

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



**CONSTRUCTION PERMIT**

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

Midland Marketing Systems, Inc.  
Attn: Debra Politte, CEO  
9335 Highway BB  
Hillsboro, MO 63050

for the construction of (described facilities):

See attached.

Permit Conditions:

See attached.

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

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


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

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

August 22, 2018  
Effective Date

August 21, 2020  
Expiration Date

  
Edward B. Galbraith, Director, Division of Environmental Quality

  
Chris Wieberg, Director, Water Protection Program

## **CONSTRUCTION PERMIT**

### **I. CONSTRUCTION DESCRIPTION**

Installation of a SaniTEE 818-B pre-screen device, Bio-Microbics BioBarrier HSMBR (High Strength Membrane Bioreactor) 1.5 Wastewater Treatment System, Norweco AT 1500 Ultra Violet Disinfection System, four inch diameter PVC piping, and a sampling manhole.

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

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

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

1. This construction permit does not authorize discharge.
2. All construction shall be in accordance with the plans and specifications submitted by Barr Consulting, LLC on August 16, 2018.
3. The Department must be contacted in writing prior to making any changes to the approved plans and specifications that would directly or indirectly have an impact on the capacity, flow, system layout, or reliability of the proposed wastewater treatment facilities or any design parameter that is addressed by 10 CSR 20-8, in accordance with 10 CSR 20-8.110(8).

4. State and federal law does not permit bypassing of raw wastewater, therefore steps must be taken to ensure that raw wastewater does not discharge during construction. If a sanitary sewer overflow or bypass occurs, report the appropriate information to the Department's St. Louis Regional Office per 10 CSR 20-7.015(9)(E)2.
5. The wastewater treatment facility shall be located at least fifty feet (50') from any dwelling or establishment.
6. The wastewater treatment facility shall be located above the twenty-five (25)-year flood level.
7. Wastewater treatment facility shall not be located within one hundred feet (100'), and preferably three hundred feet (300') of any water well or water supply structure.
8. 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 [dnr.mo.gov/env/wpp/epermit/help.htm](http://dnr.mo.gov/env/wpp/epermit/help.htm). See [dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm](http://dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm) for more information.
9. A United States (U.S.) Army Corps of Engineers (COE) permit (404) and a Water Quality Certification (401) issued by the Department or permit waiver may be required for the activities described in this permit. This permit is not valid until these requirements are satisfied. If construction activity will disturb any land below the ordinary high water mark of jurisdictional waters of the U.S. then a 404/401 will be required. Since the COE makes determinations on what is jurisdictional, you must contact the COE to determine permitting requirements. You may call the Department's Water Protection Program at 573-751-1300 for more information. See [dnr.mo.gov/env/wpp/401/](http://dnr.mo.gov/env/wpp/401/) for more information.
10. Upon completion of construction:
  - A. The owner will become the continuing authority for operation, maintenance, and modernization 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; and
  - C. Submit the enclosed form Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(D) and request the operating permit be issued.

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

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

Midland Marketing is a business office that currently has a failing onsite wastewater system. They are installing a new discharging wastewater treatment plant that will treat the domestic wastewater from this business.

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

Installation of a Bio-Microbics BioBarrier HSMBR 1.5 Wastewater Treatment System, Polylok PL-UV1 Ultraviolet Disinfection System, four inch diameter PVC piping, and a sampling manhole.

The Midland Marketing Systems WWTF is located at 9334 Highway BB, Hillsboro, in Jefferson County, Missouri. The facility has a design average flow of 1200 gpd and serves an organic population equivalent of approximately 20 people.

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

The final effluent limits the project is required to meet are established in Operating Permit MO-0138932 are in the table below:

EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS		
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE
Flow	MGD	*		*
Biochemical Oxygen Demand <sub>5</sub>	mg/L		15	10
Total Suspended Solids	mg/L		15	10
<i>E. coli</i> (Note 1)	#/100mL	126		*
Ammonia as N (Apr 1 – Sep 30)	mg/L	1.7		0.6
(Oct 1 – Mar 31)		5.6		2.1

##### **4. ANTIDegradation**

The Department has reviewed the antidegradation report for this facility and issued the Water Quality and Antidegradation Review dated September 6, 2017, due to the new discharge. The facility used the department's general Antidegradation review for facilities with a design flow less than 10,000 gallons per day.

