

**STATE OF MISSOURI**  
**DEPARTMENT OF NATURAL RESOURCES**  
**MISSOURI CLEAN WATER COMMISSION**



**CONSTRUCTION PERMIT**

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

City of Jasper  
121 East Grand Avenue  
Jasper, MO 64755

for the construction of (described facilities):

See attached.

Permit Conditions:

See attached.

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

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

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

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

May 30, 2025  
Effective Date

May 29, 2027  
Expiration Date

John Hoke, Director, Water Protection Program

## **CONSTRUCTION PERMIT**

### **I. CONSTRUCTION DESCRIPTION**

Construction will include a variety of upgrades to improve the operability of the existing treatment facility, including:

- Replacement of the existing baffles and aerators in the aeration lagoon,
- Replacement of the cover on the settling pond,
- Construction of a concrete polishing reactor basin and blower basin as a part of the existing treatment train, and
- Necessary appurtenances to restore the site at the end of construction and to ensure proper operability with the improvements to the facility.

This project will also include general site work appropriate to the scope and purpose of the project and all necessary appurtenances to make a complete and usable wastewater treatment facility.

### **II. COST ANALYSIS FOR COMPLIANCE**

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

The department is not required to determine Cost Analysis for Compliance because the permit modification contains no new conditions or requirements that convey a new cost to the facility.

### **III. CONSTRUCTION PERMIT CONDITIONS**

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

1. This construction permit does not authorize discharge.
2. All construction shall be in accordance with the plans and specifications submitted by Olsson, Inc. on January 30, 2025, and signed and sealed by Jerry Jesky, P.E., on January 30, 2025, and Peter Bergamini, P.E., on January 30, 2025, and approved by the department on May 30, 2025.

3. Regulation 10 CSR 20-4.040(18)(B)1 requires that projects be publicly advertised, allowing sufficient time for bids to be prepared and submitted. Projects should be advertised at least 30 days prior to bid opening.
4. The department must be contacted in writing prior to making any changes to the approved plans and specifications that would directly or indirectly have an impact on the capacity, flow, system layout, or reliability of the proposed wastewater treatment facilities or any design parameter that is addressed by 10 CSR 20-8, in accordance with 10 CSR 20-8.110(11).
5. As per 10 CSR 20-4.040, all changes in contract price or time within the approved scope of work must be by change order in accordance with Section 19 of this rule.
6. State and federal law does not permit bypassing of raw wastewater; therefore, steps must be taken to ensure that raw wastewater does not discharge during construction. If a sanitary sewer overflow or bypass occurs, report the appropriate information to the department's electronic Sanitary Sewer Overflow/Bypass Reporting system at <https://dnr.mo.gov/mogem/> or Southwest Regional Office per 10 CSR 20-7.015(9)(G).
7. In addition to the requirements for a construction permit, 10 CSR 20-6.200 requires land disturbance activities of 1 acre or more to obtain a Missouri State Operating Permit to discharge stormwater. The permit requires best management practices sufficient to control runoff and sedimentation to protect waters of the state. Land disturbance permits will only be obtained by means of the department's ePermitting system available online at <https://dnr.mo.gov/data-e-services/missouri-gateway-environmental-management-mogem>. See <https://dnr.mo.gov/data-e-services/water/electronic-permitting-epermitting> for more information.
8. A United States Army Corps of Engineers (USACE) Section 404 Department of Army permit (§404) along with the department's Section 401 Water Quality Certification or waiver (§401) may be required for the activities described in this permit. This permit is not valid until these requirements are satisfied. If construction activity will disturb any land below the ordinary high water mark of jurisdictional waters of the U.S., then a §404/§401 will likely be required. Since the USACE makes determinations on what is jurisdictional, you must contact the USACE to determine permitting requirements. See <https://dnr.mo.gov/water/business-industry-other-entities/permits-certification-engineering-fees/section-401-water-quality> for more information or you may contact the department's Water Protection Program at 573-522-4502 or [wpsc401cert@dnr.mo.gov](mailto:wpsc401cert@dnr.mo.gov).
9. Upon completion of construction:
  - A. The City of Jasper will become the continuing authority for operation and maintenance of these facilities;

- B. Submit an electronic copy of the as-builts if the project was not constructed in accordance with previously submitted plans and specifications;
- C. Submit the enclosed form Statement of Work Completed to the department in accordance with 10 CSR 20-6.010(5)(N) and request the operating permit modification be issued.

