

**STATE OF MISSOURI**  
**DEPARTMENT OF NATURAL RESOURCES**

MISSOURI CLEAN WATER COMMISSION



**CONSTRUCTION PERMIT**

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

M & M Properties of NE Missouri, Inc.  
698 Linns Mill Road  
Troy, MO 63379

for the construction of (described facilities):

See attached.

Permit Conditions:

See attached.

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

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

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

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

October 7, 2014  
Effective Date

  
Sara Parker Pauley, Director, Department of Natural Resources

October 6, 2016  
Expiration Date

  
John Madros, Director, Water Protection Program

## **CONSTRUCTION PERMIT**

### **I. CONSTRUCTION DESCRIPTION**

The proposed project will add a disinfection system to the current four cell lagoon wastewater treatment system. The disinfection system includes a Jet Chlor Model 110 tablet feeder, 1000 gallon Masterson chlorine contact chamber, and a Norweco Model IT-2000S dechlorinator tablet feeder. The system is designed to accommodate the peak flow of 4,300 gallons per hour.

### **II. FINDING OF AFFORDABILITY**

The Finding of Affordability is not applicable. The permittee is not a combined or separate sanitary sewer system or a publicly 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 R. Barr Consulting, LLC with a received on date of July 29, 2014, with August 26, 2014 revisions.
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. This Construction Permit is invalid for projects required to comply with the requirements contained in 10 CSR 20-4, "Grants and Loans"
6. Protection of drinking water supplies shall be in accordance with 10 CSR 20-8.120(10). "There shall be no physical connections between a public or private potable water supply system and a sewer, or appurtenance thereto which would permit the passage of any wastewater or polluted water into the potable supply. No water pipe shall pass through or come in contact with any part of a sewer manhole."

7. Sewers in relation to water works structures shall meet the requirements of 10 CSR 23-3.010 with respect to minimum distances from public water supply wells or other water supply sources and structures.
  - A. Sewer mains shall be laid at least ten feet horizontally from any existing or proposed water main. The distances shall be measured edge-to-edge. In cases where it is not practical to maintain a ten foot separation, the Department may allow a deviation on a case-by-case basis, if supported by data from the design engineer. Such a deviation may allow installation of the sewer closer to a water main, provided that the water main is in a separate trench or on an undisturbed earth shelf located on either side of the sewer and at an elevation so the bottom of the water main is at least 18 inches above the top of the sewer. If it is impossible to obtain proper horizontal and vertical separation as described above for sewers, the sewer must be constructed of slip-on or mechanical joint pipe or continuously encased and be pressure tested to 150 pounds per square inch to assure water tightness.
  - B. Manholes should be located at least ten feet horizontally from any existing or proposed water main.
  - C. Sewers crossing water mains shall be laid to provide a minimum vertical distance of 18 inches between the outside of the water main and the outside of the sewer. This shall be the case where the water main is either above or below the sewer. The crossing shall be arranged so that the sewer joints will be equidistant and as far as possible from the water main joints. Where a water main crosses under a sewer, adequate structural support shall be provided for the sewer to maintain line and grade. When it is impossible to obtain proper vertical separation as stipulated above, one of the following methods must be specified:
    - a. The sewer shall be designed and constructed equal to the water pipe and shall be pressure tested to assure water tightness prior to backfilling; or
    - b. Either the water main or sewer line may be continuously encased or enclosed in a watertight carrier pipe which extends ten feet on both sides of the crossing, measured perpendicular to the water main. The carrier pipe shall be of materials approved by the Department for use in water main construction.
8. In addition to the requirements for a construction permit, 10 CSR 20-6.200 requires land disturbance activities of one acre or more to obtain a Missouri State Operating Permit to discharge stormwater. The permit requires Best Management Practices sufficient to control runoff and sedimentation to protect waters of the state. Land disturbance permits will only be obtained by means of the Department's ePermitting system available online at [www.dnr.mo.gov/env/wpp/epermit/help.htm](http://www.dnr.mo.gov/env/wpp/epermit/help.htm). See [www.dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm](http://www.dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm) for more information.
9. A United States (U.S.) Army Corps of Engineers (COE) permit (404) and a Water Quality Certification (401) issued by the Department or permit waiver may be required for the activities described in this permit. This permit is not valid until these requirements are satisfied. If construction activity will disturb any land below the ordinary high water mark of Jurisdictional Waters of the U.S. then a 404/401 will be required. Since the COE makes determinations on what is jurisdictional, you must contact the COE to determine permitting requirements. You may call the Department's Water Protection Program at 573-751-1300 for more information. See [www.dnr.mo.gov/env/wpp/401/](http://www.dnr.mo.gov/env/wpp/401/) for more information.

