MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
FORM W - CONCENTRATED ANIMAL FEEDING OPERATION (CAFO) OPERATING PERMIT APPLICATION

Complete all applicable sections. Instructions for completing the form are located at the end of the form. Sign, date and return the form and all requested documents along with a check for the appropriate permit fee to the Missouri Department of Natural Resources. Make a copy of this completed form and keep it with your nutrient management plan.

PART 1 - PERMIT OWNERSHIP AND CONTACT INFORMATION

1.1 OPERATION NAME
Mulberry Creek Farms, LLC

1.2 OWNER (PROVIDE LEGAL NAME)
Mulberry Creek Farms, LLC

1.3 CONTINUING AUTHORITY (IF DIFFERENT THAN THE OWNER)

PART 2 - PERMIT TYPE AND PERMIT ACTION

2.1 PERMIT TYPE
- [ ] NPDES Site Specific Permit
- [X] NPDES General Permit (MOG01)

2.2 PERMIT ACTION
- [X] New Permit
- [ ] Renewal
- [ ] Modification
- [ ] Ownership Transfer

PART 3 - DESIGN CAPACITY FOR MANURE STORAGE AND ANIMALS OF EACH CAFO FEATURE

3.1 STORAGE STRUCTURE TYPES, AMOUNT OF STORAGE, AND AMOUNT OF MANURE GENERATED PER YEAR.

<table>
<thead>
<tr>
<th>CAFO Feature</th>
<th>Storage Structure Type(s)</th>
<th>Dry Manure Handling System</th>
<th>Wet Manure Handling System</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Design Dry Process Waste (tons/yr.)</td>
<td>Days of Storage</td>
</tr>
<tr>
<td>001</td>
<td>C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>002</td>
<td>C</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.2 LIST EACH TYPE OF ANIMAL IN CONFINEMENT AND THE NUMBER OF EACH ANIMAL TYPE.

<table>
<thead>
<tr>
<th>CAFO Feature</th>
<th>Animal Category #1</th>
<th>Animal Numbers</th>
<th>Animal Category #2</th>
<th>Animal Numbers</th>
<th>Animal Category #3</th>
<th>Animal Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>5</td>
<td>2400</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>002</td>
<td>5</td>
<td>1800</td>
<td>4</td>
<td>800</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PART 4 - OPERATIONAL INFORMATION

4.1 OPERATIONAL INFORMATION (SEE INSTRUCTIONS)

SIC Code(s) 0213
CAFO Class Size IC

4.2 Is this an export-only operation?
- [X] Yes
- [ ] No
Completing PARTS 5 - 11 will meet the requirements of a Nutrient Management Plan (NMP) for an export only operation.

**PART 5 - MANURE STORAGE**

5.1 Do all manure storage structures have adequate storage, and operated and maintained as no discharge? [ ] Yes [ ] No

**PART 6 - ANIMAL MORTALITY**

6.1 PERMANENT METHOD OF DISPOSING OF ROUTINE ANIMAL MORTALITIES.

- [ ] Composting
- [ ] Rendering
- [ ] Send to a Landfill
- [ ] Incineration
- [ ] Other (Describe)

6.2 DESCRIBE METHOD OF MORTALITY HANDLING AND STORAGE THROUGH ALL PHASES TO FINAL DISPOSAL. (EXAMPLE: MORTALITIES ARE COMPOSTED WITHIN 24 HOURS OF DEATH AND FINISHED COMPOST PRODUCT IS STORED UNDER ROOF UNTIL LAND APPLIED. ALSO DESCRIBE THE TYPE OF COMPOST STRUCTURE USED, IF APPLICABLE; MORTALITIES WILL BE REMOVED WITHIN 24 HOURS OF DEATH TO AN ON-SITE HOLDING DUMPSTER OR REFRIGERATION UNIT AND PICKED UP REGULARLY BY A RENDERING TRUCK.

**PART 7 - DIVERSION OF CLEAN WATER**

7.1 Is clean stormwater diverted from the production area? [ ] Yes [ ] No

7.2 IF YES, DESCRIBE CONTROLS AND MEASURES USED TO DIVERT STORMWATER. Buildings prevent stormwater from entering animal production area. Site is graded to divert storm water away from buildings.

7.3 IF NO, DESCRIBE HOW CONTAMINATED STORMWATER IS CONTAINED AND INCLUDE THE STORAGE CAPACITY OF THE CONTAINMENT IF NOT PREVIOUSLY PROVIDED.

