

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

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

Dogwood Canyon Foundation
2038 West Highway 86
Lampe, MO 65681

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.

October 21, 2015
Effective Date


Sara Parker Pauley, Director, Department of Natural Resources

October 20, 2017
Expiration Date


John Madras, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

The Dogwood Canyon will construct a new 19,230 GPD non-discharge wastewater treatment plant to serve an estimated population equivalent of 256. The construction will include a 28,845 gallon septic tank system, phosphorous removal system, a gravel filter bed with 3,846 square feet surface area, two 9,950 gallon filter bed recirculation tanks with four Webtrol WT6015 effluent pumps, two 9,950 gallon drip field distribution dosing tanks with two Webtrol WT6050 dosing pumps, UV disinfection system, and a 96,150 square feet subsurface drip field. The project will also include general site work appropriate to the scope and purpose of the project.

Upon completion and startup of the above system, the existing treatment plant will be decommissioned per the department requirements.

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

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 Michael E. Stalzer, P.E., on June 1 and September 28, 2015.
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. A full closure plan shall be submitted to the department's Southwest Regional Office for review and approval of any permitted wastewater treatment system being replaced. In accordance with 10 CSR 20-6.010(12), the closure plan must meet the requirements outlined in Standard Conditions Part III of the Missouri State Operating Permit No. MO-0133892. Closure shall not commence until the submitted closure plan is approved by the department. Form J – Request for Termination of a State Operating Permit, shall be submitted to the Water Protection Program for termination of any existing Missouri state operating permit, once closure is completed in accordance with the approved closure plan.
11. Upon completion of construction;
 - A. The Dogwood Canyon Foundation 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
 - C. Submit an electronic copy of the as builts 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.pdf>.

The system is a non-discharge wastewater treatment system. The newly published ammonia criteria do not affect the facility.

2. CONSTRUCTION PURPOSE

The facility owner wants to construct a non-discharging wastewater treatment plant to replace the existing wastewater treatment plant (MO-0133892).

3. FACILITY DESCRIPTION

The new non-discharge wastewater treatment plant includes septic tanks, a phosphorous removal system, a gravel filter bed with recirculation tanks, an UV disinfection system and a drip field with dosing system.

4. COMPLIANCE PARAMETERS

The facility is a no discharge, private domestic wastewater treatment facility with design flows of less than 50,000 gallons per day. The facility only has monitoring requirements.

5. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

The Dogwood Canyon Nature Park has a 72-seat indoor restaurant and 150-seat outdoor restaurant, 600-seat education center, bike barn area. The total hydraulic loading for the park is 19,230 GPD with 79,057 GPD peak flow. The facility has population equivalent of 256.

The septic tank contains three tanks in series. Each has dimensions of 10-feet by 14-feet by 9.5-feet. The total liquid capacity is 28,845 gallons.

A 500 gallon rapid mix tank with two chemical metering pumps and two 1,500 gallon settling tanks for Phosphorus removal;

There are two recirculation tanks which provide a total of 19,550 gallon volume. Each tank has dimensions of 10-feet by 14-feet by 9.5-feet and is equipped two Webtrol WT6015 effluent pumps. The pump can deliver 75 gpm at 45-feet TDH.

A gravel filter with a surface area of 3,846 square feet (65 feet by 65 feet) to be divided into two cells and 56-inch depth of pea gravel filter media having an effective size between 3.0 mm to 5.0 mm, with a uniformity coefficient less than or equal 2.0 with a 4:1 recirculation rate. The gravel filter hydraulic loading rate will be 5 GPD per square feet.

There are two drip field distribution dosing tanks in series which provide a total of 19,550 gallon volume. Each tank has dimensions of 10-feet by 14-feet by 9.5-feet. The second dosing tank is equipped two Webtrol WT6050 effluent pumps. The pump can deliver 65 gpm at 185-feet TDH.

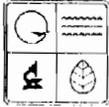
The facility proposed to build a Tipton Model WWD-UV-2L4 UV disinfection system with a treating capacity up to 66.55 GPM after the distribution dosing tanks.