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

Two SaniTEE 818-B pre-screen devices, which are 1/8 inch effluent screens, will be installed in the existing septic tank. Then, the flow will gravity into the Bio-Microbics BioBarrier HSMBR 1.5 Wastewater Treatment System. This system consists of a 2000 gallon aerated treatment zone with two – 15 cfm blowers providing aeration, mixing, and membrane sheet scouring, and two trains of 150 square foot membrane sheets with 0.04 micron pores and variable frequency drive filtrate pumps followed by the Polylok PL-UV1 Ultraviolet Disinfection System, and a sampling manhole.

Disinfection is the process of removal, deactivation, or killing of pathogenic microorganisms. The open channel, gravity flow, low pressure, high intensity UV disinfection system is capable of treating a peak flow of three gallons per minute while delivering a minimum UV intensity of 40 mJ/cm<sup>2</sup> with an expected ultraviolet transmissivity of 65% or greater. The single channel UV system consists of one lamp. The wastewater treatment facility has a backup generator with excess capacity available for emergency operation of the disinfection system. The facility will also maintain spare parts including a lamp, quartz sleeve, power cord, and control module.

## **6. OPERATING PERMIT**

Operating permit MO-0138932 will be issued following the construction activities. The Midland Marketing Systems WWTF, MO-0138932, was successfully public noticed from May 11 to June 11, 2018 with no comments received. Submit the Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(D) and request the operating permit modification be issued.

Keith Forck  
Engineering Section  
[keith.forck@dnr.mo.gov](mailto:keith.forck@dnr.mo.gov)





MISSOURI DEPARTMENT OF NATURAL RESOURCES  
WATER PROTECTION PROGRAM  
APPLICATION FOR CONSTRUCTION PERMIT -  
WASTEWATER FACILITY

SCANNED

RECEIVED

OCT 13 2017

Water Protection Program

AP 28698  
CP0001953

FOR DEPARTMENT USE ONLY	
APP NO.	CP NO.
FEE RECEIVED 1000.00	CHECK NO. 1037
DATE RECEIVED 10-13-17	

APPLICATION OVERVIEW

The Application for Construction Permit - Wastewater Facility form is for construction pertaining to domestic wastewater treatment facilities, agricultural facilities, and components thereof. This 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: \_\_\_\_\_ Project #: \_\_\_\_\_
- 1.2 Is this an application for an agricultural? ☐ YES (See instructions.) ☒ N/A
- 1.3 Has the Missouri Department of Natural Resources approved the proposed project's antidegradation review?  
☐ YES Date of Approval: \_\_\_\_\_
- 1.4 Has the department approved the proposed project's facility plan\*?  
☐ YES Date of Approval: \_\_\_\_\_ ☐ NO ☒ N/A (If Not Applicable, complete No. 1.5.)
- 1.5 [Complete only if answered Not Applicable on No. 1.4] Is a copy of the engineering report\* for wastewater treatment facilities with a design flow less than 22,500 gpd included with this application?  
☒ YES ☐ NO
- 1.6 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
- 1.7 Is a summary of design\* included with this application? ☒ YES ☐ NO
- 1.8 Is a general operating permit applicable?  
☒ YES Submit the appropriate operating permit application to the Regional Office at least 60 days prior to operation.  
☐ NO Enclose the appropriate operating permit application and fee submittal. Denote which form: ☐ B ☐ B2
- 1.9 Is the facility currently under enforcement with the department or the Environmental Protection Agency? ☐ YES ☒ NO
- 1.10 Is the appropriate fee included with this application? ☒ YES ☐ NO (See instructions for appropriate fee.)

