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**

<table>
<thead>
<tr>
<th>1.1 OPERATION NAME</th>
<th>CURRENT PERMIT NUMBER</th>
<th>COUNTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nalle Piggery at Cypress Creek, LLC</td>
<td>MO-</td>
<td>Daviess</td>
</tr>
</tbody>
</table>

**PHYSICAL ADDRESS**
Hwy C and Granite Ave.

**CITY**
Pattonsburg

**LEGAL DESCRIPTION**
Sec.: 29 Twn.: 61 Rng.: 28

**TELEPHONE NUMBER**
660-663-5372

**1.2 OWNER (PROVIDE LEGAL NAME):**
Nalle Piggery at Cypress Creek, LLC

**MAILING ADDRESS**
15999 160th Street

**CITY**
Pattonsburg

**STATE**
MO

**ZIP CODE**
64670

**EMAIL ADDRESS**
mattNalle@icloud.com

**1.3 CONTINUING AUTHORITY (IF DIFFERENT THAN THE OWNER):**

**MAILING ADDRESS**

**CITY**

**STATE**

**ZIP CODE**

**PART 2 – PERMIT TYPE AND PERMIT ACTION**

<table>
<thead>
<tr>
<th>2.1 PERMIT TYPE</th>
<th>2.2 PERMIT ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ NPDES Site Specific Permit</td>
<td>☑ New Permit</td>
</tr>
</tbody>
</table>

Request review of draft permit prior to public notice. ☐ Yes ☐ No

| ☐ NPDES General Permit (MOG01) | Permit fees may be payed online by credit card or eCheck through a system called JetPay. Use the URL provided to make an online payment. |

| ☑ State No-Discharge General Permit (MOGS1) |

| ☐ Renewal |

| ☐ Modification |

| ☐ Ownership Transfer |

<table>
<thead>
<tr>
<th>PREVIOUS OWNERS NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
</tr>
<tr>
<td>City State Zip Code</td>
</tr>
<tr>
<td>Signature Date</td>
</tr>
</tbody>
</table>

*See instructions for additional requirements and documents for the request permit action.

Permit fees may be payed online by credit card or eCheck through a system called JetPay. Use the URL provided to access JetPay and make an online payment. Modification fee: https://magic.collectorsolutions.com/magic-ui/payments/mo-natural-resources/596/"
### 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>Permitted Feature</th>
<th>Storage Structure Type(s)</th>
<th>Storage Design Dry Process Waste (tons/yr.)</th>
<th>Days of Storage</th>
<th>Total Storage Capacity (gal)</th>
<th>Design Wastewater per Year (gal/yr.)</th>
<th>Days of Storage</th>
<th>Design Flow MGD</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>C</td>
<td>3,448,912</td>
<td></td>
<td></td>
<td>2,459,648</td>
<td></td>
<td>257,007</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Permitted Feature</th>
<th>Animal Category #1 Numbers</th>
<th>Animal Category #2 Numbers</th>
<th>Animal Category #3 Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>4</td>
<td>19,200</td>
<td></td>
</tr>
<tr>
<td>002</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>003</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>004</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>005</td>
<td></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: 1C

#### 4.2 Is this an export-only operation?

- 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)

Mortalities are composted within 24 hours of death and finished compost is stored on concrete until land applied.

### 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.

- Diversion swales and berms are used to control the path of stormwater

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 the buildings

### PART 9 - CHEMICAL HANDLING

9.1 Are chemicals and other contaminants handled, managed, stored, and disposed of in accordance with 10 CSR 20-6.300(5)(E)? [ ] Yes [ ] No

### PART 10 - MANURE ANALYSIS TESTING

10.1 List each type of manure source to be tested annually (e.g., manure, litter, compost, waste water)

- Two deep pit buildings

10.2 Describe procedures for ensuring each manure source is tested annually.

- The operator will keep a log book that will track his annual collection dates for testing a laboratory

### PART 11 - RECORD KEEPING

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

MO 782-2112 (09/19)
## PART 12 – CERTIFICATION

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.

