STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law),

Permit No.	MO-0137430
Owner:	Shannon County Commission
Address:	P.O. Box 187, Eminence, MO 65466
Continuing Authority:	Same as above
Address:	Same as above
Facility Name:	Shannon Co. Commission Quarry #2
Facility Address:	State Hwy T, Thomasville, MO 65438
Legal Description:	See Page 2
UTM Coordinates:	See Page 2
Receiving Stream:	See Page 2
First Classified Stream and ID:	See Page 2
USGS Basin & Sub-watershed No.:	See Page 2

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

See Page 2

This permit authorizes only wastewater discharges under the Missouri Clean Water Law; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

August 1, 2015
Effective Date

Sara Parker Pauley
Sara Parker Pauley, Director, Department of Natural Resources

June 30, 2020
Expiration Date

John Madras
John Madras, Director, Water Protection Program

FACILITY DESCRIPTION (continued)

Facility Type: Industrial no-discharge/land application of stormwater from detention basin for annual flows into a losing stream system.

Permitted Feature #001 – South land application field, 1.4 acres

Legal Description:	NE ¼, SW ¼, Sec. 14, T25N, R6W, Oregon County
UTM Coordinates:	X = 626737, Y= 4077763
Receiving Stream:	Tributary to Eleven Point River (C)
First Classified Stream and ID:	8-20-13 MUDD V1.0 (C) (3960) Losing
USGS Basin & Sub-watershed No.:	(11010011-0108)

Permitted Feature #002 – North land application field, 3.8 acres

Legal Description:	SE ¼, NW ¼, Sec. 14, T25N, R6W, Oregon County
UTM Coordinates:	X = 626681, Y= 4078060
Receiving Stream:	Tributary to Eleven Point River (C)
First Classified Stream and ID:	8-20-13 MUDD V1.0 (C) (3960) Losing
USGS Basin & Sub-watershed No.:	(11010011-0108)

Land Application:
Irrigation areas: 5.2 acres total available
Application rates: 1.0 inch/day; 3.0 inches/week; 20 inches/year
Equipment type: 1,000 gallon water truck
Vegetation: Pasture
Application rate is based on hydraulic loading rate.

Permitted Feature #003 – Stormwater detention basin

Legal Description:	NE ¼, SW ¼, Sec. 14, T25N, R6W, Oregon County
UTM Coordinates:	X = 626512, Y= 4077845
Receiving Stream:	Tributary to Eleven Point River
First Classified Stream and ID:	8-20-13 MUDD V1.0 (C) (3960) Losing
USGS Basin & Sub-watershed No.:	(11010011-0108)

PERMITTED FEATURE #001 - #002	**TABLE A-1.** LAND APPLICATION LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to conduct land application of wastewater as specified in the application for this permit. The final limitations shall become effective **August 1, 2015**, and remain in effect until expiration of the permit. The land application of wastewater shall be controlled, limited and monitored by the permittee as specified below:

EFFLUENT PARAMETER(S)	UNITS	FINAL LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Wastewater Land Application Operational Monitoring						
Irrigation Period	Hours	*			daily	total
Volume Irrigated	Gallons	*			daily	total
Application Area	Acres	*			daily	total
Application Rate	in/acre	*			daily	total

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE OCTOBER 28, 2015.

PERMITTED FEATURE #003	**TABLE A-2.** STORAGE BASIN LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to conduct land application of wastewater as specified in the application for this permit. The final limitations shall become effective **August 1, 2015**, and remain in effect until expiration of the permit. The land application of wastewater shall be controlled, limited and monitored by the permittee as specified below:

EFFLUENT PARAMETER(S)	UNITS	FINAL LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Storage Basin Operational Monitoring						
Storage Basin Freeboard (Note 1)	Feet	*			once/month	measured
Precipitation	Inches	*			daily	total

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE OCTOBER 28, 2015.

* Monitoring requirement only

Note 1- Storage Basin freeboard shall be reported as Storage Basin water level in feet below the overflow level.

B. STANDARD CONDITIONS

In addition to specified conditions stated herein, this permit is subject to the attached Part I standard conditions dated November 1, 2013, and hereby incorporated as though fully set forth herein.

C. SPECIAL CONDITIONS

1. Emergency and Unauthorized Discharge. Wastewater shall be stored and land applied during suitable conditions so that there is no discharge from the dentation basin or land application sites. An emergency discharge from the dentation basin may only occur if rainfall exceeds the 1 in 10 year (Data taken from the Missouri Climate Atlas) or the 24 hour, 25 year (Data taken from NRCS Urban Hydrology for Small Watersheds) rainfall events. **Discharge for any other reason or from land application sites shall constitute a permit violation and shall be reported in accordance with Standard Conditions, Part 1, Section B.2.b.** Monitoring shall take place once per day while discharging. Test results are due on the 28th day of the following month after the cessation of the discharge. Permittee shall monitor for the following constituents:

Constituent	**Units**
Flow	MGD
Settleable Solids	mL/L/hr
pH – Units	SU
Oil & Grease	mg/L

2. This permit may be reopened and modified, or alternatively revoked and reissued, to:
   a. Comply with any applicable effluent standard or limitation issued or approved under the Missouri Clean Water Law, if the effluent standard or limitation so issued or approved:
      (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
      (2) controls any pollutant not limited in the permit.
   b. Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
   c. Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.
   d. Incorporate the requirement to develop a pretreatment program when the Director of the Water Protection Program determines that a pretreatment program is necessary due to any new introduction of pollutants into the Publically Owned Treatment Works or any substantial change in the volume or character of pollutants being introduced.

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

3. All permitted features must be clearly marked in the field.

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

5. Public access to storage areas and land application sites must be controlled by either positive barriers or remoteness of site.

6. 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. The permittee shall not report a sample result as "Non-Detect" without also reporting the detection limit of the test. Reporting as "Non Detect" without also including the detection limit will be considered failure to report, which is a violation of this permit.
   c. The permittee shall provide the "Non-Detect" sample result using the less than sign and the minimum detection limit (e.g. <10).
   d. Where the permit contains a Minimum 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.
   e. See Standard Conditions Part I, Section A, #4 regarding proper detection limits used for sample analysis.

7. The permittee shall develop, maintain and implement an Operation and Maintenance (O&M) Manual that includes all necessary items to ensure the operation and integrity of the waste handling and land application systems, including key operating procedures, an aerial or topographic site map with the permitted features, land application fields, and irrigation buffer zones marked, and a brief summary of the operation of the facility. The O & M manual shall be made available to the operator and available to the department upon request. The O&M Manual shall be reviewed and updated at least every five years.

8. The berms of the storage basin(s) shall be mowed and kept free of any deep-rooted vegetation, animal dens, or other potential sources of damage to the berms.

9. It is a violation of the Missouri Clean Water Law to fail to pay fees associated with this permit (644.055 RSMo).

10. Hazardous waste regulated under the Missouri Hazardous Waste Law and regulations shall not be land applied under this permit.

11. Any pesticide discharge from any point source shall comply with the requirements of Federal Insecticide, Fungicide and Rodenticide Act, as amended (7 U.S.C. 136 et. seq.) and the use of such pesticides shall be in a manner consistent with its label.

12. The permittee shall implement a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP must be prepared and implemented upon permit issuance and kept on-site and should not be sent to the department unless specifically requested. The SWPPP must be reviewed and updated, if needed, every five (5) years or as site conditions change. The permittee shall select, install, use, operate, and maintain the Best Management Practices prescribed in the SWPPP in accordance with the concepts and methods described in the following document:

    Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators, (Document number EPA 833-B-09-002) published by the United States Environmental Protection Agency (USEPA) in February 2009.The SWPPP must include the following:

    a. A listing of specific Best Management Practices (BMPs) and a narrative explaining how BMPs will be implemented to control and minimize the amount of potential contaminants that may enter stormwater.
    b. The SWPPP must include a schedule for monthly site inspection of BMP effectiveness and brief written reports. Deficiencies must be corrected within seven (7) days and the actions taken to correct the deficiencies shall be included with the written report, including photographs. Any corrective measure that necessitates major construction may also need a construction permit. Inspection reports must be kept on site with the SWPPP and maintained for a period of five (5) years. These must be made available to department personnel upon request.
    c. A provision for designating an individual to be responsible for environmental matters.
    d. A provision for providing training to all personnel involved in material handling and storage, and housekeeping of maintenance and cleaning areas. Proof of training shall be submitted on request of the department.

13. Permittee shall adhere to the following minimum Best Management Practices (BMPs):

    a. Prevent the spillage or loss of fluids, oil, grease, fuel, etc. from vehicle maintenance, equipment cleaning, or warehouse activities and thereby prevent the contamination of storm water from these substances.
    b. Provide collection facilities and arrange for proper disposal of waste products including but not limited to petroleum waste products, and solvents.
    c. Store all paint, solvents, petroleum products and petroleum waste products (except fuels), and storage containers (such as drums, cans, or cartons) so that these materials are not exposed to storm water or provide other prescribed BMPs such as plastic lids and/or portable spill pans to prevent the commingling of storm water with container contents. Commingled water may not be discharged under this permit. Provide spill prevention control, and/or management sufficient to prevent any spills of these pollutants from entering waters of the state. Any containment system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall also prevent the contamination of groundwater.
    d. Provide good housekeeping practices on the site to keep trash from entry into waters of the state.
    e. Provide sediment and erosion control sufficient to prevent or control sediment loss off of the property. This could include the use of straw bales, silt fences, or sediment basins, if needed, to comply with effluent limits.

14. The purpose of the SWPPP and the BMPs listed herein is the prevention of pollution of waters of the state. A deficiency of a BMP means it was not effective in preventing pollution [10 CSR 20-2.010(56)] of waters of the state, and corrective actions means the facility took steps to eliminate the deficiency.

15. Release of a hazardous substance must be reported to the department in accordance with 10 CSR 24-3.010. A record of each reportable spill shall be retained with the SWPPP and made available to the department upon request.

16. The facility shall ensure that adequate provisions are provided to prevent surface water intrusion into the storage basin(s) and to divert stormwater runoff around the storage basin(s) and protect embankments from erosion.

17. Land Application System.

a. This special condition does not apply to fertilizer products that are exempted under the Missouri Clean Water Law and regulations, 10 CSR 20-6.015(3)(B)8.
b. Permitted Sites. This permit authorizes land application of wastewater by the permittee to those sites listed in the "Facility Description" of this permit. Land application of wastewater by a contract hauler to sites owned, rented, or leased by the permittee must also be listed in the "Facility Description" unless, the contract hauler is permitted. Land applications by contract hauler to sites that are not owned, rented, or leased by the permittee are not required to be listed in this permit. Only those pollutants listed in the permit application may be land applied. Permittee requests for additional sites must follow permit modification procedures prior to land application. Additionally, the O&M Manual shall include all additional land application site(s) listed in this permit.
c. Storage basins shall be inspected monthly for structural integrity and leaks.
d. This permit does not authorize application of wastewater to public use areas.