10. A full closure plan shall be submitted to the Department's St. Louis Regional Office for review and approval of any permitted wastewater treatment system being replaced. In accordance with 10 CSR 20-6.010(12), the closure plan must meet the requirements outlined in Standard Conditions Part III of the Missouri State Operating Permit No. MO-0116262. Closure shall not commence until the submitted closure plan is approved by the Department. Form J – Request for Termination of a State Operating Permit, shall be submitted to the Water Protection Program for termination of any existing Missouri State Operating Permit, once closure is completed in accordance with the approved closure plan.
  
11. Upon completion of construction;
  - A. M & M Properties of NE Missouri, Inc. will become the continuing authority for operation, maintenance, and modernization of these facilities;
  - B. Submit the enclosed form Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(D);
  - C. Submit an electronic copy of the “as built” drawings if the project was not constructed in accordance with previously submitted plans and specifications; and
  - D. Submit a Form B - Application for an Operating Permit for Domestic or Municipal Wastewater ( $\leq 100,000$  gallons per day) along with the modification fee.
  - E. When the facility applies for their next operating permit renewal, they will be expected to include an updated facility description on their application.

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

##### **1. AMMONIA**

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

The permittee was informed of EPA's published ammonia criteria during the recent permit renewal process. The operating permit was renewed November 1, 2013. A description of potential revisions to water quality standards resulting from EPA's actions was provided in the Fact Sheet attached to the permittee's operating permit.

##### **2. CONSTRUCTION PURPOSE**

The purpose of this project is to add a disinfection system to the wastewater treatment facility.

### **3. FACILITY DESCRIPTION**

The Lindemann Hometown Court wastewater treatment facility is a four cell lagoon system with a design flow of 25,200 gallons per day. The first two cells of the lagoon system are aerated. The design population equivalent for the system is 252 persons. This construction permit authorizes the addition of a disinfection system for the facility. Disinfection will be provided by chlorination. Dechlorination will also be added as part of the disinfection system. Sludge is retained in the lagoon system.

The disinfection system includes a Jet Chlor Model 110 tablet feeder, 1000 gallon Masterson chlorine contact chamber, and a Norweco Model IT-2000S dechlorinator tablet feeder. The system is designed to accommodate the peak flow of 4,300 gallons per hour.

### **4. COMPLIANCE PARAMETERS**

The purpose of this project is to enable the permittee to comply with the *E. coli* effluent limit of their permit on a routine basis.

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

A flow proportional pellet system was selected for the small wastewater treatment facility, consistent with 10 States Design Standards. The system is designed to accommodate the design peak flow of 4,300 gallons per hour. The 1,000 gallon chlorine contact chamber will provide approximately 14 minutes of contact time at the design peak flow. The lagoon system is substantially oversized resulting in an actual peak flow of approximately 400 gallons per hour.

### **6. OPERATING PERMIT MODIFICATION**

Operating permit MO-0116262 will require a modification to reflect the construction activities. Upon construction completion, submit a modification fee and Form B - Application for an Operating Permit for Domestic or Municipal Wastewater ( $\leq 100,000$  gallons per day).

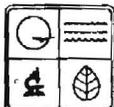
It is expected that the facility owner will include a new facility description in their next operating permit renewal application to reflect the installation of the disinfection system.