**PART 8 - PREVENT DIRECT CONTACT OF ANIMALS WITH SURFACE WATERS**

8.1 Do the animals have access to waters of the state within the production area? [ ] Yes [ ] No

8.2 LIST MEASURES USED TO PREVENT CONFINED ANIMAL FORM HAVING DIRECT CONTACT WITH WATERS OF THE STATE. Animals are confined in buildings.

**PART 9 - CHEMICAL HANDLING**

9.1 Check the appropriate box below to indicate method for handling and disposal of chemicals used by the operation:

- [ ] Chemicals are stored, handled, and disposed of according to manufacturer labels.
- [ ] Chemical storage and handling areas are protected from precipitation and runoff, and any spillage is contained within these areas.
- [ ] Emergency procedures and equipment are in place to contain and clean up chemical spills.
- [ ] Equipment wash areas are designed and constructed to prevent contamination of surface waters.
- [ ] No chemicals are stored or handled in the production area.

**PART 10 - MANURE ANALYSIS TESTING**

10.1 LIST EACH TYPE OF MANURE SOURCE. (E.g., MANURE, LITTER, COMPOST, WASTE WATER.)

- Manure pit wastewater.

10.2 DESCRIBE PROCEDURES FOR ENSURING EACH MANURE SOURCE IS TESTED ANNUALLY.

- Manure is collected in bottles from several locations at each storage location. The samples are then combined into a bulk sample for testing.

**PART 11 - RECORD KEEPING**

11.1 Are records of all inspections, manure transfers, discharges and land application maintained? [ ] Yes [ ] No

**PART 12 - SIGNATURE**

**NAME:** Scott Phillips  
**TITLE:** Member  
**SIGNATURE:** Scott Phillips  
**DATE:** 3/16/18

**Part 13 - Engineer Certification**

House Bill 28, which became effective Aug 28, 2013, contained provisions that changed construction permitting requirements. Construction permits are required for the construction of an earthen storage structure to hold, convey, contain, store, or treat domestic, agricultural, or industrial process wastewater. Construction of all other point source systems designed to hold, convey, contain, store, or treat domestic, agricultural, or industrial process waste must be designed by a professional engineer registered in Missouri in accordance with design regulations.

**Operation Name:** Mulberry Creek Farms, LLC  
**Address:** 6100 E. State Rd. A  
**City:** Deserl, MO 64742

**Engineer Firm:** Allied Engineering Services  
**Address:** P.O. Box 29  
**City State Zip Code:** Bowling Green, MO 63334

I, Project Engineer, certify that above described systems have been designed in accordance with Missouri CAFO design regulations in 10 CSR 20-8.300

**PROJECT ENGINEER SIGNATURE:**

[Signature]

**STATE OF MISSOURI**

**CERTIFICATE NUMBER:** E-28664

[Stamp]
PIT BARN CALCULATION SHEET
Mulberry Creek Farms, LLC
Gestation Barn w/Farrowing

Calculation of Available Volume in 10' Deep Pit Barn:
   Effective Inside width of pit = 139'6"
   Inside length of pit = 347'6"
   Useable Depth = 9'
   Volume at 9' deep = 139'6" X 347'6" X 9' = 436,286 cu ft = 3,263,421 gallons

Calculation of waste volume stored in 10' Deep Pit Gestation Barn:
   From MWPS 18, Table 7

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farrowing</td>
<td>600</td>
<td>11500</td>
<td>1,378.5</td>
<td>827,115</td>
</tr>
<tr>
<td>Gestation</td>
<td>1800</td>
<td>9100</td>
<td>1,090.8</td>
<td>1,963,500</td>
</tr>
</tbody>
</table>

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2,790,615</td>
</tr>
</tbody>
</table>
PIT BARN CALCULATION SHEET
Mulberry Creek Farms, LLC
Gilt Development Barn w/Nursery

Calculation of Available Volume in 10' Deep Pit Barn:
   Effective Inside width of pit = 119'8"
   Inside length of pit = 160'8"
   Useable Depth = 7'
   Volume at 7' deep = 119'8" X 160'8" X 7' = 134,572 cu ft = 1,006,599 gallons

Calculation of waste volume stored in 8' Deep Pit GDU:
   From MWPS 18, Table 7

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
<th>lbs/yr/hd</th>
<th>gal/yr/hd</th>
<th>gallyr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gilts</td>
<td>1800</td>
<td>3500</td>
<td>419.6</td>
<td>755,192</td>
</tr>
<tr>
<td>Nursery</td>
<td>800</td>
<td>1000</td>
<td>119.9</td>
<td>95,897</td>
</tr>
</tbody>
</table>