#### **IV. REVIEW SUMMARY**

##### **1. CONSTRUCTION PURPOSE**

The current treatment provided at the Jasper WWTF does not provide sufficient levels of treatment to address the ammonia limits being implemented as a part of the facility's operating permit. By replacing the existing baffles and aerators in the aeration lagoon, replacing the cover of the settling pond, and construction of the new polishing reactor for the facility, the goal of the upgraded treatment is to address that ammonia criteria.

##### **2. FACILITY DESCRIPTION**

The Jasper WWTF is located 0.3 miles south of the intersection of West Morrison Avenue and 14B Road, Jasper, Missouri, in Jasper County. The facility has a design average flow of 135,000 gallons per day (gpd) and serves a hydraulic population equivalent of approximately 1,405 people.

##### **3. COMPLIANCE PARAMETERS**

The work being done within the scope of this project should not alter any of the existing compliance parameters set for the treatment facility. The construction will help the facility better meet those existing parameters.

##### **4. REVIEW of MAJOR TREATMENT DESIGN CRITERIA**

**Existing major components that will remain in use include the following:**

- Partially-Mixed Baffled Three-Cell Lagoon –
  - The lagoon for this facility is a three cell system, using baffles to separate out the three cells. Lagoon Cell No. 1 is aerated and has an approximate surface area of 0.36 acres. Cell No. 2 has an approximate surface area of 0.37 acres. Cell No. 3 has an approximate surface area of 0.23 acres. The design volume for the combined lagoon system is 2.6 million gallons (MG), which provides approximately 19.5 days of retention at the proposed design flow.
- Anaerobic Lemna Settling Basin –
  - The settling basin has a surface area of 0.43 acres and a settling volume of approximately 900,000 gallons, which allows for detention for approximately

6.7 days at the facility design flow. The basin is covered by a LemTec™ modular insulated cover, which helps create a quiescent zone for solids settling.

- Disinfection –
  - Open Channel Ultraviolet (UV) – An open channel, gravity flow UV disinfection system capable of treating a peak flow of 1.15 million gallons per day (MGD) while delivering a minimum UV intensity of 30 mJ/cm<sup>2</sup> is utilized for the existing treatment facility. The UV disinfection system is supported by a 5.5 kW backup generator to ensure operation in emergency power outage situations.
- Wet Weather Flow Equalization –
  - Wet weather flow equalization is utilized during wet weather events where the peak flow is greater than the design peak capacity of the treatment facility. Once the wet weather event subsides, the flow should be returned to the head of the treatment facility for full secondary treatment. The equalization basin has a design volume of 26 MG, with an approximate surface area of 15.6 acres.

**Construction will also provide the following:**

- Lemna Polishing Reactor –
  - A polishing reactor will be constructed with a total surface area of 663 square feet (sf) or 331.5 sf per clarifier. The clarifiers will be rectangular, with an internal tank length of 39 ft and an internal tank width of 8.5 ft. The sidewater depth will be 10 ft. The weir loading rate is 135,000 gpd which meets the requirements of 10 CSR 20-8.160(3)(C)2 of being less than 20,000 gpd/sf.

**5. OPERATING PERMIT**

Operating permit MO-0044202 will require a modification to reflect the construction activities. The modified Jasper WWTF permit, MO-0044202, was successfully public noticed from March 14, 2025, to April 14, 2025, with no comments received. When the construction work is completed, submit the Statement of Work Completed to the department in accordance with 10 CSR 20-6.010(5)(N) and request the operating permit modification be issued.