The facility will construct a drip disposal field of 96,150 square feet divided into four zones with an application rate of 0.2 gallons per square feet per day. Approximately 48,076 linear feet (lf) of one-half inch linear low density polyethylene tubing (Wasteflow PC-1gph) with emitters regularly spaced 24-inches apart and all necessary appurtenances will be installed at the drip field.

6. OPERATING PERMIT MODIFICATION

The Southwest Regional Office will issue general permit MOG823071. Form B - Application for an Operating Permit for Domestic or Municipal Wastewater ($\leq 100,000$ gallons per day) and permit fee were submitted along with the construction permit application.

Lei Hou, PE
Engineering Section
lei.hou@dnr.mo.gov



MISSOURI DEPARTMENT OF NATURAL RESOURCES
 WATER PROTECTION PROGRAM
FORM E – APPLICATION FOR GENERAL PERMIT
 UNDER MISSOURI CLEAN WATER LAW

WAY 2015

FOR AGENCY USE ONLY	
CHECK NUMBER	3059
DATE RECEIVED	5/27/15
FEE SUBMITTED	7150.00

82

1.00 BRIEFLY DESCRIBE THE NATURE OF YOUR BUSINESS
 19,230 gallon per day non-discharging wastewater treatment plant.

- 1.10
- a. This facility is now in operation under Missouri Operating Permit Number, or NPDES, MO – _____ and there is not a proposed increase in design stormwater or wastewater flow.
 - b. This facility is now in operation under Missouri Operating Permit Number MO – _____ and there is a proposed increase in design stormwater or wastewater flow.
 - c. This is a new permit (for a new facility).
 - d. Construction Permit if required by the General Permit.
- If you checked either item b or c above then you may need to submit an antidegradation review. See instructions.

2.00 NAME OF FACILITY

Dogwood Canyon

2.10 ADDRESS (PHYSICAL)	CITY	STATE	ZIP CODE
2038 West Highway 86	Lampe	MO	65681

3.00 OWNER

NAME	E-MAIL ADDRESS	PHONE NUMBER WITH AREA CODE	FAX NUMBER WITH AREA CODE
Dogwood Canyon Foundation		(417) 339-5160	
STREET	CITY	STATE	ZIP CODE
2038 West Highway 86	Lampe	MO	65681

4.00 CONTINUING AUTHORITY

NAME	E-MAIL ADDRESS	PHONE NUMBER WITH AREA CODE	FAX NUMBER WITH AREA CODE
Dogwood Canyon Foundation		(417) 339-5160	
STREET	CITY	STATE	ZIP CODE
2038 West Highway 86	Lampe	MO	65681

5.00 OPERATOR (if applicable)

NAME	PHONE NUMBER WITH AREA CODE
Same As Owner	

6.00 FACILITY CONTACT

NAME	PHONE NUMBER WITH AREA CODE	FAX NUMBER WITH AREA CODE
Matt Pace	(417) 339-5160	
TITLE	Manager	

7.00 FOR EACH OUTFALL GIVE THE LEGAL DESCRIPTION (ATTACH ADDITIONAL SHEETS AS NECESSARY)

Outfall Number _____ ¼ _____ ¼ Sec. 18 T 21 R 23 stone County

Outfall Number _____ ¼ _____ ¼ Sec. _____ T _____ R _____ _____ County

7.10 FOR EACH OUTFALL LIST THE NAME OF THE RECEIVING WATER

Outfall Number 1 Receiving Water Dogwood Creek

Outfall Number _____ Receiving Water _____

7.20 Does the discharge(s) for which you are seeking a permit discharge to a combined sewer system? Yes No

7.40 Primary SIC Code _____

7.50 If this application is for a storm water permit please provide an attached list of **any** materials that are stored outside and exposed to storm water

7.60 Attach a USGS 1" = 2 000' scale map showing the location of the facility in relation to the local road system. Indicate on the map the facility, the receiving stream, the points of discharge and the map section township and range

7.70 If this is an existing discharge, submit a summary of pollutants analyzed in the past two years

7.80 If applying for a permit for an industrial site (i.e. stormwater), what is the method of domestic wastewater disposal? _____

