELS OF TREATMENT ARE PROVIDED? Check All That Apply
 Primary Secondary Advanced Other (Describe)

B. INDICATE THE FOLLOWING REMOVAL RATES (AS APPLICABLE)
Design BOD₅ Removal Or Design CBOD₅ Removal 85 % Design SS Removal 85 %
Design P Removal 95 % Design N Removal % Other %

C. What type of disinfection is used for the effluent from this outfall? If disinfection varies by season, please describe:
UV

If disinfection is by chlorination, is dechlorination used for this outfall? Yes No

Does the treatment plant have post aeration? Yes No

20.7 EFFLUENT TESTING DATA. ALL APPLICANTS THAT DISCHARGE TO WATERS OF THE U.S. MUST PROVIDE EFFLUENT TESTING DATA FOR THE FOLLOWING PARAMETERS. PROVIDE THE INDICATED EFFLUENT DATA FOR EACH OUTFALL THROUGH WHICH EFFLUENT IS DISCHARGED. DO NOT INCLUDE INFORMATION OF COMBINED SEWER OVERFLOWS IN THIS SECTION. ALL INFORMATION REPORTED MUST BE BASED ON DATA COLLECTED THROUGH ANALYSIS CONDUCTED USING 40 CFR PART 136 METHODS. IN ADDITION, THIS DATA MUST COMPLY WITH QA/QC REQUIREMENTS OF 40 CFR PART 136 AND OTHER APPROPRIATE QA/QC REQUIREMENTS FOR STANDARD METHODS FOR ANALYTES NOT ADDRESSED BY 40 CFR PART 136.

OUTFALL NUMBER 001

PARAMETER	MAXIMUM DAILY VALUE		AVERAGE DAILY VALUE		
	VALUE	UNITS	VALUE	UNITS	NO. OF SAMPLES
pH (Minimum)	7.1	S.U.	7.1	S.U.	2
pH (Maximum)	7.2	S.U.	7.2	S.U.	2
FLOW RATE	0.048764	MGD	.0274	MGD	2
TEMPERATURE (Winter)		°C		°C	
TEMPERATURE (Summer)		°C		°C	

*For pH report a minimum and a maximum daily value.

POLLUTANT	MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML/MDL
	CONC.	UNITS	CONC.	UNITS	NO. OF SAMPLES		

Conventional and Nonconventional Compounds							
BIOCHEMICAL OXYGEN DEMAND (Report One)	BOD ₅	94	mg/L	73.5	mg/L	2	
	CBOD ₅	na	mg/L	na	mg/L		
FECAL COLIFORM		25600	#/100 mL	12802	#/100 mL	2	
TOTAL SUSPENDED SOLIDS (TSS)		28	mg/L	19	mg/L	2	
AMMONIA (AS N)		44.5	mg/L	39	mg/L	2	
CHLORINE (TOTAL RESIDUAL, TRC)		na	mg/L	na	mg/L		
DISSOLVED OXYGEN		7.2	mg/L	6.0	mg/L	2	
TOTAL KJELDAHL NITROGEN (TKN)		na	mg/L	na	mg/L		
NITRATE PLUS NITRITE NITROGEN		na	mg/L	na	mg/L		
OIL AND GREASE		3.4	mg/L	<2.7	mg/L	2	
PHOSPHORUS (TOTAL)		2.1	mg/L	1.8	mg/L	2	
TOTAL DISSOLVE SOLIDS (TDS)		na	mg/L	na	mg/L		
OTHER			mg/L		mg/L		

END OF PART B

PART C - CERTIFICATION

30. CERTIFICATION

All applicants must complete the Certification Section. This certification must be signed by an officer of the company or city official. All applicants must complete all applicable sections as explained in the Application Overview. By signing this certification statement, applicants confirm that they have reviewed the entire form and have completed all sections that apply to the facility for which this application is submitted.