Stephen P. Busch, P.E.  
Engineering Section  
[steve.busch@dnr.mo.gov](mailto:steve.busch@dnr.mo.gov)

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AP 19121  
CP0001674

JUL 29 2014



MISSOURI DEPARTMENT OF NATURAL RESOURCES  
WATER PROTECTION PROGRAM  
FORM B: APPLICATION FOR OPERATING PERMIT FOR FACILITIES THAT RECEIVE  
PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW LESS THAN OR  
EQUAL TO 100,000 GALLONS PER DAY

FOR AGENCY USE ONLY	
CHECK NUMBER	1904
DATE RECEIVED	7/29/14
FEE SUBMITTED	\$150.00 RB

PLEASE READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM

1. THIS APPLICATION IS FOR:

An operating permit for a new or unpermitted facility. Construction Permit # X  
(Please include completed antidegradation review or request for antidegradation review, see instructions)

An operating permit renewal: Permit #MO- \_\_\_\_\_ Expiration Date \_\_\_\_\_

An operating permit modification: Permit #MO- 0116262 Reason: Add Chlor & Dechlor

1.1 Is the appropriate fee included with the application (see instructions for appropriate fee)?  YES  NO

2. FACILITY

NAME Lindemann-Hometown Court		TELEPHONE NUMBER WITH AREA CODE (636) 528-7622	
ADDRESS (PHYSICAL) 698 Linns Mill Road	CITY Troy	STATE Mo	ZIP CODE 63379
2.1 Legal description:	NW 1/4, 1/4, 1/4, Sec. 6, T 48, R 1W		County Lincoln
2.2 UTM Coordinates Easting (X): 668828	Northing (Y): 4313151 <i>For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)</i>		
2.3 Name of receiving stream:	unnamed tributary to Coon creek		
2.4 Number of outfalls:	wastewater outfalls	stormwater outfalls	instream monitoring sites

3. OWNER

NAME M & M Properties of NE, Missouri.INC.		EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE (636) 528-7622
ADDRESS 698 Linns Mill Road	CITY Troy	STATE Mo.	ZIP CODE 63379
3.1 Request review of draft permit prior to public notice?	YES <input checked="" type="checkbox"/> NO		
3.2 Are you a publicly owned treatment works?	YES <input checked="" type="checkbox"/> NO		
3.3 Are you a privately owned treatment works?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
3.4 Are you a privately owned treatment facility regulated by the Public Service Commission?	YES <input checked="" type="checkbox"/> NO		

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

NAME Same as owner		EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE
ADDRESS	CITY	STATE	ZIP CODE

If the continuing authority is different than the owner, please include a copy of the contract agreement between the two parties and a description of the responsibilities of both parties within the agreement.

5. OPERATOR

NAME Same as owner	TITLE	CERTIFICATE NUMBER
EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE	