7.90 I certify that I am familiar with the information contained in the application and to the best of my knowledge and belief such information is true, complete and accurate, and if granted this permit, I agree to abide by the Missouri Clean Water Law and all rules, regulations, orders and decisions, subject to any legitimate appeal available to applicant under the Missouri Clean Water Law of Missouri Clean Water Commission

A. NAME AND OFFICIAL TITLE (TYPE OR PRINT)

Director of operations

B. TELEPHONE NUMBER WITH AREA CODE

417-339-

C. SIGNATURE

D. DATE SIGNED

4-30-15

INSTRUCTIONS

This form must be submitted with the application fee (listed below). Persons with more than one operating location shall obtain a general permit for each location unless other permitting arrangements are allowed by the terms of the general permit. Where multiple discharge points exist at a single operating location, one application may cover all the applicable discharges. **If there are any questions concerning this form, please contact the appropriate regional office (see map available at www.dnr.mo.gov/regions/regions.htm).**

Fees: Land Disturbance (Form G must be included) - \$300 (due at application time only)
Ag Chem Fertilizer/Pesticide Storage- \$150 due with application for new permits; \$50/year while permit is in effect; no fee required with renewal application
Concentrated Animal Feeding Operation, or CAFO - \$150 (due at application time only)
Pesticide Applications - \$150 due for the application for new permit and each year until expiration; \$60/year thereafter; no fee required with renewal application.
General Permit – Other (e.g., Motor Vehicle Salvage, Limestone Quarry, Petroleum Storage, Sand/Gravel Mining, etc.) - \$150 due with application for new permits and each year until expiration; \$60/year thereafter; no fee required with renewal application.
Construction Permit \$750

1.00 Give the name of the specific general permit you are applying for: (e.g. Motor Vehicle Salvage.) and describe the primary business conducted at this site. If you are unsure about the specific name for the general permit, contact the Water Protection Program, Water Pollution Branch at 573-751-6825.

As of April 27, 2012, a new general permit is available for private domestic no-discharge facilities with design flow of less than 50,000 gallons per day. These facilities must have no industrial contributors and are subject to specific requirements. Please see the web address below to review MO-G823 before applying for this permit.

1.10 Fill out either item (a.), item (b.), item (c.), or item (d.) as applicable.

Each general permit may have specific antidegradation review requirements contained within it. Go to the following websites to verify your specific requirements:

For MO-G permits visit www.dnr.mo.gov/env/wpp/permits/wpppermits-general.htm.

For MO-R permits visit www.dnr.mo.gov/env/wpp/permits/wpppermits-stormwater.htm.

Effective Sept. 1, 2008, facilities are required to use *Missouri's Antidegradation Rule and Implementation Procedure*. This document is available on the Web at www.dnr.mo.gov/env/wpp/docs/aip-cwc-appr-050708.pdf. For more information please contact the Department at 800-361-4827 or 573-751-1300.

For some general permits, a construction permit is required prior to beginning construction of the facility. For other general permits, an exemption is provided from construction permit requirements. Please review the general permits at one of the web addresses noted above. For domestic wastewater treatment facilities, an engineering report, plans, and specifications as defined in 10 CSR 20-8.020 or 8.110 through 8.220 must be submitted for approval and issuance of a Construction Permit. If the facility is designed for greater than 22,500 gallons per day, the engineering report must be submitted and approved prior to submittal of the Form E Application, fee, plans and specifications. A Summary of Design Data must be submitted with the engineering plans and specifications.

2.00 Name of facility – by what name is this facility known locally? (e.g., Southwest Sewage Treatment Plant or Oak Hill Mobile Home Park.)

2.10 Give the street address of the facility. If the facility lacks a mailing address, give an accurate geographic description. (e.g., Intersection of Route A and M.)

3.00 Owner – legal name and address of owner.

4.00 Continuing Authority – permanent organization which will serve as the continuing authority for the operation, maintenance and modernization of the facility.

5.00 Operator – name, certificate number of person operating the facility.

6.00 Give name of person at the facility who can be contacted by the Department if necessary.

7.00 An outfall is the point(s) at which wastewater is discharged. For storm water this may be the point(s) where water leaves the property. Outfalls should be given in terms of the legal description of the facility. Sufficient information should be submitted so the outfall may be located by Department staff.