18. Land Application Requirements.

a. No land application shall occur when the soil is frozen, snow covered, or saturated. There shall be no application during a precipitation event or if a precipitation event that is likely to create runoff is forecasted to occur within 24 hours of a planned application.
b. Land application shall occur only during daylight hours.
c. Land application fields shall be checked daily during land application for runoff. Sites that utilize spray irrigation shall monitor for the drifting of spray across property lines.
d. Setback distances from sensitive features. There shall be no land application within:
   (1) 300 feet of any well, sinkhole, losing stream, wetland, or cave entrance, water supply impoundment or stream intake;
   (2) 150 feet of an occupied residence, public building, or public use area;
   (3) 50 feet of gaining perennial or intermittent stream, public or privately owned pond or lake;
   (4) 50 feet of property line or public road.
e. Wastewater application on slopes exceeding 10%, the hourly application rate shall not exceed one-half (1/2) the design sustained permeability and in no case shall exceed one-half (1/2) inch per hour.
f. Land application equipment shall be visually inspected daily during land application to check for equipment malfunctions and leaks. The application system shall be operated so as to provide uniform distribution of wastes over the entire land application site and shall be capable of applying the annual design flow during an application period of less than 100 days or 800 hours per year. Land application equipment shall be calibrated at least once annually.

19. Record Keeping.

a. A daily land application log shall be kept on file at the permittee office location for each application site showing dates of application, weather condition (sunny, overcast, raining, below freezing etc…), soil moisture condition, application method.
b. A record of monthly visual storage structure inspections shall be maintained.
c. A record of land application equipment inspections and calibrations as well as land application field inspections shall be maintained.
d. All records and monitoring results shall be maintained for at least five years and shall be made available to the department upon request.

20. Annual Report.

An annual report is required in addition to other reporting requirements under Section A of this permit. The annual report shall be submitted by January 28 of each year. The report shall include, but is not limited to, a summary of the following:

a. Record of maintenance and repairs during the year, average number of times per month the facility is checked to see if it is operating properly, and description of any unusual operating conditions encountered during the year.
b. The number of days the storage structure discharged during the year, the discharge flow, reason the discharge occurred and effluent analysis performed.
c. A summary for each land application field listed in the "Facility Description" that was used for land application showing number of acres used number of days application occurred, crop grown, and total amount applied (gal. acre).
d. The report shall include any soil test results. If none were taken during the reporting year, report the date samples were taken.
e. Narrative summary of any problems or deficiencies identified, corrective action taken and improvements planned.

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO-0137430
SHANNON COUNTY COMMISSION QUARRY #2

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

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

This Factsheet is for Industrial Land Application

Part I – Facility Information

Facility Type: Industrial no-discharge/land application– SIC #1422

Facility Description:
Detention basin for stormwater runoff from a limestone quarry. Stormwater is land applied.

Have any changes occurred at this facility or in the receiving water body that effects effluent limit derivation?
☒ - No.
Application Date: 12/17/2014
Expiration Date: 6/30/2015

PERMITTED FEATURE(S) TABLE:

PERMITTED FEATURE	TREATMENT LEVEL	EFFLUENT TYPE
#001-#003	Land Application	Industrial stormwater

Facility Performance History:
Discharge monitoring reports since the October 1, 2013 initial permit issuance were reviewed. No inspections have been conducted of this facility.

Part II – Receiving Stream Information

A facility is considered discharging to a losing stream if the discharge is within two miles flow distance upstream of a known losing stream. The Eleven Point River is listed as a losing stream in 10 CSR 20-7.031 Table J-Losing Streams and is 0.66 miles flow distance downstream from the discharge to Tributary to Eleven Point River.

10 CSR 20-7.031 Missouri Water Quality Standards, the Department defines the Clean Water Commission water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and/or 1st classified receiving stream's beneficial water uses to be maintained are located in the Receiving Stream Table located below in accordance with [10 CSR 20-7.031(4)].

RECEIVING STREAM(S) TABLE:

WATERBODY NAME	CLASS	WBID	DESIGNATED USES*	DISTANCE TO CLASSIFIED SEGMENT	12-DIGIT HUC**
Tributary to Eleven Point River	C	3960	AQL, IRR, LWW, SCR, HHP, WBCB	0.02	11010011-0108

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

RECEIVING STREAM MONITORING REQUIREMENTS:

No receiving water monitoring requirements recommended at this time.

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.

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

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

☒ - Not Applicable; This permit is being issued under state authority only, federal anti-backsliding regulations do not apply.

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

☒ - No degradation proposed and no further review necessary. Facility did not apply for authorization to increase pollutant loading or to add additional pollutants to their discharge.

AREA-WIDE WASTE TREATMENT MANAGEMENT & CONTINUING AUTHORITY:
As per [10 CSR 20-6.010(3)(B)], …An applicant may utilize a lower preference continuing authority by submitting, as part of the application, a statement waiving preferential status from each existing higher preference authority, providing the waiver does not conflict with any area-wide management plan 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. Additional information regarding biosolids and sludge is located at the following web address: http://extension.missouri.edu/main/DisplayCategory.aspx?C=74, items WQ422 through WQ449.

☒ - Not applicable; This condition is not applicable to the permittee for this facility.

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

☒ Not Applicable; The permittee/facility is not currently under Water Protection Program enforcement action.

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. For new effluent limitations, the permit includes interim monitoring for the specific parameter to demonstrate the facility is not already in compliance with the new requirement. Per 10 CSR 20-7.031(10), 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 associated with development of a site specific criterion. 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 SOCs, and attain a greater level of consistency, on October 25, 2012 the department issued a policy on development of SOCs. 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 an affordability analysis.

☒ Not Applicable; This permit does not contain a SOC.

SPILL REPORTING:
Per 10 CSR 24-3.010, any emergency involving a hazardous substance must be reported to the department's 24 hour Environmental Emergency Response hotline at (573) 634-2436 at the earliest practicable moment after discovery. The department may require the submittal of a written report detailing measures taken to clean up a spill. These reporting requirements apply whether or not the spill results in chemicals or materials leaving the permitted property or reaching waters of the state. This requirement is in addition to the Noncompliance Reporting requirement found in Standard Conditions Part I.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP):
In accordance with 40 CFR 122.44(k) *Best Management Practices (BMPs)* to control or abate the discharge of pollutants when: (1) Authorized under section 304(e) of the Clean Water Act (CWA) for the control of toxic pollutants and hazardous substances from ancillary industrial activities: (2) Authorized under section 402(p) of the CWA for the control of storm water discharges; (3) Numeric effluent limitations are infeasible; or (4) the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA. In accordance with the EPA's *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (Document number EPA 833-B-09-002) [published by the United States Environmental Protection Agency (USEPA) in February 2009], BMPs are measures or practices used to reduce the amount of pollution entering (regarding this operating permit) waters of the state. BMPs may take the form of a process, activity, or physical structure. Additionally in accordance with the Storm Water Management, a SWPPP is a series of steps and activities to (1) identify sources of pollution or contamination, and (2) select and carry out actions which prevent or control the pollution of storm water discharges.

Additionally in accordance with the Storm Water Management, a SWPPP is a series of steps and activities to (1) identify sources of pollution or contamination, and (2) select and carry out actions which prevent or control the pollution of storm water discharges.

☒ Applicable; A SWPPP shall be developed and implemented for each site and shall incorporate required practices identified by the Department with jurisdiction, incorporate erosion control practices specific to site conditions, and provide for maintenance and adherence to the plan.

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

☒ Not Applicable; This operating permit is not drafted under premises of a petition for variance.

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

☒Not applicable; Wasteload allocations were not calculated.

WLA MODELING:
There are two general types of effluent limitations, technology-based effluent limits (TBELs) and water quality based effluent limits (WQBELs). If TBELs do not provide adequate protection for the receiving waters, then WQBEL must be used.
☒ Not applicable; A WLA study was either not submitted or determined not applicable by Department staff.

WATER QUALITY STANDARDS:
Per [10 CSR 20-7.031(3)], General Criteria shall be applicable to all waters of the state at all times including mixing zones.

WHOLE EFFLUENT TOXICITY (WET) TEST:
☒ Not applicable; No discharge operation and is not required to conduct WET test for this facility.

40 CFR 122.41(M) - BYPASSES:
Missouri regulation 10 CSR 20-2.010(11) defines a bypass as the diversion of wastewater from any portion of wastewater treatment facility or sewer system 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 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.

☒ Not applicable; This facility does not anticipate bypassing.

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

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

☒ Not applicable; This facility does not discharge to a 303(d) listed stream.

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

☒ Not applicable; This facility does not discharge to an impaired segment of a 303(d) listed stream.

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

☒ Applicable Tributary to Eleven Point River is associated with the 2001 EPA Approved TMDL for Chlorine. This facility is not considered to be a source of the above listed pollutant(s) or considered to contribute to the impairment of the Eleven Point River.

Part IV – Permit Limits Determination

Permitted Feature #001-#003 – Emergency Discharge

There are no effluent limits associated with Permitted Features #001 - #003 for the no-discharge facility. However, the following is required for an emergency discharge. Monitoring requirement only based on best professional judgment.

EMERGENCY DISCHARGE TABLE:

PARAMETER	UNIT	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
Flow	MGD	*			NO	
Settleable Solids	mL/L/hr	*			NO	
pH	SU	*			NO	
Oil & Grease	mg/L	*			NO	
Monitoring Frequency	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.					

* - Monitoring requirement only
** - # of colonies/100mL; the Monthly Average for E. coli is a geometric mean.
*** - Parameter not established in previous state operating permit.

- **Minimum Sampling and Reporting Frequency Requirements**.

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
Flow	once/day while discharging	Test results are due on the 28th day of the month after the cessation of the discharge
Settleable Solids	once/day while discharging	
pH	once/day while discharging	
Oil & Grease	once/day while discharging	

PERMITTED FEATURE #003 – STORAGE BASIN MONITORING
Irrigation limitations derived and established in the below Irrigation 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.

STORAGE BASIN OPERATIONAL MONITORING TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
Freeboard	feet	1	*			NO	
Precipitation	inches	1	*			NO	
Monitoring Frequency	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

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

Basis for Limitations Codes:
1. State or Federal Regulation/Law
2. Water Quality Standard (includes RPA)
3. Water Quality Based Effluent Limits
4. Antidegradation Review/Policy
5. Water Quality Model
6. Best Professional Judgment
7. TMDL or Permit in lieu of TMDL
8. WET Test Policy

PERMITTED FEATURE #003 – DERIVATION AND DISCUSSION OF LIMITS:

- **Freeboard.** Monitoring requirement only.

- **Precipitation.** Monitoring requirement only.

Minimum Sampling and Reporting Frequency Requirements.