851,090
MULBERRY CREEK FARMS, LLC
NARRATIVE SUMMARY OF DESIGN

This facility is located in the SE ¼ of Section 4, Township 40N, Range 33W, in Bates County Missouri. This farm is a three building sow farm producing weaned pigs. The farm will include the construction of a new 191' wide x 222'8" long farrowing barn, a 141'10" wide x 349' long breeding/gestation barn and a 121'10" wide x 197' long gilt development (GDU) barn. Proposed animal numbers are 600 sows & litters, 1,800 breeding/gestating sows & boars, 1,800 gilts and 800 nursery pigs. An office will be constructed on the north side of the farrowing barn.

All barns are slatted type buildings where hog manure generated from production falls beneath the floor into concrete pits. The farrowing barn has a two-foot deep pit which is periodically drained to the adjacent breeding/gestation barn via a permanent sewer pipe under-ground. The breeding/gestation barn has a 10' deep-pit and the gilt development/nursery barn has an 8' deep-pit which stores the manure laden wastewater until it can be pumped to nearby farm fields.

The proposed farm will be designed and constructed to meet the current standards of the Missouri Department of Natural Resources. The entire nutrient handling and storage structures operate as a no discharge system. Dead animals will be removed to a rendering plant.

The plugs in the farrowing barn are pulled approximately once per week. The building pits are not recharged which is typical in farms operated in this manner. The total calculated manure and process water expected to be collected and stored in the gestation barn pit from the farrowing and gestation barns based on MWPS 18 table 7 is 2,790,615 gallons.

The nursery is drained to the GDU deep-pit. The gilts are housed over the 8 foot deep-pit. The total calculated manure and process water collected and stored in the GDU barn pit is 851,090 gallons.

Land Application
The land application system will employ drag hoses with an injection system, an irrigation pump and tankwagon to apply wastewater to the land application areas. It is typical to employee custom applicators to apply all wastewater. All waste nutrients will be exported off the farm.

Dead Animals
Dead animals will be disposed of in accordance with the Missouri Department of Agriculture regulations. Dead animals from this operation will be taken to a rendering facility.

Clean Water Diversion
This farm is graded to divert storm water away from buildings, animal confinement areas and manure storage areas.

A potential source of unplanned waste from animal confinement facilities is from storm water coming into contact with pollutants. The pollutants that could potentially contaminate the water are the hogs, manure, mortalities, feed, diesel fuel, and oils and lubricants for farm equipment. All of these potential pollutants are kept under roof at this farm. They do not come into contact with clean rain water or add to the contaminated waste on the farm.

A common way for clean water to become contaminated is by contacting ventilated dust on the ground around the barn. To treat rainwater that becomes contaminated by this dust, the barn will be
surrounded by grass. The grass acts as a filter and helps prevent erosion around the barns reducing suspended solids in the runoff.

Other operations at this farm that could potentially contribute to exposed pollutants are the loading and unloading of pigs, feed, manure, and mortalities. When these sources are handled messes can occur. Care should be taken to not create a mess around the door of the barns, the manure pumping ports, or at the base of the feed bins. When messes occur during these operations they will be cleaned up immediately.

**Prevention of Direct Contact of Confined Animals to Waters of the State**

All confined animals are housed under roof in buildings with no outside access. They have no direct access to waters of the state.

**Chemical Handling**

If checked, the indicated measures will be taken to prevent chemicals and other contaminants from contaminating process waste water or storm water storage and treatment systems.

<table>
<thead>
<tr>
<th>Measure</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>All hog farm chemicals are stored in proper containers. Expired chemicals and empty containers are properly disposed of in accordance with state and federal regulations.</td>
<td>X</td>
</tr>
<tr>
<td>Chemical storage areas are self-contained with no drains or other pathways that will allow spilled chemicals to exit the storage area.</td>
<td>X</td>
</tr>
<tr>
<td>Chemical storage areas are covered to prevent chemical contact with rain or snow.</td>
<td></td>
</tr>
<tr>
<td>Emergency procedures and equipment are in place to contain and clean up chemical spills.</td>
<td></td>
</tr>
<tr>
<td>Chemical handling and equipment wash areas are designed and constructed to prevent contamination of surface waters and waste water and storm water storage and treatment systems.</td>
<td></td>
</tr>
</tbody>
</table>

This is not a regulatory-agency permitted facility. This section does not apply.