<table>
<thead>
<tr>
<th>NAME</th>
<th>Nalle Piggery at Cypress Creek, Wendy Nalle</th>
</tr>
</thead>
<tbody>
<tr>
<td>TITLE</td>
<td>Owner</td>
</tr>
<tr>
<td>SIGNATURE</td>
<td>Wendy Nalle</td>
</tr>
<tr>
<td>DATE</td>
<td>March 18, 2020</td>
</tr>
</tbody>
</table>

## PART 13 – ENGINEER CERTIFICATION

As of Aug. 28, 2013, construction permits are only 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.

<table>
<thead>
<tr>
<th>Operation Name</th>
<th>Nalle Piggery at Cypress Creek, LLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>15999 160th Street</td>
</tr>
<tr>
<td>City</td>
<td>Pattonsburg MO 64670</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Engineer Firm</th>
<th>Francis Engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>4 Matterhorn Ct</td>
</tr>
<tr>
<td>City State Zip Code</td>
<td>O'Fallon Mo 63366</td>
</tr>
</tbody>
</table>

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 |                                     |
|----------------------------|                                     |

[Registered Professional Engineer Seal]
Narrative Summary of Design:

This facility is located in the Section 29, Township 61 N, Range 28 W, in Daviess County Missouri. The facility will house 19,200 head swine nursery pigs utilizing two 9,600 head buildings. The buildings will be 85.5 feet wide by 401 feet long. The average weight of the pigs will be 34 pounds.

This is a Class IC CAFO with a total of 1,920 AUs.

The new buildings will be utilizing 8 feet deep pits. The hog manure will fall through the slatted floor into the pits. This site is an export site for the manure generated.

The proposed facility will be designed and constructed to meet the current standards of the Missouri Department of Natural Resources. The facility will be a no discharge site.

A volume of 200 gallons per day per each building was added to compensate for domestic waste, wash water clean up and wasted water from leaking drinking fountains, etc. Water will be supplied by a new lake.

Dead Animals

This facility anticipates a mortality rate of 3.4 percent. All mortalities will be handled according to Missouri Department of Natural Resources by means of a composter with a concrete floor. The location of the composter is shown on the site plan.

Clean Water Diversion

There is no extraneous runoff introduced into the system. The land around the facility will be graded to prevent any stormwater from entering the manure storage area and composter area.

All pollutants are kept under roof and will not come into contact with clean rainwater, thereby preventing them from becoming a potential source of unplanned waste.

The entire area around the facility will be covered with grass in order to act as a filter to prevent erosion and reduce any suspended solids.

The facility operator shall exercise caution to not produce pollutants around doorways, feed bins and pump-out ports. All pollutants created at these locations shall be cleaned up immediately.

Prevention of Direct Contact of Confined Animals to Water of the State

All confined animals are housed under roof in the buildings with no outside access. They will have no access to waters of the State.
MANURE CALCULATIONS
Nalle Piggery at Cypress Creek, LLC

FACILITIES:

New 19,200 head nursery facility over two deep pit buildings

LIQUID MANURE FROM NEW FACILITY:

Per MWPS 18, Table 7: Manure Production for Nursery = 1,000 lbs/yr/hd

1,000 lbs/yr/hd / 62 = 16.1 cu ft/yr/hd

9,600 head x 16.1 cu ft/yr/hd = 154,560 cu ft/yr

Wasted water @ 200 gal/day = 27 cu ft/day 9,855 cu ft/yr

Annual volume waste 154,560 + 9,855 = 164,415 cu ft/yr

164,415 cu ft x 7.48 g/cu ft = 1,229,825 gal per year per building

Total Manure Produced: 1,229,825 x 2 = 2,459,648 gals per year for two buildings

STORAGE PROVIDED:

83.5' x 399' x 7' deep = 233,216 cu ft

233,216 cu ft x 7.48 gal/cu ft = 1,744,456 gals per building

Total Storage Provided 1,744,456 x 2 = 3,488,912 gals

257 days storage provided
NALLE PIGGERY at CYPRESS CREEK, LLC
General Area Plan and Neighbor Notice Map
Nalle Piggery at Cypress Creek, LLC

Flood Map
NALLE PIGGERY CYPRESS CREEK LLC
BUILDING 1
TOPOGRAPHIC MAP
NALLE PIGGERY CYPRESS CREEK, LLC
BUILDING 2
TOPOGRAPHIC MAP
OPERATION AND MAINTENANCE PLAN

**Project Description:**

The facility addressed in this application will have two 9,600 head swine nursery buildings. The pigs will come into the facility at approximately 13 pounds and will leave at 54 pounds. The average weight of the hogs will be 34 pounds.

**Manure Removal:**

All buildings are total confinement with slatted floors over a deep pit. This facility will be an export facility.

Water for personal use i.e., showers, washer, restroom and animal drinking water will be provided by a well.

**Design Parameters:**

The design will provide a minimum storage of 257 days' supply of materials produced. Operation of this facility will be within the required design parameter used in determining the required size for this system.

**General:**

Management of mortalities (i.e., dead animals) shall ensure that they are not disposed of in a liquid manure, storm water, or process wastewater storage or treatment system that is not specifically designed to treat animal mortalities;

Direct contact of confined animals with waters of the state shall be prohibited

Chemicals and other contaminants handled on-site shall not be disposed of in any manure or storm water storage or treatment system

Site specific conservation practices shall be implemented, including as appropriate buffers or equivalent practices, to control any runoff of pollutants to waters of the state;

Testing of manure shall follow DNR requirements.

Periodic mowing is necessary to prevent potential environmental problems, and to improve aesthetics.
CONSTRUCTION SPECIFICATIONS

1. The contractor shall be responsible for locating all underground utilities prior to construction. The contractor shall be responsibility for any damage caused to utilities during construction.

2. The buildings will be rough staked by the engineer. The contractor shall be responsible for staking the building per the plans.

3. The contractor shall perform a complete grading and compaction operation as shown on the plans, stated in these notes or reasonably implied there from, all in accordance with the plans and notes as interpreted by the Engineer. Any deviation from the plans must be approved by the Engineer.

4. A sediment control plan as outlined in the attached SWPPP shall be implemented prior to any construction. Care should be exercised to prevent soil from damaging adjacent property and silting up existing downstream storm drainage structures. The contractor is responsible to ensure all siltation devices are installed and maintained per DNR specifications.

5. Site preparation includes the clearance of all stumps, trees, bushes and weeds, the grubbing and removal of roots and other surface obstructions from the site. The material shall be disposed of off site. Topsoil and grass in the fill area shall be thoroughly disced prior to the placement of any fill.

6. Fill shall be placed in successive horizontal lifts uniformly distributed over the full width of the fill area. Each lift shall not exceed 6 inches and compacted to 90% Proctor Density. All fill areas beneath the buildings shall be compacted to 95% proctor Density. Fill shall not contain frozen materials, sod, brush, rocks over 3' in diameter, or any other type of debris.

7. No compaction shall take place adjacent to concrete walls or flatwork until 7 days have passed. All backfill placed along building shall be done by smaller, lighter equipment. No heavy equipment shall be within 10 feet of any new walls.

8. The new entrance road shall be constructed of six inches of crushed stone aggregate. Fabric may be required. See swine supplier specifications. The subgrade shall be removed and scarify 6” deep and recompackted to 95% Proctor Density.

9. No slope shall be steeper than 3:1. All disturbed slopes shall be seeded and mulched.
STORM WATER POLLUTION PREVENTION PLAN

PROJECT NAME & LOCATION:

Nalle Piggery at Cypress Creek, LLC
ATTN: Matt Nalle
15999 160th Street
Pattonsburg MO 64670

The project consists of two new swine nursery buildings.