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
STORAGE BASIN		
Freeboard	once/month	once/quarter
Precipitation	once/day	once/quarter

PERMITTED FEATURE #001 - #002 – LAND APPLICATION OF STORMWATER

PARAMETER	UNIT	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
Irrigation Period	Hours	*			YES	**
Volume Irrigated	Gallons	*			NO	
Application Area	Acres	*			NO	
Application Rate	in./acre	*			YES	**

* - Monitoring requirement only.
** - Parameter not established in previous permit

PERMITTED FEATURE #001 - #002 – DERIVATION AND DISCUSSION OF LIMITS:

- **Irrigation Period.** Monitoring requirement only. Monitoring for the Irrigation Period is included to determine if proper application is occurring on the land application fields.
- **Volume Irrigated**. Monitoring requirement only. Monitoring for the Volume Irrigated is included to determine if proper application is occurring on the land application fields.
- **Application Area.** Monitoring requirement only. Monitoring for the Application Area is included to determine if proper application is occurring on the land application fields.
- **Application Rate**. Monitoring requirement only. Monitoring for the Application Rate is included to determine if proper application is occurring on the land application fields.

Minimum Sampling and Reporting Frequency Requirements.

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
STORAGE BASIN		
Irrigation Period	once/day during application	once/quarter
Volume Irrigated	once/day during application	once/quarter
Application Area	once/day during application	once/quarter
Application Rate	once/day during application	once/quarter

Part V – Finding of Affordability

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

☒ Not Applicable; The Department is not required to determine findings of affordability because the permit contains no new conditions or requirements that convey a new cost to the facility.

Part VI – Administrative Requirements

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

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.

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 from May 1, 2015 to June 1, 2015. No responses received.

DATE OF FACT SHEET: JUNE 3, 2015

COMPLETED BY: GREG CALDWELL, ENVIRONMENTAL SPECIALIST
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
OPERATING PERMITS SECTION – INDUSTRIAL PERMITS UNIT
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STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
REVISED
NOVEMBER 1, 2013

These Standard Conditions incorporate permit conditions as required by 40 CFR 122.41 or other applicable state statutes or regulations. These minimum conditions apply unless superseded by requirements specified in the permit.

Part I – General Conditions
Section A – Sampling, Monitoring, and Recording

1. **Sampling Requirements.**
   a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
   b. All samples shall be taken at the outfall(s) or Missouri Department of Natural Resources (Department) approved sampling location(s), and unless specified, before the effluent joins or is diluted by any other body of water or substance.

2. **Monitoring Requirements**.
   a. Records of monitoring information shall include:
      i. The date, exact place, and time of sampling or measurements;
      ii. The individual(s) who performed the sampling or measurements;
      iii. The date(s) analyses were performed;
      iv. The individual(s) who performed the analyses;
      v. The analytical techniques or methods used; and
      vi. The results of such analyses.
   b. If the permittee monitors any pollutant more frequently than required by the permit at the location specified in the permit using test procedures approved under 40 CFR Part 136, or another method required for an industry-specific waste stream under 40 CFR subchapters N or O, the results of such monitoring shall be included in the calculation and reported to the Department with the discharge monitoring report data (DMR) submitted to the Department pursuant to Section B, paragraph 7.

3. **Sample and Monitoring Calculations.** Calculations for all sample and monitoring results which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in the permit.

4. **Test Procedures**. The analytical and sampling methods used shall conform to the reference methods listed in 10 CSR 20-7.015 unless alternates are approved by the Department. The facility shall use sufficiently sensitive analytical methods for detecting, identifying, and measuring the concentrations of pollutants. The facility shall ensure that the selected methods are able to quantify the presence of pollutants in a given discharge at concentrations that are low enough to determine compliance with Water Quality Standards in 10 CSR 20-7.031 or effluent limitations unless provisions in the permit allow for other alternatives. A method is "sufficiently sensitive" when; 1) the method minimum level is at or below the level of the applicable water quality criterion for the pollutant or, 2) the method minimum level is above the applicable water quality criterion, but the amount of pollutant in a facility's discharge is high enough that the method detects and quantifies the level of pollutant in the discharge, or 3) the method has the lowest minimum level of the analytical methods approved under 10 CSR 20-7.015. These methods are also required for parameters that are listed as monitoring only, as the data collected may be used to determine if limitations need to be established. A permittee is responsible for working with their contractors to ensure that the analysis performed is sufficiently sensitive.

5. **Record Retention.** Except for records of monitoring information required by the permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five (5) years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.

6. **Illegal Activities.**
   a. The Federal Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under the permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than two (2) years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four (4) years, or both.
   b. The Missouri Clean Water Law provides that any person or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than six (6) months, or by both. Second and successive convictions for violation under this paragraph by any person shall be punished by a fine of not more than $50,000 per day of violation, or by imprisonment for not more than two (2) years, or both.

Section B – Reporting Requirements

1. **Planned Changes.**
   a. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility when:
      i. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or
      ii. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1);
      iii. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;
      iv. Any facility expansions, production increases, or process modifications which will result in a new or substantially different discharge or sludge characteristics must be reported to the Department 60 days before the facility or process modification begins. Notification may be accomplished by application for a new permit. If the discharge does not violate effluent limitations specified in the permit, the facility is to submit a notice to the Department of the changed discharge at least 30 days before such changes. The Department may require a construction permit and/or permit modification as a result of the proposed changes at the facility.

2. **Twenty-Four Hour Reporting.**
   a. The permittee shall report any noncompliance which may endanger health or the environment. Relevant information shall be provided orally or via the current electronic method approved by the Department, within 24 hours from the time the permittee becomes aware of the circumstances, and shall be reported to the appropriate Regional Office during normal business hours or the Environmental Emergency Response hotline at 573-634-2436 outside of normal business hours. A written submission shall also be provided within five (5) business days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

b. The following shall be included as information which must be reported within 24 hours under this paragraph.
   i. Any unanticipated bypass which exceeds any effluent limitation in the permit.
   ii. Any upset which exceeds any effluent limitation in the permit.
   iii. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit required to be reported within 24 hours.

c. The Department may waive the written report on a case-by-case basis for reports under paragraph 2. b. of this section if the oral report has been received within 24 hours.

3. **Sanitary Sewer Overflow Reporting.** The following requirements solely reflect reporting obligations, and reporting does not necessarily reflect noncompliance, which may depend on the circumstances of the incident reported.
   a. Twenty-Four Hour (24-Hour) Reporting. The permittee or owner shall report any incident in which wastewater escapes the collection system such that it reaches waters of the state or it may pose an imminent or substantial endangerment to the health or welfare of persons. Relevant information shall be provided orally or via the current electronic method approved by the Department within 24 hours from the time the permittee becomes aware of the incident. A written submission shall also be provided within five (5) business days of the time the permittee or owner becomes aware of the incident. The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours. The five (5) day reports may be provided via the current electronic method approved by the Department.
   b. Incidents Reported via Discharge Monitoring Reports (DMRs). The permittee or owner shall report any event in which wastewater escapes the collection system, which does not enter waters of the state and is not expected to pose an imminent or substantial endangerment to the health or welfare of persons, which occur typically during wet weather events. Relevant information shall be provided with the permittee's or owner's DMRs.

4. **Anticipated Noncompliance**. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. The notice shall be submitted to the Department 60 days prior to such changes or activity.

5. **Compliance Schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than 14 days following each schedule date. The report shall provide an explanation for the instance of noncompliance and a proposed schedule or anticipated date, for achieving compliance with the compliance schedule requirement.

6. **Other Noncompliance.** The permittee shall report all instances of noncompliance not reported under paragraphs 2, 3, 4, and 7 of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph 2. a. of this section.

7. **Other Information**. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.

8. **Discharge Monitoring Reports.**
   a. Monitoring results shall be reported at the intervals specified in the permit.
   b. Monitoring results must be reported to the Department via the current method approved by the Department, unless the permittee has been granted a waiver from using the method. If the permittee has been granted a waiver, the permittee must use forms provided by the Department.
   c. Monitoring results shall be reported to the Department no later than the 28th day of the month following the end of the reporting period.

Section C – Bypass/Upset Requirements

1. **Definitions.**
   a. *Bypass*: the intentional diversion of waste streams from any portion of a treatment facility.
   b. *Severe Property Damage*: substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
   c. *Upset*: an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

2. **Bypass Requirements.**
   a. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 2. b. and 2. c. of this section.
   b. Notice.
      i. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass.
      ii. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Section B – Reporting Requirements, paragraph 5 (24-hour notice).
   c. Prohibition of bypass.
      i. Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless:
         1. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
         2. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
         3. The permittee submitted notices as required under paragraph 2. b. of this section.
      ii. The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the three (3) conditions listed above in paragraph 2. c. i. of this section.

3. **Upset Requirements.**
   a. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph 3. b. of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
   b. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
      i. An upset occurred and that the permittee can identify the cause(s) of the upset;
      ii. The permitted facility was at the time being properly operated; and
      iii. The permittee submitted notice of the upset as required in Section B – Reporting Requirements, paragraph 2. b. ii. (24-hour notice).
      iv. The permittee complied with any remedial measures required under Section D – Administrative Requirements, paragraph 4.
   c. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

Section D – Administrative Requirements

1. **Duty to Comply.** The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Missouri Clean Water Law and Federal Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.
   a. The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.
   b. The Federal Clean Water Act provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed $25,000 per day for each violation. The Federal Clean Water Act provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions.
   c. Any person may be assessed an administrative penalty by the EPA Director for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000.
   d. It is unlawful for any person to cause or permit any discharge of water contaminants from any water contaminant or point source located in Missouri 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. In the event the commission or the director determines that any provision of sections 644.006 to 644.141 of the Missouri Clean Water Law or standard, rules, limitations or regulations promulgated pursuant thereto, or permits issued by, or any final abatement order, other order, or determination made by the commission or the director, or any filing requirement pursuant to sections 644.006 to 644.141 of the Missouri Clean Water Law or any other provision which this state is required to enforce pursuant to any federal water pollution control act, is being, was, or is in imminent danger of being violated, the commission or director may cause to have instituted a civil action in any court of competent jurisdiction for the injunctive relief to prevent any such violation or further violation or for the assessment of a penalty not to exceed $10,000 per day for each day, or part thereof, the violation occurred and continues to occur, or both, as the court deems proper. Any person who willfully or negligently commits any violation in this paragraph shall, upon conviction, be punished by a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than one year, or both. Second and successive convictions for violation of the same provision of this paragraph by any person shall be punished by a fine of not more than $50,000 per day of violation, or by imprisonment for not more than two (2) years, or both.

2. **Duty to Reapply.**
   a. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.
   b. A permittee with a currently effective site-specific permit shall submit an application for renewal at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Department. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)
   c. A permittees with currently effective general permit shall submit an application for renewal at least 30 days before the existing permit expires, unless the permittee has been notified by the Department that an earlier application must be made. The Department may grant permission for a later submission date. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)

3. **Need to Halt or Reduce Activity Not a Defense.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

4. **Duty to Mitigate.** The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

5. **Proper Operation and Maintenance**. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

6. **Permit Actions.**
   a. Subject to compliance with statutory requirements of the Law and Regulations and applicable Court Order, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:
      i. Violations of any terms or conditions of this permit or the law;
      ii. Having obtained this permit by misrepresentation or failure to disclose fully any relevant facts;
      iii. A change in any circumstances or conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge; or
      iv. Any reason set forth in the Law or Regulations.
   b. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

7. **Permit Transfer.**
   a. Subject to 10 CSR 20-6.010, an operating permit may be transferred upon submission to the Department of an application to transfer signed by the existing owner and the new owner, unless prohibited by the terms of the permit. Until such time the permit is officially transferred, the original permittee remains responsible for complying with the terms and conditions of the existing permit.
   b. The Department may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Missouri Clean Water Law or the Federal Clean Water Act.
   c. The Department, within 30 days of receipt of the application, shall notify the new permittee of its intent to revoke or reissue or transfer the permit.