Joshua Brown, P.E.  
Financial Assistance Center  
[Joshua.Brown@dnr.mo.gov](mailto:Joshua.Brown@dnr.mo.gov)



AP46578 CP0002524



MISSOURI DEPARTMENT OF NATURAL RESOURCES  
WATER PROTECTION PROGRAM  
**APPLICATION FOR CONSTRUCTION PERMIT –  
WASTEWATER TREATMENT FACILITY**

**FOR DEPARTMENT USE ONLY**

APP NO.	CP NO.
FEE RECEIVED	CHECK NO.
DATE RECEIVED	

**APPLICATION OVERVIEW**

The Application for Construction Permit – Wastewater Treatment Facility form has been developed in a modular format and consists of Part A and B. **All applicants must complete Part A.** Part B should be completed for applicants who currently land-apply wastewater or propose land application for wastewater treatment. **Please read the accompanying instructions before completing this form. Submittal of an incomplete application may result in the application being returned.**

**PART A – BASIC INFORMATION****1.0 APPLICATION INFORMATION** (Note – If any of the questions in this section are answered NO, this application may be considered incomplete and returned.)

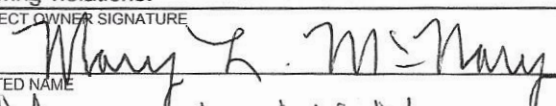
- 1.1 Is this a Federal/State funded project? ☒ YES ☐ N/A Funding Agency: DNR SRF Project #: C295843-01
- 1.2 Has the Missouri Department of Natural Resources approved the proposed project's antidegradation review?  
☐ YES Date of Approval: \_\_\_\_\_ ☒ N/A
- 1.3 Has the department approved the proposed project's facility plan\*?  
☒ YES Date of Approval: 02-17-2 ☐ NO (If No, complete No. 1.4.)
- 1.4 [Complete only if answered No on No. 1.3.] Is a copy of the facility plan\* for wastewater treatment facilities included with this application?  
☐ YES ☐ NO ☐ Exempt because \_\_\_\_\_
- 1.5 Is a copy of the appropriate plans\* and specifications\* included with this application?  
☒ YES Denote which form is submitted: ☒ Hard copy ☒ Electronic copy (See instructions.) ☐ NO
- 1.6 Is a summary of design\* included with this application? ☒ YES ☐ NO
- 1.7 Has the appropriate operating permit application (A, B, or B2) been submitted to the department?  
☐ YES Date of submittal: \_\_\_\_\_  
☐ Enclosed is the appropriate operating permit application and fee submittal. Denote which form: ☐ A ☐ B ☒ B2  
☐ N/A: However, In the event the department believes that my operating permit requires revision to permit limitation such as changing equivalent to secondary limits to secondary limits or adding total residual chlorine limits, please share a draft copy prior to public notice? ☒ YES ☐ NO
- 1.8 Is the facility currently under enforcement with the department or the Environmental Protection Agency? ☐ YES ☐ NO
- 1.9 Is the appropriate fee or JetPay confirmation included with this application? ☐ YES ☐ NO  
See Section 7.0

\* Must be affixed with a Missouri registered professional engineer's seal, signature and date.

**2.0 PROJECT INFORMATION**

2.1 NAME OF PROJECT Wastewater Treatment Facility Upgrade	2.2 ESTIMATED PROJECT CONSTRUCTION COST \$ 1,040,000
2.3 PROJECT DESCRIPTION Construct and install a Lemna polishing reactor in Jasper's WWTF in order to meet new ammonia limits.	
2.4 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION N/A	
2.5 DESIGN INFORMATION A. Current population: <u>950</u> ; Design population: <u>1405</u> B. Actual Flow: <u>170k</u> gpd; Design Average Flow: <u>135k</u> gpd; Actual Peak Daily Flow: <u>400k</u> gpd; Design Maximum Daily Flow: <u>270k</u> gpd; Design Wet Weather Event: <u>N/A</u>	
2.6 ADDITIONAL INFORMATION A. Is a topographic map attached? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO B. Is a process flow diagram attached? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	