6. FACILITY CONTACT

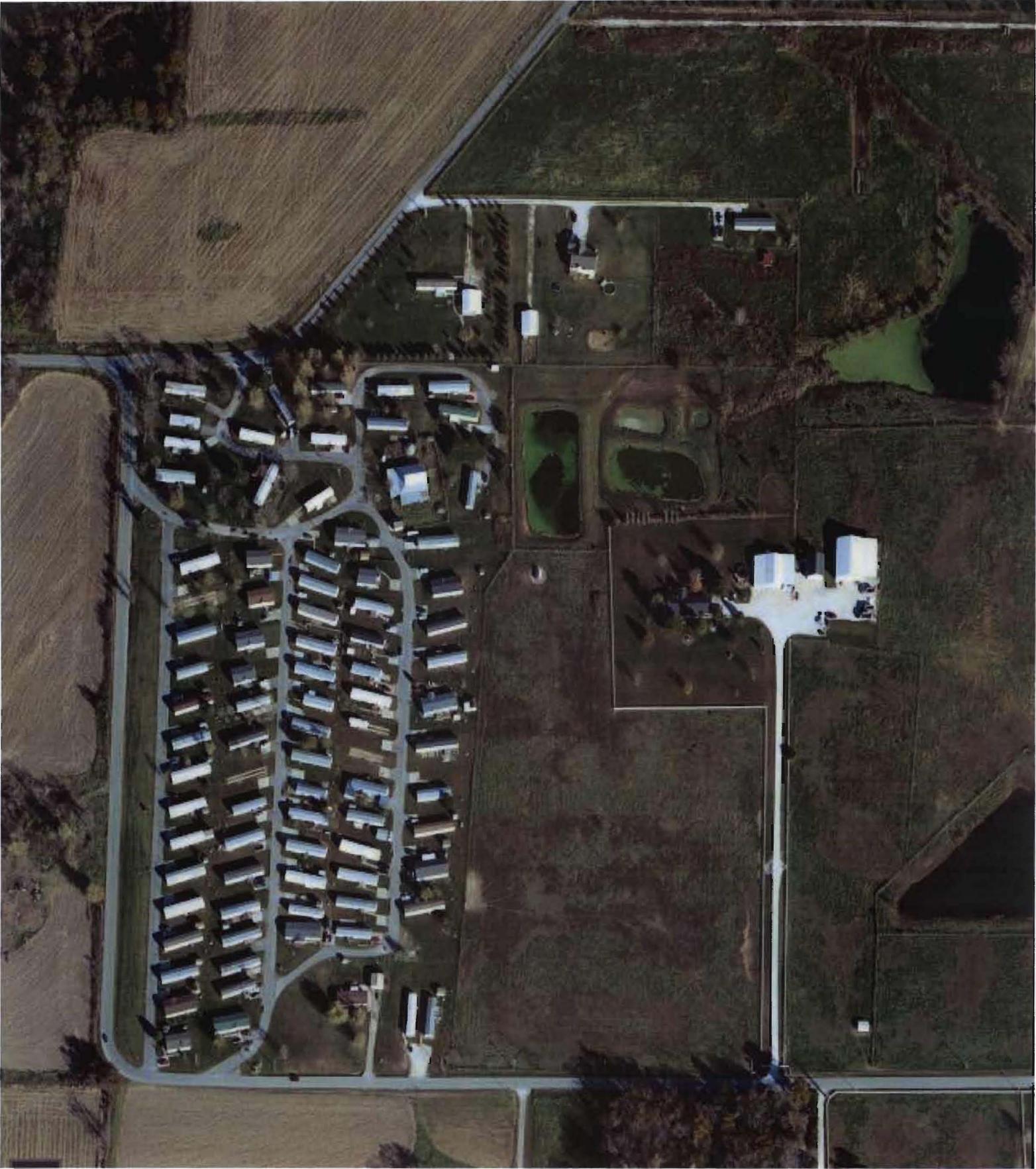
NAME Same as Owner		TITLE	
EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE		
ADDRESS	CITY	STATE	ZIP CODE

**7. DESCRIPTION OF FACILITY**

**7.1 Process Flow Diagram or Schematic:** Provide a diagram showing the processes of the treatment plant. Show all of the treatment units, including disinfection (e.g. – chlorination and dechlorination), influents and outfalls. Indicate any treatment process changes in the routing of wastewater during dry weather and peak wet weather. Include a brief narrative description of the diagram. Attach sheets as necessary.

See aerial photo

**7.2** Attach an aerial photograph or USGS topographic map showing the location of the facility and outfall.



**8. ADDITIONAL FACILITY INFORMATION**

8.1 Facility SIC code: \_\_\_\_\_; Discharge SIC code: \_\_\_\_\_.

8.2 Number of people presently connected or population equivalent (P.E.) \_\_\_\_\_ Design P.E. \_\_\_\_\_

8.3 Connections to the facility:  
Number of units presently connected:  
Homes \_\_\_\_\_ Trailers \_\_\_\_\_ Apartments \_\_\_\_\_ Other (including industrial) \_\_\_\_\_  
Number of commercial establishments: \_\_\_\_\_

8.4 Design flow: 25,000 gpd Actual flow: 9,600 gpd

8.5 Will discharge be continuous through the year?  Yes | No (If yes, explain.)  
Discharge will occur during the following months:  
How many days of the week will discharge occur? 7 days