7.10 Receiving stream(s) – the name of the stream(s) to which the discharge is directed and any subsequent tributary until a lake or continuous flowing stream is reached.

7.30 A combined sewer system is one in which the sanitary and storm sewers are one pipe. In Missouri, parts of Macon, Moberly, Cape Girardeau, St. Joseph, Kansas City, Sedalia and all of the city of St. Louis are on combined sewer systems. To find out information, consult with your municipal public works department or, if in St. Louis, the St. Louis Metropolitan Sewer District (MSD). **If this discharge is to a combined sewer system, it is exempt from storm water permitting requirements. You do not need to file this application if it is for storm water discharges only.**

7.40 List only your primary Standard Industrial Classification, or SIC, code. The SIC system was devised by the U.S. Office of Management and Budget to cover all economic activities. The primary SIC code is that of the operation that generates the most revenue, or, secondly, employs the most personnel. To find the correct SIC code, contact the Missouri Department of Natural Resources at 573-526-6627 or refer to the following Web sites: www.census.gov/epcd/www/naicstab.htm or www.osha.gov/pls/imis/sicsearch.html. Do not list the North American Industry Classification System (NAICS) code.

7.50 Please list anything stored outside, including wood pallets, empty storage barrels, waste disposal containers (except for a secured Dempsey dumpster), or **anything** that is a raw material, by-product, or product of your manufacturing activities.

If your facility is listed under any of the following SIC codes or major group codes, and you can certify that no materials are stored outside, then **you are exempt from storm water permitting requirements. You do not need to file this application if it is for storm water discharges only.** This information refers to the first two, first three, or all four numbers of your SIC code listed in 7.40 above. The SIC codes that are exempt from regulations if no materials are stored outside are: 20xx-23xx, 25xx, 265x, 267x, 27xx, 283x, 285x, 30xx, 31xx, 323x, 34xx-39xx, and 4221-4225.

7.60 A map showing the facility in relation to the local roads and receiving streams is required. Attach a 1" = 2000' scale U.S. Geological Survey topographic map, available from the department's Division of Geology and Land Survey in Rolla at 573-368-2125.

7.70 If this is an existing discharge, submit a list of pollutants analyzed in the past two years and any laboratory findings.

7.80 Give the method of domestic wastewater disposal; identify the future method if the site is currently undeveloped. If public sewers, give name of sewer agency. If private system with a State Operating Permit, give name of facility and permit number. If other, please describe.

8.00 Signature – all applications must be signed as follows and the signature must be original.

a. For a corporation, by an officer having responsibility for the overall operation of the regulated facility or activity or for environmental matters.

b. For a partnership or sole proprietorship, by a general partner or the proprietor (owner).

c. For a municipal, state, federal, or other public facility, by either a principal executive officer or by an individual having overall responsibility for environmental matters at the facility.



MISSOURI DEPARTMENT OF NATURAL RESOURCES
 WATER PROTECTION PROGRAM, WATER POLLUTION BRANCH
FORM B – APPLICATION FOR CONSTRUCTION OR OPERATING PERMIT FOR FACILITIES WHICH RECEIVE PRIMARILY DOMESTIC WASTE (≤100,000 gallons per day) UNDER MISSOURI CLEAN WATER LAW

FOR AGENCY USE ONLY	
CHECK NUMBER	
DATE RECEIVED: 5/21/15	FEE SUBMITTED: 1500

NOTE ► PLEASE READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM

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 and 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 #: _____
 1.2 Is the appropriate fee included with the application (See instructions for appropriate fee)? YES NO

2. FACILITY (Outfall 1 of 1)

NAME Dogwood Canyon WWTF		TELEPHONE WITH AREA CODE (417) 339-5160	
ADDRESS (PHYSICAL) 2038 West Highway 86	CITY Lampe	STATE MO	ZIP CODE 65681

2.1 LEGAL DESCRIPTION: _____ 1/4, _____ 1/4, _____ 1/4, Sec. 18, T 21, R 23 County _____
 2.2 UTM Coordinates Easting (X): _____ Northing (Y): _____
 For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)
 2.3 Name of receiving stream: _____