8. **Toxic Pollutants.** The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the Federal Clean Water Act within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.

9. **Property Rights.** This permit does not convey any property rights of any sort, or any exclusive privilege.

10. **Duty to Provide Information.** The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.

11. **Inspection and Entry.** The permittee shall allow the Department, or an authorized representative (including an authorized contractor acting as a representative of the Department), upon presentation of credentials and other documents as may be required by law, to:
   a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;
   b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
   c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
   d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Federal Clean Water Act or Missouri Clean Water Law, any substances or parameters at any location.

12. **Closure of Treatment Facilities.**
   a. Persons who cease operation or plan to cease operation of waste, wastewater, and sludge handling and treatment facilities shall close the facilities in accordance with a closure plan approved by the Department.
   b. Operating Permits under 10 CSR 20-6.010 or under 10 CSR 20-6.015 are required until all waste, wastewater, and sludges have been disposed of in accordance with the closure plan approved by the Department and any disturbed areas have been properly stabilized. Disturbed areas will be considered stabilized when perennial vegetation, pavement, or structures using permanent materials cover all areas that have been disturbed. Vegetative cover, if used, shall be at least 70% plant density over 100% of the disturbed area.

13. **Signatory Requirement.**
   a. All permit applications, reports required by the permit, or information requested by the Department shall be signed and certified. (See 40 CFR 122.22 and 10 CSR 20-6.010)
   b. The Federal Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six (6) months per violation, or by both.
   c. The Missouri Clean Water Law provides that any person who knowingly makes any false statement, representation or certification in any application, record, report, plan, or other document filed or required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than ten thousand dollars, or by imprisonment for not more than six months, or by both.

14. **Severability.** The provisions of the permit are severable, and if any provision of the permit, or the application of any provision of the permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of the permit, shall not be affected thereby.

December 2, 2014

Mr. John Madras, Director
Water Protection Program
Missouri Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102

Subject: "No Discharge" Permit (#MO0137430) Renewal Application for Shannon County Commission's Quarry #2

Dear Mr. Madras:

Attached is a "No Discharge" Permit (#MO0137430) renewal application for Shannon County Commission's Quarry #2, consisting of Form A, Form C, Form I, and attachments.

Please call me at 573-445-3033 if you have any questions.

Sincerely,

Curtis Heider
Heider Environmental Consulting

CH

Enclosure: Permit Application

c: Mr. Herman Kelly, Shannon County Commission

Heider Environmental Consulting Phone: 573.445.3033 Cell: 573.639.1410 Fax: 573.445.3058 Email: heiderenv@centurytel.net

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DEC 17 2014
AP20293

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

FOR AGENCY USE ONLY	
CHECK NUMBER	
DATE RECEIVED 12/17/14	FEE SUBMITTED

Note ▶ PLEASE READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM.

1. This application is for:

- ☐ An operating permit for a new or unpermitted facility:
  Please indicate the original Construction Permit # _____
- ☑ An operating permit renewal:
  Please indicate the permit # MO- 0137430 Expiration Date 6/20/2015
- ☐ An operating permit modification:
  Please indicate the permit # MO-_____ Modification Reason: _____

1.1 Is the appropriate fee included with the application? (See instructions for appropriate fee) ☐ YES ☑ NO

2. FACILITY

NAME		TELEPHONE NUMBER WITH AREA CODE	
Shannon County Commission Quarry #2		(573) 226-3965 FAX (573) 226-5325	
ADDRESS (PHYSICAL) State Highway T & County Road 435 to County Road 445	CITY Thomasville	STATE MO	ZIP CODE 65438

3. OWNER

NAME	EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE	
Shannon County Commission	shannon.county@sos.mo.gov	(573) 226-3965 FAX (573) 226-5325	
ADDRESS (MAILING) P.O. Box 187	CITY Eminence	STATE MO	ZIP CODE 65466

3.1 Request review of draft permit prior to public notice? ■ YES ☐ NO

4. CONTINUING AUTHORITY

NAME	EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE	
Earl Renegar		(573) 292-3087 FAX	
ADDRESS (MAILING) RR 2, Box 2841	CITY Birch Tree	STATE MO	ZIP CODE 65438

5. OPERATOR

NAME	CERTIFICATE NUMBER	TELEPHONE NUMBER WITH AREA CODE	
Same as owner.	NA	FAX	
ADDRESS (MAILING)	CITY	STATE	ZIP CODE

6. FACILITY CONTACT

NAME	TITLE	TELEPHONE NUMBER WITH AREA CODE
Herman Kelly	Southern Commissioner	(573) 226-3414
	E-MAIL ADDRESS shannon.county@sos.mo.gov	FAX (573) 226-5325

7. ADDITIONAL FACILITY INFORMATION

7.1 Legal Description of Outfalls. (Attach additional sheets if necessary.)

001 NE ¼ SW ¼ Sec 14 T 25N R 6W Oregon County
UTM Coordinates Easting (X): 626500 Northing (Y): 4077750
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

002 _____¼ _____¼ Sec _____ T _____ R _____ _____ County
UTM Coordinates Easting (X): _____ Northing (Y): _____

003 _____¼ _____¼ Sec _____ T _____ R _____ _____ County
UTM Coordinates Easting (X): _____ Northing (Y): _____

004 _____¼ _____¼ Sec _____ T _____ R _____ _____ County
UTM Coordinates Easting (X): _____ Northing (Y): _____

7.2 Primary Standard Industrial Classification (SIC) and Facility North American Industrial Classification System (NAICS) Codes.

001 – SIC 1422 and NAICS 212312 002 – SIC _____ and NAICS _____
003 – SIC _____ and NAICS _____ 004 – SIC _____ and NAICS _____

MO 780-1479 (07-14)

SE Oregon

8. ADDITIONAL FORMS AND MAPS NECESSARY TO COMPLETE THIS APPLICATION
(Complete all forms that are applicable.)

A. Is your facility a manufacturing, commercial, mining or silviculture waste treatment facility? YES ☑ NO ☐
If yes, complete Form C or 2F.
(2F is the U.S. EPA's Application for Storm Water Discharges Associate with Industrial Activity.)

B. Is application for storm water discharges only? YES ☐ NO ☒*
If yes, complete Form C or 2F.*while there will be no wastewater produced, this application is for a "no discharge" permit

C. Is your facility considered a "Primary Industry" under EPA guidelines: YES ☐ NO ☒
If yes, complete Forms C or 2F and D.

D. Is wastewater land applied? YES ☒ NO ☐
If yes, complete Form I.

E. Is sludge, biosolids, ash or residuals generated, treated, stored or land applied? YES ☐ NO ☑
If yes, complete Form R.

F. If you are a Class IA CAFO, please disregard part D and E of this section. However, please attach any revision to your Nutrient Management Plan.

F. Attach a map showing all outfalls and the receiving stream at 1" = 2,000' scale.

9. DOWNSTREAM LANDOWNER(S) Attach additional sheets as necessary. See Instructions.
(PLEASE SHOW LOCATION ON MAP. SEE 8.D ABOVE).

NAME			
Earl Renegar			
ADDRESS	**CITY**	**STATE**	**ZIP CODE**
RR 2, Box 2841	Birch Tree	MO	65438

10. 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 to the Missouri Clean Water Commission.

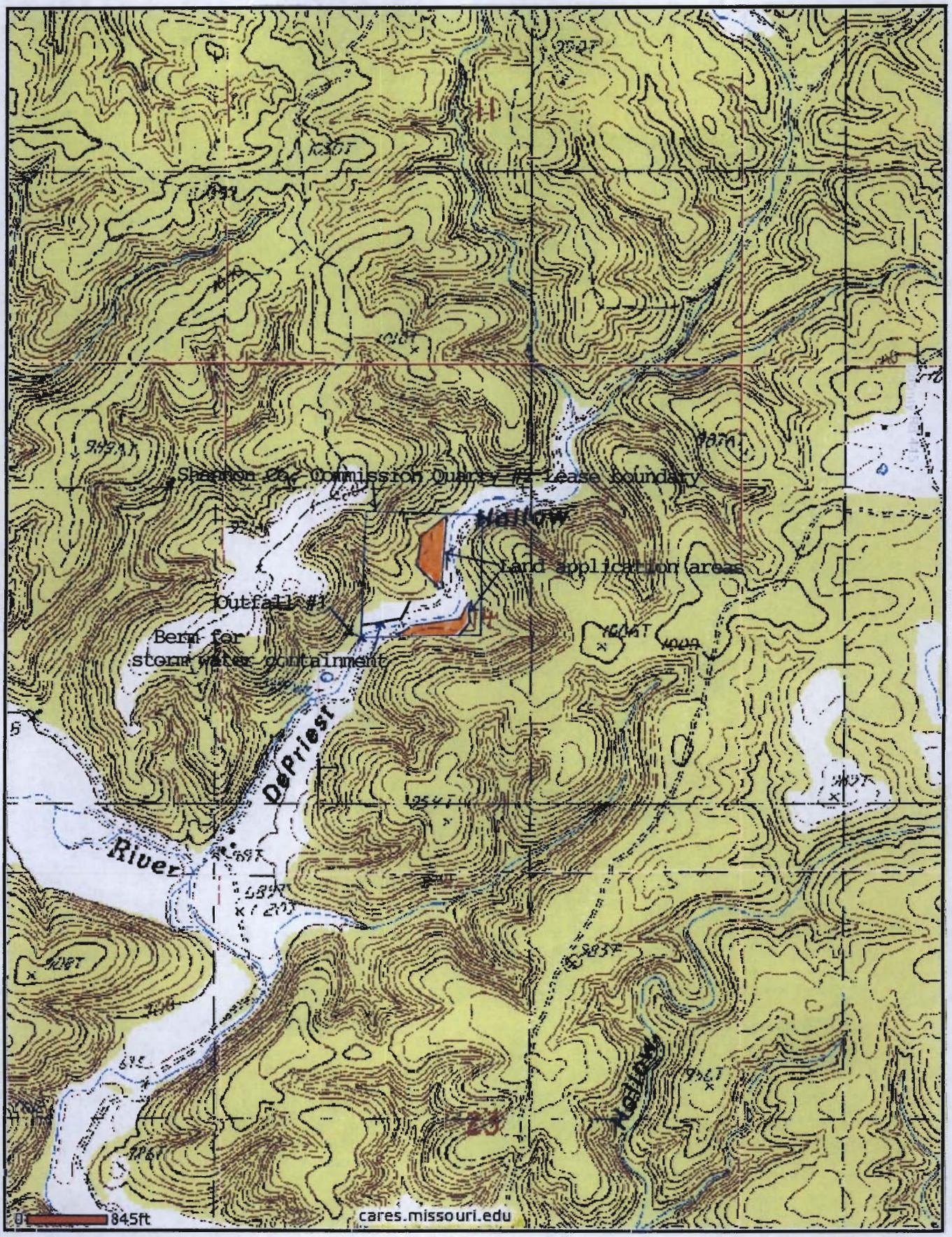
NAME AND OFFICIAL TITLE (TYPE OR PRINT)	TELEPHONE NUMBER WITH AREA CODE
Herman Kelly, Southern Commissioner	(573) 226-3414
SIGNATURE	**DATE SIGNED**
Herman Kelly	12-15-14

MO 780-1479 (07-14)

BEFORE MAILING, PLEASE ENSURE ALL SECTIONS ARE COMPLETED AND ADDITIONAL FORMS, IF APPLICABLE, ARE INCLUDED.
Submittal of an incomplete application may result in the application being returned.