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

2.0 PROJECT INFORMATION

2.1 NAME OF PROJECT

Land Marketing Systems

2.2 PROJECT DESCRIPTION

SMALL manufacturing Co. 60 employees -  
8 month metered water usage = 936 gpd.!  
Use 1000 gpd

2.3 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION

BY OWNER

2.4 DESIGN INFORMATION

- A. Current population: 60 PE ; Design population: 100 PE
- B. Actual Flow: 936 gpd; Design Average Flow: 1000 gpd;  
Actual Peak Daily Flow: 980 gpd; Design Maximum Daily Flow: 1000 gpd;  
Design Wet Weather Event: N/A

2.5 ADDITIONAL INFORMATION

- A. Is a topographic map attached? ☒ YES ☐ NO
- B. Is a process flow diagram attached? ☐ YES ☒ NO

2.6 ESTIMATED PROJECT CONSTRUCTION COST

\$

RECEIVED

DEC 04 2017

Water Protection Program



**3.0 WASTEWATER TREATMENT FACILITY**

NAME <b>DIEB ENTERPRISES</b>		TELEPHONE NUMBER WITH AREA CODE <b>636-789-4593</b>		EMAIL ADDRESS <b>glen@diebent.com</b>	
ADDRESS (PHYSICAL) <b>9334 Hwy BB</b>	CITY <b>Hillsboro</b>	STATE <b>MO</b>	ZIP CODE <b>63050</b>	COUNTY <b>Jefferson</b>	

Wastewater Treatment Facility: Mo- (Outfall 1 OF 1)

3.1 Legal Description: **1/4 SE 1/4 NE 1/4 Sec. 24 T41N. R4E**  
(Use additional pages if construction of more than one outfall is proposed.)3.2 UTM Coordinates Easting (X): Northing (Y):  
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)3.3 Name of receiving streams: **Belew Creek****4.0 PROJECT OWNER**

NAME <b>MIDLAND Marketing Systems</b>		TELEPHONE NUMBER WITH AREA CODE <b>636-789-4593</b>		EMAIL ADDRESS <b>glen@diebent.com</b>	
ADDRESS <b>9334 Hwy BB</b>	CITY <b>Hillsboro</b>	STATE <b>MO</b>	ZIP CODE <b>63050</b>		

5.0 CONTINUING AUTHORITY: Permanent organization that will serve as the continuing authority for the operation, maintenance and modernization of the wastewater collection system.

NAME <b>SAME as above</b>		TELEPHONE NUMBER WITH AREA CODE		EMAIL ADDRESS	
ADDRESS	CITY	STATE	ZIP CODE		

5.1 A letter from the continuing authority, if different than the owner, is included with this application. ☐ YES ☐ NO ☒ 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? ☐ YES ☐ NO

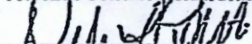
5.3 COMPLETE THE FOLLOWING IF THE CONTINUING AUTHORITY IS A PROPERTY OWNERS ASSOCIATION.

A. Is a copy of the as-filed restrictions and covenants included with this application? ☐ YES ☐ NOB. 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? ☐ YES ☐ NOC. 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? ☐ YES ☐ NOD. Is a copy of the Missouri Secretary of State's nonprofit corporation certificate included with this application? ☐ YES ☐ NO**6.0 ENGINEER** **Richard J. Barr**

ENGINEER NAME / COMPANY NAME <b>R Barr Consulting, LLC</b>		TELEPHONE NUMBER WITH AREA CODE <b>314-692-8888 ext 140</b>		EMAIL ADDRESS <b>rbarr@sbco10bal.net</b>	
ADDRESS <b>2268 Welsch Ind. Cir</b>	CITY <b>St. Louis</b>	STATE <b>MO</b>	ZIP CODE <b>63146</b>		

7.0 PROJECT OWNER: I hereby certify that I am familiar with the information contained in this application and to the best of my knowledge and belief such information is true, complete, and accurate, and if granted this permit, I agree to abide by the Missouri Clean Water Law and all rules, regulations, orders, and decisions, subject to any legitimate appeal available to applicant under Missouri Clean Water Law. I also understand the issuance of the construction permit does not guarantee the proposed wastewater treatment will meet the required effluent limitations of the issued Missouri State Operating Permit for this facility.

PROJECT OWNER SIGNATURE

PRINTED NAME  
**Debra Politte**DATE  
**4-5-17**

TITLE OR CORPORATE POSITION

**CEO**

TELEPHONE NUMBER WITH AREA CODE

**636-789-4593**

EMAIL ADDRESS

**dpolitte@diebent.com**

Mail completed copy to:

MISSOURI DEPARTMENT OF NATURAL RESOURCES  
WATER PROTECTION PROGRAM  
P.O. BOX 176  
JEFFERSON CITY, MO 65102-0176

END OF PART A.

REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHETHER PART B NEEDS TO BE COMPLETE.