3. OWNER

NAME Dogwood Canyon Foundation		E-MAIL ADDRESS		TELEPHONE WITH AREA CODE (417) 339-5160	
ADDRESS 2038 West Highway 86	CITY Lampe	STATE MO	ZIP CODE 65681		

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 Same as owner		TELEPHONE WITH AREA CODE			
ADDRESS	CITY	STATE	ZIP CODE		

5. OPERATOR

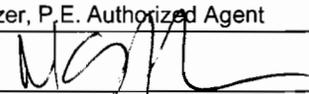
NAME Same as owner	CERTIFICATE NUMBER	TELEPHONE WITH AREA CODE
-----------------------	--------------------	--------------------------

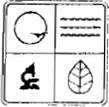
6. FACILITY CONTACT

NAME Matt Pace	TITLE General manager	TELEPHONE WITH AREA CODE (417) 339-5160
-------------------	--------------------------	--

7.0 ADDITIONAL FACILITY INFORMATION

7.1 Description of facilities (Attach additional sheet if required). Attach a 1" = 2,000' scale U.S. Geological Survey topographic map showing location of all outfalls and downstream landowners. (See Item 9.)
 7.2 Facility SIC code: _____; Discharge SIC code: _____; Facility NAICS code: _____; Discharge NAICS code: _____.
 7.3 Number of people presently connected or population equivalent (P.E.) 256 Design P.E. _____
 Number of units presently connected: Homes _____ Trailers _____ Apartments _____ Other _____
 Design flow for this outfall: _____ Total design flow for the facility: 19230 Actual flow for this outfall: _____
 Commercial Establishment: Daily number of employees working _____ Daily number of customers/guests 256
 7.4 Length of pipe in the sewer collection system? _____ feet/miles (Please denote which unit is appropriate.)
 7.5 Does any bypassing occur in the collection system or at the treatment facility? Yes No (If yes, attach explanation.)
 7.6 Does significant infiltration occur in the collection system? Yes No (If yes, attach explanation and proposed repair.)
 7.7 Is industrial waste discharged to the facility identified in Item 2? Yes No (If yes, see instructions.)
 7.8 Will the discharge be continuous through the year? Yes No
 a. Discharge will occur during the following months: _____
 b. How many days of the week will the discharge occur? _____
 7.9 Is wastewater land applied? Yes No (If yes, attach Form I.)
 7.10 Will chlorine be added to the effluent? Yes No
 a. If chlorine is added, what is the resulting residual? _____ µg/l (micrograms per liter)
 7.11 Does this facility discharge to a losing stream or sinkhole? Yes No
 7.12 Attach a flow chart showing all influents, treatment facilities and outfalls.
 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. SLUDGE HANDLING, USE AND DISPOSAL			
8.1	Is the sludge a hazardous waste as defined by 10 CSR 25? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
8.2	Sludge Production, including sludge received from others: _____ Design Dry Tons/Year _____ Actual Dry Tons/Year		
8.3	Capacity of sludge holding structures: Sludge storage provided: ³⁸⁵⁶ _____ cubic feet; _____ days of storage; _____ average percent solids of sludge; <input type="checkbox"/> No sludge storage is provided.		
8.4	Type of Storage:	<input checked="" type="checkbox"/> Holding tank	<input type="checkbox"/> Building
		<input type="checkbox"/> Basin	<input type="checkbox"/> Other (Please describe) _____
		<input type="checkbox"/> Concrete Pad	
8.5	Sludge Treatment:		
	<input type="checkbox"/> Anaerobic Digester	<input type="checkbox"/> Lagoon	<input type="checkbox"/> Composting
	<input checked="" type="checkbox"/> Storage Tank	<input type="checkbox"/> Aerobic Digester	<input type="checkbox"/> Other (Attach description)
	<input type="checkbox"/> Lime Stabilization	<input type="checkbox"/> Air or Heat Drying	
8.6	Sludge Use or Disposal:		
	<input type="checkbox"/> Land Application	<input type="checkbox"/> Surface Disposal (Sludge Disposal Lagoon, Sludge held for more than two years)	
	<input checked="" type="checkbox"/> Contract Hauler	<input type="checkbox"/> Incineration	
	<input type="checkbox"/> Hauled to Another Treatment Facility	<input type="checkbox"/> Sludge Retained in Wastewater treatment lagoon	
	<input type="checkbox"/> Solid Waste Landfill	<input type="checkbox"/> Other _____ Attach explanation sheet.	
8.7	PERSON RESPONSIBLE FOR HAULING SLUDGE TO DISPOSAL FACILITY		
	<input checked="" type="checkbox"/> By Applicant <input type="checkbox"/> By Others (complete below)		
NAME Same as owner			
ADDRESS		CITY	STATE ZIP CODE
CONTACT PERSON		TELEPHONE WITH AREA CODE	PERMIT NO. MO-
8.8 SLUDGE USE OR DISPOSAL FACILITY			
<input checked="" type="checkbox"/> By Applicant <input type="checkbox"/> By Others (Please complete below.)			
NAME			
ADDRESS		CITY	STATE ZIP CODE
CONTACT PERSON		TELEPHONE WITH AREA CODE	PERMIT NO. MO-
8.9	Does the sludge or biosolids disposal comply with federal sludge regulations under 40 CFR 503? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Please attach explanation)		
9. DOWNSTREAM LANDOWNER (S). ATTACH ADDITIONAL SHEETS AS NECESSARY. SEE INSTRUCTIONS.			
NAME US Army Corp			
ADDRESS P.O. Box 867		CITY Little Rock	STATE ZIP CODE AR 72203
10. DRINKING WATER SUPPLY INFORMATION			
10.1	WHAT IS THE SOURCE OF YOUR DRINKING WATER SUPPLY:		
	A. Public supply (municipal or water district water) _____ If public, please give name of the public supply _____		
	B. Private well <input checked="" type="checkbox"/> _____		
	C. Surface water (lake, pond or stream) _____		
10.2	Does your drinking water source serve at least 25 people at least 60 days per year (not necessarily consecutive days)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
10.3	Does your supply serve housing which is occupied year round by the same people? This does not include housing which is occupied seasonally? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
11.	I certify that I am familiar with the information contained in the application, that to the best of my knowledge and belief such information is true, complete and accurate, and if granted this permit, I agree to abide by the Missouri Clean Water Law and all rules, regulations, orders and decisions, subject to any legitimate appeal available to applicant under the Missouri Clean Water Law.		
NAME AND OFFICIAL TITLE (TYPE OR PRINT) Michael Stalzer, P.E. Authorized Agent			TELEPHONE WITH AREA CODE (417) 334-8820
SIGNATURE 			DATE SIGNED 5/18/15