HAVE YOU INCLUDED:

- ☐ Appropriate Fees?
- ☐ Map at 1" = 2000' scale?
- ☐ Signature?
- ☐ Form C or 2F, if applicable?
- ☐ Form D, if applicable?
- ☐ Form I (Irrigation), if applicable?
- ☐ Form R (Sludge), if applicable?
- ☐ Revised Nutrient Management Plan, if applicable?


North
Shannon Co. Commission Quarry #2 Lease boundary
Hollow
Land application areas
Outfall #1
Berm for
storm water containment
DePriest
River
Hollow
0
845ft
cares.missouri.edu

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DEC 17 2014

WATER PROTECTION PROGRAM

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

FORM C – APPLICATION FOR DISCHARGE PERMIT – MANUFACTURING, COMMERCIAL, MINING, SILVICULTURE OPERATIONS, PROCESS AND STORMWATER

FOR AGENCY USE ONLY	
CHECK NO.	
DATE RECEIVED	FEE SUBMITTED

NOTE: DO NOT ATTEMPT TO COMPLETE THIS FORM BEFORE READING THE ACCOMPANYING INSTRUCTIONS

1.00 NAME OF FACILITY

Shannon County Commission Quarry #2

1.10 THIS FACILITY IS NOW IN OPERATION UNDER MISSOURI OPERATING PERMIT NUMBER

NA

1.20 THIS IS A NEW FACILITY AND WAS CONSTRUCTED UNDER MISSOURI CONSTRUCTION PERMIT NUMBER (COMPLETE ONLY IF THIS FACILITY DOES NOT HAVE AN OPERATING PERMIT).

NA

2.00 LIST THE STANDARD INDUSTRIAL CLASSIFICATION (SIC) CODES APPLICABLE TO YOUR FACILITY (FOUR DIGIT CODE)

A. FIRST 1422 B. SECOND _____

C. THIRD _____ D. FOURTH _____

2.10 FOR EACH OUTFALL GIVE THE LEGAL DESCRIPTION.

OUTFALL NUMBER (LIST) NE 1/4 SW 1/4 SEC 14 T 25N R 6W Oregon COUNTY

2.20 FOR EACH OUTFALL LIST THE NAME OF THE RECEIVING WATER

OUTFALL NUMBER (LIST)	RECEIVING WATER
1	DePriest Hollow

2.30 BRIEFLY DESCRIBE THE NATURE OF YOUR BUSINESS

Limestone quarry to supply rock for roads in Shannon County.

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent and treatment units labeled to correspond to the more detailed descriptions in item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, public sewers and outfalls. If a water balance cannot by determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of 1. All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water and storm water runoff. 2. The average flow contributed by each operation. 3. The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL NO.	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT	
(LIST)	A. OPERATION (LIST)	B. AVERAGE FLOW (INCLUDE UNITS) (MAXIMUM FLOW)	A. DESCRIPTION	B. LIST CODES FROM TABLE A
1	Storm water runoff	3,000 GPD (250,000 GPD Max.)	Evaporation	1-F
			Spray Irrigation	3-F

SCHEMATIC OF WATER FLOW
Shannon County Commission Quarry #2
Thomasville, MO (Oregon County)

Storm Water
3,000 GPD
average flow

→

Bermed
Storage Area

→

Evaporation

↓

Land Application System
(for excess water if the
average depth of water storage
exceeds 3'6")

2.40 CONTINUED

C. EXCEPT FOR STORM RUNOFF, LEAKS OR SPILLS, ARE ANY OF THE DISCHARGES DESCRIBED IN ITEMS A OR B INTERMITTENT OR SEASONAL?

☐ **YES** *(COMPLETE THE FOLLOWING TABLE)* ☑ **NO** *(GO TO SECTION 2.50)*

1. OUTFALL NUMBER *(list)*	2. OPERATION(S) CONTRIBUTING FLOW *(list)*	3. FREQUENCY		4. FLOW				C. DURATION *(in days)*
				A. FLOW RATE *(in mgd)*		B. TOTAL VOLUME (specify with units)		
		A. DAYS PER WEEK *(specify average)*	B. MONTHS PER YEAR *(specify average)*	1. LONG TERM AVERAGE	2. MAXIMUM DAILY	4. LONG TERM DAILY	3. MAXIMUM AVERAGE	

2.50 MAXIMUM PRODUCTION

A. DOES AN EFFLUENT GUIDELINE LIMITATION PROMULGATED BY EPA UNDER SECTION 304 OF THE CLEAN WATER ACT APPLY TO YOUR FACILITY?

☐ **YES** *(COMPLETE B.)* ☑ **NO** *(GO TO SECTION 2.60)*

B. ARE THE LIMITATIONS IN THE APPLICABLE EFFLUENT GUIDELINES EXPRESSED IN TERMS OF PRODUCTION (OF OTHER MEASURE OF OPERATION)?

☐ **YES** *(COMPLETE c.)* ☐ **NO** *(GO TO SECTION 2.60)*

C. IF YOU ANSWERED "YES" TO B. LIST THE QUANTITY THAT REPRESENTS AN ACTUAL MEASUREMENT OF YOUR MAXIMUM LEVEL OF PRODUCTION, EXPRESSED IN THE TERMS AND UNITS USED IN THE APPLICABLE EFFLUENT GUIDELINE AND INDICATE THE AFFECTED OUTFALLS.

1. MAXIMUM QUANTITY			2. AFFECTED OUTFALLS *(list outfall numbers)*
A. QUANTITY PER DAY	B. UNITS OF MEASURE	C. OPERATION, PRODUCT, MATERIAL, ETC. *(specify)*	

2.60 IMPROVEMENTS

A. ARE YOU NOW REQUIRED BY ANY FEDERAL, STATE OR LOCAL AUTHORITY TO MEET, ANY IMPLEMENTATION SCHEDULE FOR THE CONSTRUCTION, UPGRADING OR OPERATION OF WASTEWATER TREATMENT EQUIPMENT OR PRACTICES OR ANY OTHER ENVIRONMENTAL PROGRAMS THAT MAY AFFECT THE DISCHARGES DESCRIBED IN THIS APPLICATION? THIS INCLUDES, BUT IS NOT LIMITED TO, PERMIT CONDITIONS, ADMINISTRATIVE OR ENFORCEMENT ORDERS, ENFORCEMENT COMPLIANCE SCHEDULE LETTERS, STIPULATIONS, COURT ORDERS AND GRANT OR LOAN CONDITIONS.

☐ **YES** *(COMPLETE THE FOLLOWING TABLE)* ☑ **NO** *(GO TO 3.00)*

1. IDENTIFICATION OF CONDITION AGREEMENT, ETC.	2. AFFECTED OUTFALLS		3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COMPLIANCE DATE	
				A. REQUIRED	B. PROJECTED

B. OPTIONAL: YOU MAY ATTACH ADDITIONAL SHEETS DESCRIBING ANY ADDITIONAL WATER POLLUTION CONTROL PROGRAMS *(OR OTHER ENVIRONMENTAL PROJECTS WHICH MAY AFFECT YOUR DISCHARGES)* YOU NOW HAVE UNDER WAY OR WHICH YOU PLAN. INDICATE WHETHER EACH PROGRAM IS NOW UNDER WAY OR PLANNED, AND INDICATE YOUR ACTUAL OR PLANNED SCHEDULES FOR CONSTRUCTION.

☐ **MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED.**

3.00 INTAKE AND EFFLUENT CHARACTERISTICS

A. & B. SEE INSTRUCTIONS BEFORE PROCEEDING – COMPLETE ONE TABLE FOR EACH OUTFALL – ANNOTATE THE OUTFALL NUMBER IN THE SPACE PROVIDED.
NOTE: TABLE 1 IS INCLUDED ON SEPARATE SHEETS NUMBERED FROM PAGE 6 TO PAGE 7.

C. USE THE SPACE BELOW TO LIST ANY OF THE POLLUTANTS LISTED IN PART B OF THE INSTRUCTIONS, WHICH YOU KNOW OR HAVE REASON TO BELIEVE IS DISCHARGED OR MAY BE DISCHARGED FROM ANY OUTFALL. FOR EVERY POLLUTANT YOU LIST, BRIEFLY DESCRIBE THE REASONS YOU BELIEVE IT TO BE PRESENT AND REPORT ANY ANALYTICAL DATA IN YOUR POSSESSION.

1. POLLUTANT	2. SOURCE	1. POLLUTANT	2. SOURCE
Oil and Grease	Vehicular activity		
Note: This is permitted as a "no	discharge" permit and no	discharges have occurred so no	samples have been collected.
Oil & Grease was checked in	Part B because it may be	present if an emergency	discharge occurs--the permit
requires that a sample be	collected and analyzed if such	an emergency happens.	

3.10 BIOLOGICAL TOXICITY TESTING DATA

DO YOU HAVE ANY KNOWLEDGE OR REASON TO BELIEVE THAT ANY BIOLOGICAL TEST FOR ACUTE OR CHRONIC TOXICITY HAS BEEN MADE ON ANY OF YOUR DISCHARGES OR ON RECEIVING WATER IN RELATION TO YOUR DISCHARGE WITHIN THE LAST THREE YEARS?

☐ YES (IDENTIFY THE TEST(S) AND DESCRIBE THEIR PURPOSES BELOW.) ☑ NO (GO TO 3.20)

3.20 CONTRACT ANALYSIS INFORMATION

WERE ANY OF THE ANALYSES REPORTED PERFORMED BY A CONTRACT LABORATORY OR CONSULTING FIRM?

☐ YES (*LIST THE NAME, ADDRESS AND TELEPHONE NUMBER OF AND POLLUTANTS ANALYZED BY EACH SUCH LABORATORY OR FIRM BELOW.*) ☑ NO *(GO TO 3.30)*

A. NAME	B. ADDRESS	C. TELEPHONE *(area code and number)*	D. POLLUTANTS ANALYZED *(list)*

3.30 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 THE 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 AND IMPRISONMENT.