8.6 Is industrial waste discharged to the facility? \_\_\_\_\_ Yes  No

8.7 Does the facility accept or process leachate from landfills? \_\_\_\_\_ Yes  No

8.8 Is wastewater land applied? Yes  No  
If yes, is Form I attached? Yes No

8.9 Does the facility discharge to a losing stream or sinkhole? \_\_\_\_\_ Yes  No

8.10 Has a wasteload allocation study been completed for this facility? \_\_\_\_\_ Yes  No

**9. LABORATORY CONTROL INFORMATION**

LABORATORY WORK CONDUCTED BY PLANT PERSONNEL

Lab work conducted outside of plant.  Yes  No  
Push-button or visual methods for simple test such as pH, settleable solids. | Yes | No  
Additional procedures such as dissolved oxygen, chemical oxygen demand, biological oxygen demand, titrations, solids, volatile content. | Yes | No  
More advanced determinations such as BOD seeding procedures, fecal coliform, nutrients, total oils, phenols, etc. | Yes | No  
Highly sophisticated instrumentation, such as atomic absorption and gas chromatograph. Yes | No

**10. COLLECTION SYSTEM**

10.1 Length of pipe in the sewer collection system? \_\_\_\_\_ Feet, or \_\_\_\_\_ Miles (either unit is appropriate)

10.2 Does significant infiltration occur in the collection system?  Yes  No  
If yes, briefly explain any steps underway or planned to minimize inflow and infiltration:

**11. BYPASSING**

Does any bypassing occur in the collection system or at the treatment facility?  
If yes, explain:

**12. SLUDGE HANDLING, USE AND DISPOSAL**

12.1 Is the sludge a hazardous waste as defined by 10 CSR 25?  Yes  No

12.2 Sludge production, including sludge received from others: \_\_\_\_\_ Design dry tons/year \_\_\_\_\_ Actual dry tons/year

12.3 Capacity of sludge holding structures:  
 Sludge storage provided: \_\_\_\_\_ cubic feet; \_\_\_\_\_ days of storage; \_\_\_\_\_ average percent solids of sludge;  
 No sludge storage is provided.  Sludge is stored in lagoon.

12.4 Type of Storage:  Holding tank  Building  
 Basin  Lagoon  
 Concrete Pad  Other (Please describe) \_\_\_\_\_

12.5 Sludge Treatment:  
 Anaerobic Digester  Lagoon  Composting  
 Storage Tank  Aerobic Digester  Other (Attach description)  
 Lime Stabilization  Air or Heat Drying

12.6 Sludge Use or Disposal:  
 Land Application  Surface Disposal (Sludge Disposal Lagoon, Sludge held for more than two years)  
 Contract Hauler  Hauled to Another treatment facility  
 Incineration  Sludge Retained in Wastewater treatment lagoon  
 Solid waste landfill

12.7 Person responsible for hauling sludge to disposal facility:  
 By applicant  By others (complete below)

NAME		EMAIL ADDRESS	
ADDRESS	CITY	STATE	ZIP CODE
CONTACT PERSON	TELEPHONE NUMBER WITH AREA CODE	PERMIT NO. MO-	

12.8 Sludge use or disposal facility  
 By applicant  By others (Please complete below.)

NAME		EMAIL ADDRESS	
ADDRESS	CITY	STATE	ZIP CODE
CONTACT PERSON	TELEPHONE NUMBER WITH AREA CODE	PERMIT NO. MO-	

12.9 Does the sludge or biosolids disposal comply with federal sludge regulations under 40 CFR 503?  
 Yes  No (Please explain)

**13. CERTIFICATION**

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

NAME (TYPE OR PRINT) <i>M + M Properties Shirley + MARVIN LINDEMANN</i>	OFFICIAL TITLE <i>Owners</i>	TELEPHONE NUMBER WITH AREA CODE <i>636-528-7622</i>
SIGNATURE <i>M + M Properties Marvin Lindemann Shirley Lindemann</i>		DATE SIGNED <i>7-25-14</i>