MISSOURI DEPARTMENT OF NATURAL RESOURCES
 WATER PROTECTION PROGRAM, WATER POLLUTION BRANCH
 (SEE MAP FOR APPROPRIATE REGIONAL OFFICE)
**FORM I - PERMIT APPLICATION FOR CONSTRUCTION AND
 OPERATION OF WASTEWATER IRRIGATION SYSTEMS**

FOR AGENCY USE ONLY
PERMIT NUMBER MO -
DATE RECEIVED

INSTRUCTIONS: The following forms must be submitted with Form I: **FORM B** for domestic wastewater. **Submit FORMS E and G** for land disturbance permit if construction areas total one acre or more.

1.00 FACILITY INFORMATION

1.10 Facility Name

Dogwood Canyon Foundation

1.20 Application for: Construction Permit (attach Engineering report, Plans and Specifications per 10 CSR 20-8)
 Operating Permit (if no construction permit, attach engineering documents)
 Date Irrigation System Began Operation: _____
 Operating Permit Renewal

1.30 Type of wastewater to be irrigated: Domestic Municipal State/National Park Seasonal business
 Municipal with Pretreatment Program or Significant Industrial Users Other (explain) _____
 SIC Codes (list all that apply, in order of importance) _____

1.40 Months when the business or enterprise will operate or generate wastewater:
 12 months per year Part of year (list Months): _____

1.50 This system is designed for:
 No-discharge Partial irrigation when feasible and discharge rest of time.
 Irrigation during recreation season (April - October) and discharge during November - March.
 Other (explain) _____

1.60 List the Facility outfalls which will be applicable to the irrigation system from outfalls listed on Form B.
 Outfall Nos. _____