NAME AND OFFICIAL TITLE (TYPE OR PRINT)	TELEPHONE NUMBER WITH AREA CODE
Herman Kelly, Southern Commissioner	(573) 226-3414
SIGNATURE (SEE INSTRUCTIONS) Herman Kelly	DATE SIGNED 12-15-14

PLEASE PRINT OR TYPE. You may report some or all of this information on separate sheet *(Use the same format)* instead of completing these pages.
SEE INSTRUCTIONS

FORM C
TABLE 1 FOR 3.00 ITEM A AND B

INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 1

PART A – You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT							3. UNITS *(specify if blank)*		4. INTAKE *(optional)*		
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE *(if available)*		C. LONG TERM AVRG. VALUE *(if available)*		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO. OF ANALYSES
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
A. Biochemical Oxygen Demand (BOD)	See note in Section 3.00.											
B. Chemical Oxygen Demand (COD)												
C. Total organic Carbon (TOC)												
D. Total Suspended Solids (TSS)												
E. Ammonia *(as N)*												
F. Flow	VALUE		VALUE		VALUE					VALUE		
G. Temperature *(winter)*	VALUE		VALUE		VALUE			°C		VALUE		
H. Temperature *(summer)*	VALUE		VALUE		VALUE			°C		VALUE		
I. pH	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM				STANDARD UNITS				

PART B – Mark "X" in column 2A for each pollutant you know or have reason to believe is present. Mark "X" in column 2B for each pollutant you believe to be absent. If you mark column 2A for any pollutant, you must provide the results for at least one analysis for that pollutant. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE *(optional)*		
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE *(if available)*		C. LONG TERM AVRG. VALUE *(if available)*		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
CONVENTIONAL AND NONCONVENTIONAL POLLUTANTS														
A. Bromide (24959-67-9)		X												
B. Chlorine, Total Residual		X												
C. Color		X												
D. Fecal Coliform		X												
E. Fluoride (16984-48-8)		X												
F. Nitrate - Nitrate *(as N)*		X												

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE *(optional)*		
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE *(if available)*		C. LONG TERM AVRG. VALUE *(if available)*		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
G. Nitrogen, Total Organic *(as N)*		X												
H. Oil and Grease	X													
I. Phosphorus *(as P)*, Total (7723-14-0)		X												
J. Sulfate *(as SO^4)* (14808-79-8)		X												
K. Sulfide *(as S)*		X												
L. Sulfite (as SO^3) (14265-45-3)		X												
M. Surfactants		X												
N. Aluminum, Total (7429-90-5)		X												
O. Barium, Total (7440-39-3)		X												
P. Boron, Total (7440-42-8)		X												
Q. Cobalt, Total (7440-48-4)		X												
R. Iron, Total (7439-89-6)		X												
S. Magnesium, Total (7439-95-4)		X												
T. Molybdenum, Total (7439-98-7)		X												
U. Manganese, Total (7439-96-5)		X												
V. Tin, Total (7440-31-5)		X												
W. Titanium, Total (7440-32-6)		X												

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE *(optional)*		
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE *(if available)*		C. LONG TERM AVRG. VALUE *(if available)*		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, AND TOTAL PHENOLS														
1M. Antimony, Total (7440-36-9)		X												
2M. Arsenic, Total (7440-38-2)		X												
3M. Beryllium, Total (7440-41-7)		X												
4M. Cadmium, Total (7440-43-9)		X												
5M. Chromium III (16065-83-1)		X												
6M. Chromium VI (18540-29-9)		X												
7M. Copper, Total (7440-50-8)		X												
8M. Lead, Total (7439-92-1)		X												
9M. Mercury, Total (7439-97-6)		X												
10M. Nickel, Total (7440-02-0)		X												
11M. Selenium, Total (7782-49-2)		X												
12M. Silver, Total (7440-22-4)		X												
13M. Thallium, Total (7440-28-0)		X												
14M. Zinc, Total (7440-66-6)		X												
15M. Cyanide, Amenable to Chlorination		X												
16M. Phenols, Total		X												
RADIOACTIVITY														
(1) Alpha Total		X												
(2) Beta Total		X												
(3) Radium Total		X												
(4) Radium 226 Total		X												

RECEIVED

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION BRANCH DEC 17 2014
(SEE MAP FOR APPROPRIATE REGIONAL OFFICE)

FORM I – PERMIT APPLICATION FOR CONSTRUCTION AND OPERATION OF WASTEWATER IRRIGATION SYSTEMS

WATER PROTECTION PROGRAM

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

Shannon County Commission Quarry #2

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: March 1, 2014
- ☐ 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) Storm water from a bermed area
SIC Codes (list all that apply, in order of importance) 1422

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) Irrigation during the entire year.

1.60 List the Facility outfalls which will be applicable to the irrigation system from outfalls listed on Form B.
Outfall Nos. 1 ___ ___ ___ ___ ___ ___

2.00 STORAGE BASINS

2.10 Number of storage basins: NA 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 _____	Width _____	Depth _____	Freeboard _____	Berm Width _____	% Slope _____
Basin #2:	Length _____	Width _____	Depth _____	Freeboard _____	Berm Width _____	% Slope _____

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

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

3.00 LAND APPLICATION SYSTEM

3.10 Number of irrigation sites 2 Total Acres 5.2 Maximum % field slopes 3.7
Location: 1 ¼, NE ¼, SW ¼, 14 Sec. 25N T 6W R Oregon County 1.4 Acres
Location: 2 ¼, SE ¼, NW ¼, 14 Sec. 25N T 6W R Oregon County 3.8 Acres

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

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

3.21 Land Application rate per acre (design flow including 1 in 10 year storm water flows):
Design: 2.73 inches/year 0.05 inches/hour 0.23 inches/day 0.50 inches/week
Actual: 1.37 inches/year 0.02 inches/hour 0.12 inches/day 0.25 inches/week
Total Irrigation per year (gallons): 1,192,200 Design 911,690 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 1.98 - 19.98 in/hr infiltration rate for the soil
☑ Other (describe) Maximum and average expected precipitation

3.30 Equipment type: ☐ Sprinklers ☐ Gated pipe ☐ Center pivot ☐ Traveling gun ☑ Other (describe) 1,000 gal. water truck
Equipment Flow Capacity: 1000 Gallons per hour 257 Total hours of operation per year

3.40 Public Access Restrictions for irrigation sites: ☑ Site is Fenced ☐ Wastewater disinfection prior to irrigation
☐ Other (describe): _____

3.50 Separation distance (in feet) from the outside edge of the wetted irrigation area to down gradient features:
3200' Permanent flowing stream ____ Losing Stream 50' Intermittent (wet weather) stream ____ Lake or pond
* ____ Property boundary 1 mi. Dwellings 1 mi. Water supply well *adjacent to lease area boundary but 1 mi. to PL Other (describe) _____

3.60 SOILS INFORMATION: Use information from the County Soil Survey, NRCS, or professional soil scientist.
Soil Series Name Sandbur-Wideman-Relfe complex Depth of bedrock 6.7 Feet Depth of water table 4.1 Feet
Soil Infiltration rate in inches/hour (in/hr) for most restrictive layer within the following soil depth ranges:
4.0 In/hr for 0-12 in soil depth 4.0 In/hr for 12-24 inch soil depth 4.0 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: 3/28/2013

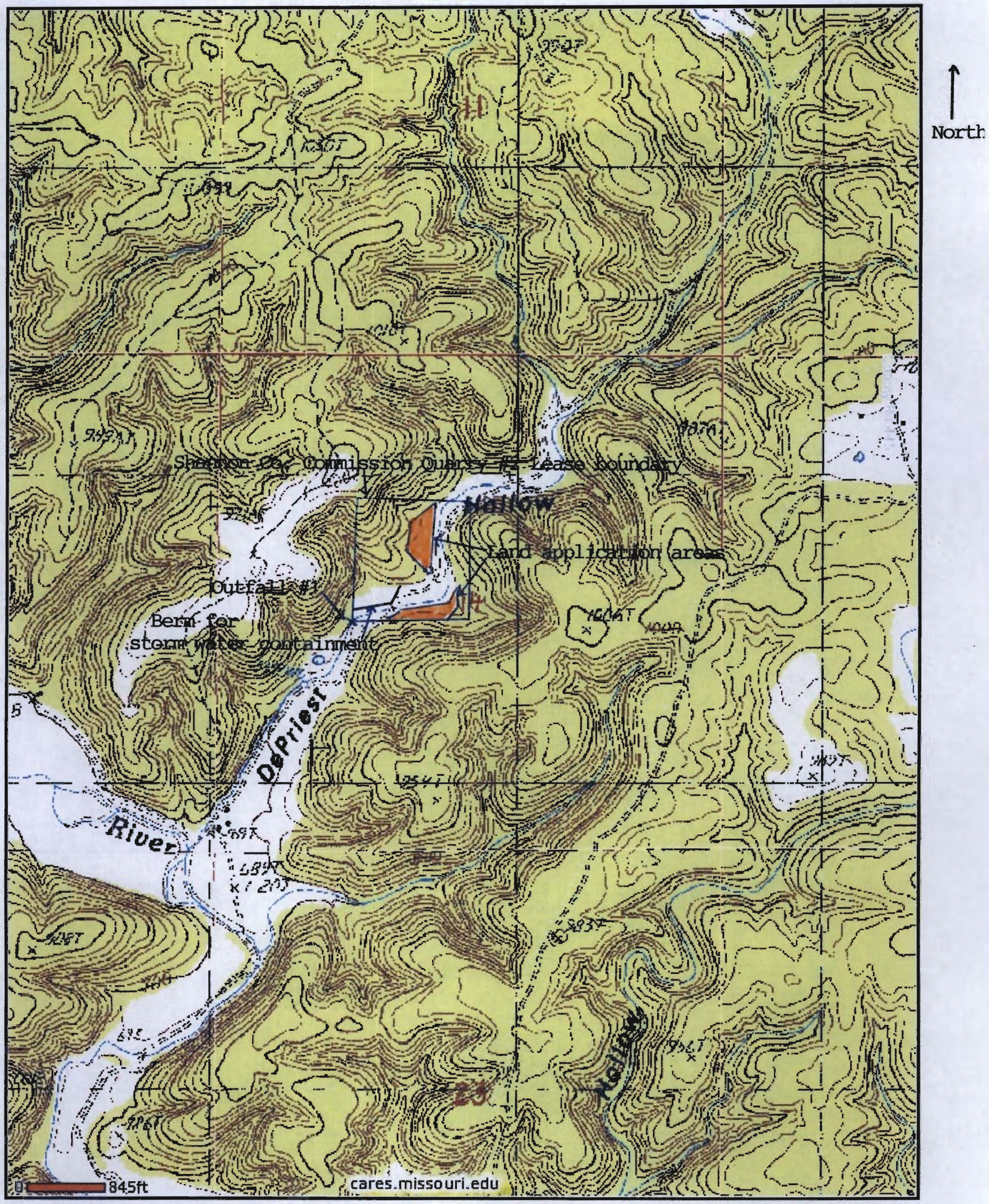
3.81 Attach a site map showing topography, storage basins, irrigation sites, property boundary, streams, wells, roads, dwellings and other pertinent features.