<b>3.0 WASTEWATER TREATMENT FACILITY</b>				
NAME Jasper WWTF		TELEPHONE NUMBER WITH AREA CODE 417-394-2532		E-MAIL ADDRESS jasperwastewater@gmail.com
ADDRESS (PHYSICAL) South of West Morrison Avenue & 14B Road	CITY Jasper	STATE MO	ZIP CODE 64755	COUNTY Jasper
Wastewater Treatment Facility: Mo- 0044202 (Outfall 002 Of 2 )				
3.1 Legal Description: <u>SE 1/4, SW 1/4, NW 1/4, Sec. 23, T 30N, R 31W</u> (Use additional pages if construction of more than one outfall is proposed.)				
3.2 UTM Coordinates Easting (X): <u>383874</u> Northing (Y): <u>4132182</u> For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)				
3.3 Name of receiving streams: <u>Tributary to Cripple Creek</u>				
<b>4.0 PROJECT OWNER</b>				
NAME City of Jasper		TELEPHONE NUMBER WITH AREA CODE 417-394-2532		E-MAIL ADDRESS jctyhall@keinet.net
ADDRESS 121 East Grand Avenue	CITY Jasper	STATE MO	ZIP CODE 64755	
<b>5.0 CONTINUING AUTHORITY:</b> A continuing authority is a company, business, entity or person(s) that will be operating the facility and/or ensuring compliance with the permit requirements.				
NAME same as owner		TELEPHONE NUMBER WITH AREA CODE		E-MAIL ADDRESS
ADDRESS	CITY	STATE	ZIP CODE	
5.1 A letter from the continuing authority, if different than the owner, is included with this application. <input type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> N/A				
5.2 COMPLETE THE FOLLOWING IF THE CONTINUING AUTHORITY IS A MISSOURI PUBLIC SERVICE COMMISSION REGULATED ENTITY.				
A. Is a copy of the certificate of convenience and necessity included with this application? <input type="checkbox"/> YES <input type="checkbox"/> NO				
5.3 COMPLETE THE FOLLOWING IF THE CONTINUING AUTHORITY IS A PROPERTY OWNERS ASSOCIATION.				
A. Is a copy of the as-filed restrictions and covenants included with this application? <input type="checkbox"/> YES <input type="checkbox"/> NO				
B. Is a copy of the as-filed warranty deed, quitclaim deed or other legal instrument which transfers ownership of the land for the wastewater treatment facility to the association included with this application? <input type="checkbox"/> YES <input type="checkbox"/> NO				
C. Is a copy of the as-filed legal instrument (typically the plat) that provides the association with valid easements for all sewers included with this application? <input type="checkbox"/> YES <input type="checkbox"/> NO				
D. Is a copy of the Missouri Secretary of State's nonprofit corporation certificate included with this application? <input type="checkbox"/> YES <input type="checkbox"/> NO				
<b>6.0 ENGINEER</b>				
ENGINEER NAME / COMPANY NAME Jerry Jesky / Olsson, Inc.		TELEPHONE NUMBER WITH AREA CODE 4178908802		E-MAIL ADDRESS jjesky@olsson.com
ADDRESS 550 St. Louis St	CITY Springfield	STATE MO	ZIP CODE 65806	
<b>7.0 APPLICATION FEE</b>				
<input type="checkbox"/> CHECK NUMBER <input type="checkbox"/> JETPAY CONFIRMATION NUMBER				
<b>8.0 PROJECT OWNER:</b> I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.				
PROJECT OWNER SIGNATURE 				
PRINTED NAME Mary L. McNary			DATE 9/4/2024	
TITLE OR CORPORATE POSITION City Clerk		TELEPHONE NUMBER WITH AREA CODE 417-394-2532		E-MAIL ADDRESS jctyhall@keinet.net
Mail completed copy to: MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER PROTECTION PROGRAM P.O. BOX 176 JEFFERSON CITY, MO 65102-0176				
<b>END OF PART A.</b>				
<b>REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHETHER PART B NEEDS TO BE COMPLETE.</b>				

**PART B – LAND APPLICATION ONLY**

(Submit only if the proposed construction project includes land application of wastewater.)

**8.0 FACILITY INFORMATION**

8.1 Type of wastewater to be irrigated: ☐ Domestic ☐ State/National Park ☐ Seasonal business  
☐ Municipal ☐ Municipal with a pretreatment program or significant industrial users  
☒ Other (explain) Excess Wet Weather Flow

8.2 Months when the business or enterprise will operate or generate wastewater:  
☒ 12 months per year ☐ Part of the year (list months): \_\_\_\_\_

8.3 This system is designed for:  
☐ No-discharge.  
☒ Partial irrigation when feasible and discharge rest of time.  
☐ Irrigation during recreational season, April – October, and discharge during November – March.  
☐ Other (explain) \_\_\_\_\_.