ALL APPLICANTS MUST COMPLETE THE FOLLOWING CERTIFICATION.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

PRINTED NAME AND OFFICIAL TITLE (MUST BE AN OFFICER OF THE COMPANY OR CITY OFFICIAL)

Kathy Isaacs, District Administrator

SIGNATURE

X *Kathy Isaacs*

TELEPHONE NUMBER WITH AREA CODE

417-338-5231

DATE SIGNED

02-23-16

Upon request of the permitting authority, you must submit any other information necessary to assess wastewater treatment practices at the treatment works or identify appropriate permitting requirements.

For Design Flows Less than 1 Million Gallons Per Day,
Send Completed Form to:

Appropriate Regional Office

Map of regional offices with addresses and phone numbers is available on the Web at www.dnr.mo.gov/regions/ro-map.pdf.

For Design Flows of 1 Million Gallons Per Day or Greater,
Send Completed Form to:

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

END OF PART C.

REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM B2 YOU MUST COMPLETE.

Do not complete the remainder of this application, unless:

1. Your facility design flow is equal to or greater than 1,000,000 gallons per day.
2. Your facility is a pretreatment treatment works.
3. Your facility is a combined sewer system.

Submittal of an incomplete application may result in the application being returned. Permit fees for returned applications shall be forfeited. Permit fees for applications being processed by the department that are withdrawn by the applicant shall be forfeited.

COMPLIANCE HISTORY (continued)

REPORT PERIOD	PARAMETER	MSOP LIMIT	REPORTED RESULT
May 2011	E. Coli	630 #/100 ml weekly Avg 126 #/100 ml Monthly Avg	2103 #/100 ml 985.5 #/100 ml
May 2011	Total Phosphorus	0.5 mg/L Monthly Average	0.8 mg/L
June 2011	E. Coli	630 #/100 ml weekly Avg 126 #/100 ml Monthly Avg	1761 #/100 ml 832.4 #/100 ml
June 2011	Total Phosphorus	0.5 mg/L Monthly Average	0.7 mg/L
July 2011	E. Coli	630 #/100 ml weekly Avg 126 #/100 ml Monthly Avg	345 #/100 ml 226.2 #/100 ml
August 2011	E. Coli	630 #/100 ml weekly Avg 126 #/100 ml Monthly Avg	740 #/100 ml 514.7 #/100 ml
October 2011	E. Coli	630 #/100 ml weekly Avg 126 #/100 ml Monthly Avg	206.6 #/100 ml 147.7 #/100 ml
April 2012	E. Coli	630 #/100 ml weekly Avg 126 #/100 ml Monthly Avg	418.2 #/100 ml 985.5 #/100 ml
May 2012	E. Coli	630 #/100 ml weekly Avg 126 #/100 ml Monthly Avg	415 #/100 ml 415 #/100 ml
July 2012	Missing DMR		
August 2012	E. Coli	630 #/100 ml weekly Avg 126 #/100 ml Monthly Avg	100,000 #/100 ml
August 2012	BOD ₅	30 mg/L Weekly Average 20 mg/L Monthly Average	26 mg/L
August 2012	Total Phosphorus	0.5 mg/L Monthly Average	2.1 mg/L
September 2012	E. Coli	630 #/100 ml weekly Avg 126 #/100 ml Monthly Avg	7400#/100 ml
September 2012	Total Phosphorus	0.5 mg/L Monthly Average	1.3 mg/L
October 2012	E. Coli	630 #/100 ml weekly Avg 126 #/100 ml Monthly Avg	20,800#/100 ml
October 2012	Total Phosphorus	0.5 mg/L Monthly Average	1.4 mg/L
November 2012	Total Phosphorus	0.5 mg/L Monthly Average	0.8 mg/L
December 2012	Total Phosphorus	0.5 mg/L Monthly Average	0.6 mg/L
March 2013	BOD ₅	30 mg/L Weekly Average 20 mg/L Monthly Average	84 mg/L
March 2013	Total Phosphorus	0.5 mg/L Monthly Average	1.5 mg/L
April 2013	BOD ₅	30 mg/L Weekly Average 20 mg/L Monthly Average	81 mg/L