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)	TELEPHONE NUMBER (area code and number)
Curtis Heider, Owner, Heider Environmental Consulting	(573) 445-3033
SIGNATURE Curtis Heider	DATE SIGNED 12/2/14
OWNER OR AUTHORIZED REPRESENTATIVE – Name and Official Title (TYPE OR PRINT)	TELEPHONE NUMBER (area code and number)
Herman Kelly, Southern Commissioner	(573) 226-3414
SIGNATURE Herman Kelly	DATE SIGNED 12-15-14


North
Shannon Co. Commission Quarry #1 Lease boundary
Hollow
Land application areas
Outfall #1
Berm for
storm water containment
DePriest
River
845ft
cares.missouri.edu


Shannon Co. Commission
Quarry #2 Lease boundary
Land
Application
Areas
Berm for storm
water containment
0
275ft
cares.missouri.edu

Missouri Department Of Natural Resources
Division of Geology and Land Survey
P.O. Box 250
Rolla, Missouri 65402-0250
Phone - 573.368.2161 Fax - 573.368.2111
E-mail - gspgeol@dnr.mo.gov

Project ID Number
LWE13076
County
OREGON

Geohydrologic Evaluation of Liquid-Waste Treatment Site

Project **Shannon County Commission Quarry #2 Runoff St** Quadrangle **THOMASVILLE**
Location **SE1/4,NW1/4** Section **14** Township **25 N** Range **6 W**
Additional Location Information **N1/2,NE1/4,SW1/4 Sec.14,T25N,R6W**
Latitude **36** Deg **50** Min **22** Sec Longitude **91** Deg **34** Min **45** Sec

Owner Shannon County Commission (573) 226-3965
PO Box 187 Eminence MO 65466

Requestor Heider Environmental Consulting (573) 445-3033
Curtis Heider
14 Bright Star Drive Columbia MO 65203

STATE OF MISSOURI
SHERRI A. STONER
RG
2009026245
REGISTERED GEOLOGIST
5-21-2013

Previous Report ☑ Not Applicable
Date
Identification Number
Fiscal Year

Facility Type
- ○ Mechanical treatment plant
- ○ Recirculating filter bed
- ○ Earthen lagoon with discharge
- ○ Earthen holding basin
- ◉ Land application
- ◉ Other type of facility

Type of Waste
- ○ Animal
- ○ Human
- ○ Process or Industrial
- ○ Leachate
- ◉ Other waste type

Funding Source
- ◉ PPG
- ○ WWLF-SRF
- ○ Non-Point Source

Other Information
- ○ Plans were submitted
- ○ Site was investigated by NRCS
- ○ Soil or geotechnical data were submitted

Date of Field Visit 04/30/2013 **Stream Classification** ○ Gaining ○ Losing ◉ No discharge

Overall Geologic Limitations
- ○ Slight
- ◉ Moderate
- ○ Severe

Collapse Potential
- ○ Not applicable
- ○ Slight
- ◉ Moderate
- ○ Severe

Topography
- ◉ < 4%
- ○ 4% to 8%
- ○ 8% to 15%
- ○ > 15%

Landscape Position
- ○ Broad uplands
- ○ Ridgetop
- ○ Hillslope
- ○ Narrow ravine
- ◉ Floodplain
- ○ Alluvial plain
- ○ Terrace
- ○ Sinkhole

Bedrock Uppermost bedrock is gray to buff colored, highly permeable, solution weathered, medium-crystalline, sandy, cherty, Roubidoux Formation.

Surficial Materials The surficial materials consist of 0-6 feet of cherty, sandy-silty colluvium and residuum of the Roubidoux Formation as well as alluvium of DePriest Hollow tributary.

Recommended Construction Procedures

- (•) Installation of clay pad
- ( ) Diversion of subsurface flow
- ( ) Rock excavation
- (•) Compaction
- ( ) Artificial sealing
- ( ) Limit excavation depth

Required Geologic Exploration

(Missouri Clean Water Commission - 10 CSR 20 - 8.200 Wastewater Treatment Ponds)

Determine Overburden Properties

- (•) Partical size analysis
- (•) Standard Proctor density
- ( ) Permeability coefficient for undisturbed sample
- (•) Atterburg limits
- ( ) Overburden thickness
- (•) Permeability coefficient for remolded sample

Determine Hydrologic Conditions

- ( ) Groundwater elevation
- ( ) Direction of groundwater flow
- (•) 25-year flood level
- (•) 100-year flood level

Notify Geologist

- ( ) Before exploration
- ( ) During constructio
- ( ) After construction
- (•) Not necessary

Remarks

On April 30, 2013, a geohydrologic evaluation was conducted by the Missouri Geological Survey Program (GSP) for a proposed earthen stormwater basin and two land application areas consisting of 5.2 acres for Shannon County Commission Quarry #2 in Oregon County. The site is located in a floodplain approximately ½ mile west of CR T 445 along the DePriest Hollow tributary.

The uppermost bedrock is gray to buff colored, highly permeable, solution weathered, medium-crystalline, sandy, cherty, Roubidoux Formation. The surficial materials consist of 0-6 feet of cherty, sandy-silty colluvium and residuum of the Roubidoux Formation as well as alluvium of DePriest Hollow tributary.

The nearest previously identified sinkhole is located less than ½ mile west of the site. However, there are numerous sinkholes in the area as well as several classified losing streams. The tributary along DePriest Hollow exhibits losing stream characteristics. The nearest previously identified spring is located less than ½ mile southwest of the site. There are no underground mines or geologic structures within 5 miles of the site.

Any surface runoff from the site will migrate southwest into DePriest Hollow tributary toward the Eleven Point River. The confluence of the Eleven Point River is approximately ¾ of a mile southwest of the site. The Eleven Point River has been previously classified as losing at the confluence with DePriest Hollow tributary and this evaluation concurs with that classification.

Based on geologic and hydrologic characteristics observed, the site receives a moderate geologic limitations rating and a moderate collapse potential rating due to the losing characteristics of the tributary, proximity of the nearest sinkholes and the highly permeable bedrock.

Due to the cherty, sandy-silty surficial materials, on-site construction materials for the stormwater basin may be inadequate and thus may need to be procured from an off-site source.

If the systems proposed were to function improperly, local groundwater could be adversely impacted as well as the surface waters of DePriest Hollow tributary and the Eleven Point River.

To ensure the effectiveness of a wastewater treatment system which relies on land application and natural soils as a part of the wastewater treatment process, a performance monitoring requirement may be implemented. This requirement may include the design and implementation of a groundwater monitoring program and/or an engineered nutrient management plan which demonstrates compliance with the department's treatment standards. Please contact the MDNR Water Protection Program at 573-751-1300 for further information, or the local MDNR regional office. The location, phone number and address of the departments regional offices can be found on the departments web site at http://www.dnr.mo.gov/regions/regions.htm

This document is a preliminary report. It is not a permit. Additional data may be required by the Department of Natural Resources prior to the issuance of a permit. This report is valid only at the above location and becomes invalid one year after the report date below.

Report By: James Papin

Report Date: 5/21/2013

CC WPP; SERO

STORM WATER MANAGEMENT
OPERATION AND MAINTENANCE MANUAL

prepared
March 28, 2013

for

Shannon County, Missouri Quarry #2
State Highway T
Thomasville, Missouri 65438

Prepared By:

Heider Environmental Consulting
14 Bright Star Drive
Columbia, MO 65203
(573) 445-3033

TABLE OF CONTENTS

ATTACHMENTS

SECTION 1: REASONS FOR STORM WATER MANAGEMENT OPERATION AND MAINTENANCE

1.1 Compliance with Missouri Department of Natural Resources No-Discharge Operating Permit

Shannon County's Quarry #2 will be permitted as a No-Discharge facility. For a no-discharge facility, Missouri DNR requires that runoff from the site be captured, stored and disposed of without surface discharge from the site. For this facility, a berm will be built between the quarry and the downslope property line and any excess runoff which is collected behind the berm will be disposed of through evaporation and through land application of such runoff, when necessary.

1.2 Monitoring and Operation of Land Application Equipment

A soil survey of the land application areas (5.2 acres total) indicates a maximum application rate of 1.23 gpd/sf. Based on the design volume produced by a 1-in-10 year annual rainfall, plus a 25-year, 24 hour storm event, the maximum daily land application would be approximately 12,000 gallons. Under design conditions, this would require land application about 22 days per year. A typical annual rainfall will require less runoff and require less land application. Because rainfall and runoff will vary greatly over the life of the facility, land application must be made on a consistent basis and monitored to ensure that the requirement of no-discharge is achieved.

SECTION 2: GENERAL LOCATION AND DESCRIPTION OF STORM WATER MANAGEMENT FACILITIES

2.1 General Site Description

To reach the quarry, go north from Thomasville, Missouri approximately 6 miles on State Highway 99 to its junction with State Highway T, then west on Highway T for approximately 2 miles to its junction with the quarry access road (about ½ mile past the junction of Highway T with County Road 445). The quarry is located approximately 2 miles southeast of the junction of the access road with Highway T. The quarry lease area is approximately 40 acres in size, with 8 acres to be initially bonded with the DNR Land Reclamation Program.

The site is currently contains steep, tree covered hillsides draining into DePriest Hollow (a tributary to the Eleven Point River), which winds from northeast to southwest through the lease area.

SECTION 3: STORM WATER MANAGEMENT FACILITIES

3.1 Berm & Runoff Storage Area

As shown in Attachment B, the area downslope of the proposed quarry processing & storage location will have a berm to prevent storm water from reaching DePriest Hollow. The berm will be constructed of overburden material and, at design volume, the storm water storage area contained by the berm will be 1.72 acres in size, with an average depth of at least 5'1½". This volume will be adequate to store a 1-in-10 year annual runoff, plus a 25-year, 24-hour rainfall event. At capacity, the storage area will hold approximately 385,000 cubic feet of runoff.

3.2 Equipment Used for Land Application

A truck having a 1,000 gallon water tank will be used for land application of the storm water. Storm water that is collected within the storage berm will be pumped into the truck's water tank and the water will be applied at the land application areas via piping/sprinkers on the truck.

3.3 Land Application Areas

The two land application areas (shown in Attachment B) will be pastured areas to the northeast and southeast of the quarry processing area. Approximately 5.2 acres will be used for land application of runoff. The area will be clearly marked to prevent compaction of soils by construction equipment or other vehicles.

SECTION 4: ACCESS

The perimeter of the property will be fenced to prevent unauthorized entry to the facility. During hours when no employees are at the site, access to the site will be prevented by locked gates.

SECTION 5: SAFETY

Keep safety procedures at the forefront of inspection procedures at all times. Likely hazards should be anticipated and avoided. Never enter the bermed runoff storage area without proper training or equipment. **If any hazard is found within the facility area that poses an immediate threat to public safety, contact the Oregon County Sheriif's Office immediately!**

SECTION 6: FIELD INSPECTION EQUIPMENT

It is imperative that the appropriate equipment is taken to the field with the inspector(s). This is to ensure the safety of the inspector and allow the inspections to be performed as efficiently as possible. Below is a list of equipment that may be necessary to perform the inspections of storm water management facilities:

Safety equipment (hard hat, safety vest, etc. as required by law);

Communication equipment;

Approved operation and maintenance manual for the site;

Clipboard;

First aid kit;

Rain gauge;

Some of the items identified above need not be carried by the inspector; however, this equipment should be available in the vehicle driven to the site.