**9.0 STORAGE BASINS**

9.1 Number of storage basins: 1 (Use additional pages if greater than three basins.)

9.2 Type of basins: ☐ Steel ☐ Concrete ☐ Fiberglass ☒ Earthen ☐ Earthen with membrane liner

9.3 Storage basin dimensions at inside top of berm (feet). Report freeboard as feet from top of berm to emergency spillway or overflow pipe.  
 Basin #1: Length 273 Width 181 Depth 12 Freeboard 2 Depth 2 Safety 2 % Slope 33%  
 Basin #2: Length \_\_\_\_\_ Width \_\_\_\_\_ Depth \_\_\_\_\_ Freeboard \_\_\_\_\_ Depth \_\_\_\_\_ Safety \_\_\_\_\_ % Slope \_\_\_\_\_  
 Basin #3: Length \_\_\_\_\_ Width \_\_\_\_\_ Depth \_\_\_\_\_ Freeboard \_\_\_\_\_ Depth \_\_\_\_\_ Safety \_\_\_\_\_ % Slope \_\_\_\_\_

9.4 Storage Basin operating levels (report as feet below emergency overflow level).  
 Basin #1: Maximum operating water level 12 ft Minimum operating water level 2 ft  
 Basin #2: Maximum operating water level \_\_\_\_\_ ft Minimum operating water level \_\_\_\_\_ ft  
 Basin #3: Maximum operating water level \_\_\_\_\_ ft Minimum operating water level \_\_\_\_\_ ft

9.5 Design depth of sludge in storage basins.  
 Basin #1: \_\_\_\_\_ ft Basin #2: \_\_\_\_\_ ft Basin #3: \_\_\_\_\_ ft

9.6 Existing sludge depth, if the basins are currently in operation.  
 Basin #1: \_\_\_\_\_ ft Basin #2: \_\_\_\_\_ ft Basin #3: \_\_\_\_\_ ft

9.7 Total design sludge storage: 280 dry tons and 16.4 cubic feet

**10.0 LAND APPLICATION SYSTEM**

10.1 Number of irrigation sites 1 Total Acres 90 Maximum % field slopes \_\_\_\_\_  
 Location: \_\_\_\_\_ 1/4, \_\_\_\_\_ 1/4, SE 1/4, 23 Sec. 30N T 31W R Jaspe County 90 Acres  
 Location: \_\_\_\_\_ 1/4, \_\_\_\_\_ 1/4, \_\_\_\_\_ 1/4, \_\_\_\_\_ Sec. \_\_\_\_\_ T \_\_\_\_\_ R \_\_\_\_\_ County \_\_\_\_\_ Acres  
 Location: \_\_\_\_\_ 1/4, \_\_\_\_\_ 1/4, \_\_\_\_\_ 1/4, \_\_\_\_\_ Sec. \_\_\_\_\_ T \_\_\_\_\_ R \_\_\_\_\_ County \_\_\_\_\_ Acres  
 (Use additional pages if greater than three irrigation sites.)

10.2 Type of vegetation: ☒ Grass hay ☐ Pasture ☐ Timber ☐ Row crops  
☐ Other (describe) \_\_\_\_\_

10.3 dependent on extreme weather conditions

10.3 Wastewater flow (dry weather) gallons per day: Average annual \_\_\_\_\_ Seasonal \_\_\_\_\_ Off-season \_\_\_\_\_

10.4 Land application rate (design flow including 1-in-10 year storm water flows):  
 Design: 22 inches/year 0.15 inches/hour 0.45 inches/day 0.8 inches/week  
 Actual: \_\_\_\_\_ inches/year \_\_\_\_\_ inches/hour \_\_\_\_\_ inches/day \_\_\_\_\_ inches/week

10.5 Total irrigation per year (gallons): Design: 43.8M gal Actual: \_\_\_\_\_ gal

10.6 Actual months used for irrigation (check all that apply):  
☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec **when necessary**

10.7 Land application rate is based on:  
☒ Hydraulic Loading ☐ Other (describe) \_\_\_\_\_  
☐ Nutrient Management Plan (N&P) If N&P is selected, is the plan included? ☐ YES ☐ NO