2.00 STORAGE BASINS

2.10 Number of storage basins: 1 Type of basin: Steel Concrete Fiberglass Earthen
 Earthen with membrane liner

2.20 Storage basin dimensions at inside top of berm (feet): Report freeboard as feet from top of berm to emergency spillway or overflow pipe.
 (Complete Attachment A: Profile Sketch)
 Basin #1: Length 16 Width 12 Depth 12 Freeboard _____ Berm Width _____ % Slope _____
 Basin #2: Length 16 Width 12 Depth 12 Freeboard _____ Berm Width _____ % Slope _____

2.30 Storage Basin operating levels (report as feet below emergency overflow level)
 Basin #1: Maximum water level 9 ft. Minimum operating water level 3 ft.
 Basin #2: Maximum water level 9 ft. Minimum operating water level 3 ft.

2.40 Depth of sludge in lagoons and storage basins 12 ft.
 Total sludge stored _____ dry tons _____ cu. ft.

3.00 LAND APPLICATION SYSTEM

3.10 Number of irrigation sites _____ Total Acres _____ Maximum % field slopes _____
 Location: _____ ¼, _____ ¼, _____ ¼, 18 Sec. 21 T 23 R ston County 2.2 Acres
 Location: _____ ¼, _____ ¼, _____ ¼, _____ Sec. _____ T _____ R _____ County _____ Acres

3.11 Type of vegetation: Grass hay Pasture Timber Row crops Other (describe) _____

3.20 Wastewater flow (dry weather) gallons/day:
 Average annual: _____ Seasonal _____ Off-season _____
 Months of seasonal flow: 12
 Human Population Equivalent: 256

3.21 Land Application rate per acre (design flow including 1 in 10 year storm water flows):
 Design: _____ inches/year _____ inches/hour _____ inches/day 2.2 inches/week
 Actual: _____ inches/year _____ inches/hour _____ inches/day _____ inches/week
 Total Irrigation per year (gallons): _____ Design _____ Actual
 Actual months used for Irrigation (check): Jan Feb Mar Apr May Jun Jul Aug Sep
 Oct Nov Dec

3.22 Land Application Rate is based on:
 Nutrient Management Plan (N&P)
 Hydraulic Loading
 Other (describe) _____

3.30 Equipment type: Sprinklers Gated pipe Center pivot Traveling gun Other (describe) drip t
 Equipment Flow Capacity: _____ Gallons per hour _____ Total hours of operation per year

3.40 Public Access Restrictions for irrigation sites: Site is Fenced Wastewater disinfection prior to irrigation
 Other (describe): subsurface drip with UV disinfection

3.50 Separation distance (in feet) from the outside edge of the wetted irrigation area to down gradient features:
800 Permanent flowing stream _____ Losing Stream _____ Intermittent (wet weather) stream _____ Lake or pond
 _____ Property boundary _____ Dwellings _____ Water supply well _____ Other (describe) _____

3.60 SOILS INFORMATION: Use information from the County Soil Survey, NRCS, or professional soil scientist.
 Soil Series Name _____ Depth of bedrock na Feet Depth of water table na Feet
 Soil Infiltration rate in inches/hour (in/hr) for most restrictive layer within the following soil depth ranges:
 _____ In/hr for 0-12 in soil depth _____ In/hr for 12-24 inch soil depth _____ In/hr for 24-60 inch soil depth

3.70 Include a recent Geologic Report by the Department's Geological Survey and Resource Assessment Division with your construction permit.

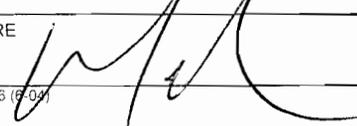
3.80 Attach a current copy of the Operation and Maintenance (O&M) Plan for the irrigation system. Date of O&M Plan: _____

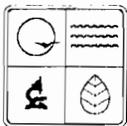
3.81 Attach a site map showing topography, storage basins, irrigation sites, property boundary, streams, wells, roads, dwellings and other pertinent features.

3.82 Attach a facility sketch showing treatment units, storage basins, pipelines, irrigation equipment, application sites and other features.