SECTION 7: CALIBRATING, OPERATING, INSPECTING, AND MAINTAINING STORM WATER MANAGEMENT FACILITIES

Meeting the requirements of the DNR No-Discharge Permit relies heavily on proper calibration, operation, inspection, and maintenance of all storm water management facilities.

This section contains a general overview of storm water management facilities O&M guidelines and documentation procedures. Appendix C contains the inspection and maintenance form for each of the storm water management facilities located on site.

7.1 Calibration Procedures

A. Equipment

Equipment used for land applying runoff includes a truck having a 1,000 gallon water tank and attached sprinkler system and a pump with connecting pipes or hoses. The suction lines should be of sufficient length that the truck does not need to be parked too near the containment berm, etc. that it could become stuck. Sprinkler head spacing should be as necessary to achieve a uniform application rate over the 5.2 acre application site.

B. Land Application

The maximum application rate is 0.106 gpd/sf, which is equivalent to 0.46" of water per day over the 5.2 acre land application area. The design application rate of 0.053 gpd/sf is approximately equal to 0.23" of water per day over the 5.2 acre area. On days when land application is necessary, the intent is to apply between 0.23" and 0.46" over the 5.2 acre area over an 8 hour period. This equates to an hourly application rate between 0.03" and 0.06".

Calibration of the sprinkler system should be done prior to the first time it is used for land application and should be checked at least once per 30 days of land application. Discharge of water through the sprinklers should be limited to the maximum hourly rate noted above. Depth measurements should be taken at a minimum of two locations in the land application area using a ground mounted rain gauge capable of measuring to the nearest 0.1".

7.2 Operating Procedures

The primary goal of this operation & maintenance manual is to outline procedures that will prevent surface discharge of storm water from the active areas of the quarry, including the processing area. As noted above, all runoff

falling within the active areas of the quarry will be contained within the berm which is created for this purpose. Water collected in the storage area should then be land applied at a rate that will not create runoff, thereby meeting the requirements of the No-Discharge permit.

The runoff storage area is designed to store approximately 384,000 cubic feet of runoff on an annual basis. The runoff storage area should be roughly 1.7 acres in size and at least 5'1½" average depth. The first 4'8" of (average) depth is designed to hold the 1-in-10 year annual rainfall. The 5½" of additional depth is designed to hold a 25-year, 24-hour rainfall.

As the storage area begins to fill, inflow must be offset by land application at a maximum rate of 0.106 gpd/sf (0.46" of land applied water per day). The target application rate is 0.053 gpd/sf or roughly 0.23" of land applied water per day. It is anticipated that the 0.23" to 0.46" per day will be applied on 5.2 acres of ground over an 8 hour period, resulting in an hourly application rate of 0.03" to 0.06" per hour.

The following guidelines should generally be used to determine when land application of stored runoff is advisable. At times, it may be necessary to work outside these guidelines to meet the goal of no-discharge.

A. Rainfall

Land application should not be made during times when over ½" of rainfall has been recorded for the previous 24 hour period. During extended wet periods, it may be necessary to suspend land application for longer periods of time to allow the ground to become sufficiently dry to allow land application. Refer to inspection procedures.

B. Temperature

Land application should not be made when the ground is frozen or when the application area is snow or ice covered. Pumps and sprinklers should not be operated when the temperature is below 35°F.

C. Water Level

The water level in the runoff storage area should generally be kept as low as possible. When water level, weather, temperature, and ground conditions allow land application, it should be made at a rate of 0.053 gpd/sf. When average depth in the runoff storage area exceeds 3'6", the application rate should be increased up to a maximum of 0.106 gpd/sf. This application rate should continue until the water level drops to below 3' average depth, at which point the application rate should be reduced. Under no circumstances should the

application rate cause runoff from the land applied area.

7.3 Inspection and Maintenance Procedures

A. Containment Berm

Once every three months, the containment berm should be inspected to ensure that all runoff from the active quarry area is directed toward the runoff storage area. Areas of erosion or other damage should be repaired immediately to eliminate the potential for runoff leaving the site. Appropriate notations should be added to the inspection and maintenance form.

B. Runoff Storage

After each rainfall event, the water level in the storage area should be visually inspected. Once per week, the water level in the storage area should be recorded on the inspection and maintenance form. A staff gauge should be permanently installed to aid in measuring the water stage.

C. Land Application

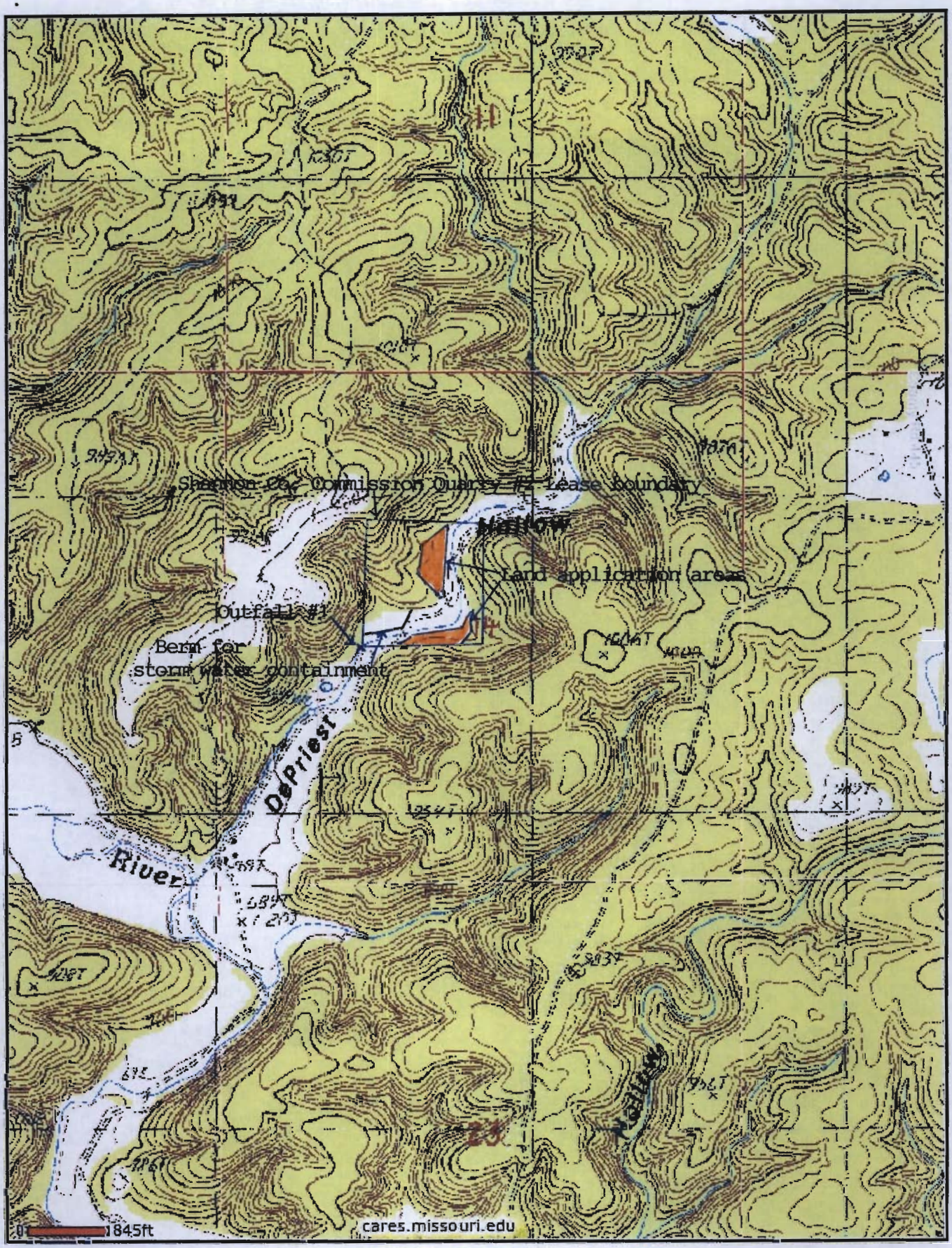
At the beginning of each day during which land application is initiated, after land application begins, the area should be checked for uniformity of application. After land application has ceased for the day, the application area should be inspected for evidence of surface discharge. If runoff is observed, the discharge rate from the sprinklers should be re-calibrated before further water is land applied. If runoff is observed after re-calibration, the rate of application should be reduced to a level that does not produce runoff. Appropriate notations should be added to the inspection and maintenance form.

D. Inspection and Maintenance Form

After all inspections and all maintenance activities, all pertinent data and information should be added to the inspection and maintenance form. A truck inspection checklist is also included in Attachment C.

ATTACHMENT A

LOCATION MAP


North
Shannon Co. Commission Quarry #2 Lease boundary
Mallow
Land application areas
Outfall #1
Berm for
storm water containment
DePriest
River
Pollard
0
845ft
cares.missouri.edu

ATTACHMENT B

SITE PLAN


Shannon Co. Commission
Quarry #2 Lease boundary
Land
Application
Areas
Berm for storm
water containment
0
275ft
cares.missouri.edu

ATTACHMENT C

INSPECTION AND MAINTENANCE FORMS

Shannon County Commission Quarry #2
Land Application of Storm Water
Inspection and Maintenance Form
(See also the Truck Inspection Checklist)

Date of Inspection:
Name of Inspector:

1. Is there any erosion or other damage to the storm water containment berm?

2. Is there any erosion below the berm (or other indications that storm water runoff may leave the site)?

3. Is the water level in the containment area sufficiently high that land application needs to be done? (List water level.)

4. Are the land application areas sufficiently dry so that any water that is land applied will not run off?

5. Does the water spray rate from the water truck sprinklers need to be adjusted to be higher or lower?

6. Are the water sprinklers spraying uniformly?

7. Is the water level gauge for the storage area easily visible?

8. List any maintenance, repairs, re-calibration, or other comments below:

Duplicate this form as needed.

Truck Inspection Checklist		
Truck #:	**Date:**	**Mechanic:**
Components:	**Checked:**	**Repairs:**
D.O.T.		
Check License Expiration Date		
Gauges and Lights		
Seat Belts		
Glass and Mirrors		
Wipers and Horn		
Clutch Pedal-Free Travel		
Steering-No Free Travel		
Emergency Equipment-Triangles, Spare Fuses		
Fire Extinguisher-Minimum 5 LB.		
Cooling System-Radiator & Hoses		
Oil Level and Condition, Check for Leaking Oil		
Battery-Corrosion, Loose Terminals		
Fuel Tank-Leaks, Mounted Secure		
Brakes, Brake Chamber, Slack Adjusters		
Drive Line U-Joints		
Frame-Rust, Cracks in Welds, Leaf Springs		
Tires-Tread Depth, Condition,		
Wheels-No Rust, Lugs Tight, Wheel Seals		
Exhaust leaks, Check for Rust, Bad Clamps		
Engine Running-Check for Leaks		
Transmission-Check for Leaks		

Comments:

MECHANIC SIGNATURE:	**DATE:**