4.00 CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine or imprisonment.

CONSULTING ENGINEER - Name, Official Title and Engineering Firm (TYPE OR PRINT) <u>Michael Stalzer, P.E.</u>	TELEPHONE NUMBER (area code and number)
SIGNATURE 	DATE SIGNED
OWNER OR AUTHORIZED REPRESENTATIVE - Name and Official Title (TYPE OR PRINT)	TELEPHONE NUMBER (area code and number)
SIGNATURE 	DATE SIGNED <u>4-30-15</u>



MISSOURI DEPARTMENT OF NATURAL RESOURCES
 WATER PROTECTION PROGRAM, WATER POLLUTION CONTROL BRANCH
NO DEGRADATION EVALUATION
CONCLUSION OF ANTIDegradation REVIEW
 (Submit this form with the appropriate Permit Application)

WAP 81 55

1. FACILITY

NAME Dogwood Canyon WWTF		COUNTY Stone	
ADDRESS (PHYSICAL) 2038 W. Hwy 86		CITY Lampe	STATE MO
FACILITY CONTACT Matt Pace		ZIP CODE 65681	
		TELEPHONE NUMBER WITH AREA CODE 417-779-5983	

2. NO DEGRADATION OPTIONS

- Renewal without changes
- Sewer extensions
- CSO elimination projects
- No-discharge with land application
- No-discharge with subsurface irrigation
- Recycle or reuse of effluent
- Discharge to a regional wastewater collection and treatment system.
- Addition or replacement of disinfection system for an existing wastewater facility: Ultraviolet or Ozone
The facility will be required to meet regulatory effluent limits for bacteria.
- Addition or replacement for chlorination or dechlorination disinfection system of existing facility.
The chlorination or dechlorination disinfection treatment system design must be for total removal of Total Residual Chlorine. Therefore, the facility will be required to meet the water quality-bases effluent limits determined by the permit writer or the following water quality-bases effluent limits:

Beneficial Use of Classified Water	MDL (µg/l)	AML (µg/l)
Warm-water fishery	17	8.2
Cold-water fishery	3.3	1.6

Note: These compliance limits for Total Residual Chlorine are much less than minimum quantification level, or ML, of 0.13. The facility will be required to meet regulatory effluent limits for bacteria.

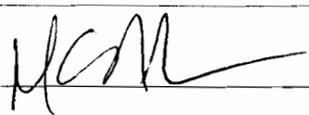
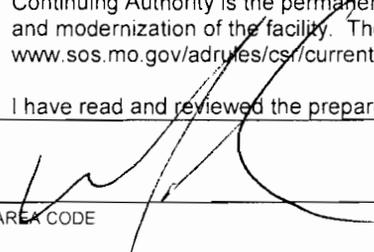
Other, please describe: _____

Consulted with Water Protection Staff.

NAME Keith Forck, Environmental Engineer	DATE 03/02/2015
--	---------------------------

3. NO DEGRADATION PROPOSED PROJECT SUMMARY

19,230 gpm recirculating gravel filter bed with 96,150 sf drip field.

CONSULTANT: I have prepared or reviewed this form and all attached reports and documentation. The conclusion proposed is consistent with the Antidegradation Implementation Procedure and current state and federal regulations.	
SIGNATURE 	DATE 9/18/15
PRINT NAME Michael Stalzer	
TELEPHONE NUMBER WITH AREA CODE 417-334-8820	E-MAIL ADDRESS metsalzer@gmail.com
Owner: I have read and reviewed the prepared documents and agree with this submittal.	
SIGNATURE	DATE
TELEPHONE NUMBER WITH AREA CODE 417-339-5160	E-MAIL ADDRESS
Continuing Authority: Continuing Authority is the permanent organization that will be responsible for the operation, maintenance and modernization of the facility. The regulatory requirement regarding continuing authority is available at www.sos.mo.gov/adrules/csr/current/10csr/10c20-6a.pdf . I have read and reviewed the prepared documents and agree with this submittal.	
SIGNATURE 	DATE 4-30-15
TELEPHONE NUMBER WITH AREA CODE 417-339-5160	E-MAIL ADDRESS
Return completed form with the appropriate Permit Application to: Missouri Department of Natural Resources Water Protection Program Water Pollution Control Branch P.O. Box 176 Jefferson City, MO 65102	