Soil disturbing activities include: clearing and grubbing, installing erosion and sediment controls; grading; excavation for the sediment pond; storm water diversion; truck turn and parking area; and preparation for final planting and seeding.

RUNOFF COEFFICIENT:

The final coefficient of runoff for this site will be $C = 0.1$ to $0.3$.

SITE AREA:

Approximately 4.8 acres will be disturbed by construction activity.

SEQUENCE OF ACTIVITIES:

Order of activities will be as follows:

1. Install stabilized construction entrance.
2. Clear and grub for earth dike and sediment basin.
3. Install earth dike.
4. Install sediment control fence or equivalent controls along all side slopes and down slope boundaries as depicted on the plan.
5. Continue clearing and grading.
7. Stabilize denuded areas and stockpiles within 14 days of last construction activities.
8. Apply stone to parking and road areas.
10. Complete final grading and install permanent seeding and plantings.
11. When all construction is completed and site stabilized, remove earth dike and sediment and reseed any disturbed areas.

CONTROLS:

Stabilization Practices:
Temporary Stabilization- Top soil stockpiles and disturbed areas of the site where construction activity temporarily ceases for at least 21 days will be stabilized with temporary seed and mulch no later than 14 days from the last construction activity in that area. The temporary seed shall be Rye (grain) applied at the rate of 120 pounds per acre. Prior to seeding, 2000 pounds of ground ag lime and 1,000 pounds of 12-12-
12 fertilizer shall be applied to each acre to be stabilized. After seeding, each area shall be mulched with 4000 pounds of straw per acre. The straw mulch is to be tacked into place by a disk with blades set nearly straight.

Permanent stabilization - Disturbed areas of the site where construction activities permanently cease shall be stabilized with permanent seed no later than 14 days after the last construction activity. The permanent seed mix shall consist of 80 lbs/ac tall fescue and 40 lbs/ac kobe lespedeza. Prior to seeding, 4000 lbs/ac of ag lime and 2000 lbs/ac of 12-12-12 fertilizer shall be applied to each acre to be stabilized. After seeding each area shall be mulched with 4000 pounds per acre of straw. The straw mulch is to be tacked into place by a disk with the blades set nearly straight.

Storm Water Management:

Storm water drainage will be provided by diversion terraces around and sloping the finish grades away from the building. The areas which are not developed will be graded to a slope of less than 0.5:1 and have permanent seeding.

Waste Disposal:

All waste materials will be collected and stored in dumpsters. All sanitary waste will be collected from the portable units as required by local regulations.

TIMING OF CONTROLS/MEASURES:

As indicated in the Sequence of Major Activities, the earth dike and sediment basin will be constructed prior to clearing or grading of any other portions of the site. Areas where construction activity ceases for more than 21 days will be stabilized with temporary seedings and mulch within 14 days of the last disturbance. Once construction activity ceases permanently in an area, that area will be stabilized with permanent seed and mulch. After the entire site is stabilized, the accumulated sediment will be removed from the trap and the earth dike will be removed.

CERTIFICATION OF COMPLIANCE:

This storm water pollution prevention plan reflects State and local requirements for storm water management and erosion and sediment control. To ensure compliance, this plan was prepared in accordance with "EPA Guideline Storm Water Management for Construction Activities Developing Pollution Prevention Plans and Best Management Practices".

MAINTENANCE / INSPECTION PROCEDURES:

Inspection and Maintenance practices to be used.

All control structures will be inspected at least once a week and following any storm event of 0.5 inches of greater.

All measures will be maintained in good working order; if repair is necessary it will be initiated within 24 hours of report.

Built up sediment will be removed from silt fence when it has reached 1/3 the height of the straw
bales or fence.

The sediment basin will be inspected for depth of sediment and any built up sediment will be removed when it reaches 10 percent of the basin capacity or at the end of the job.

Diversion dikes will be inspected, and any breaches will be promptly repaired.

Temporary and permanent seeding will be inspected for bare spots and washouts.

NON-STORM WATER DISCHARGE:

It is expected that the following non-storm water discharges will occur during construction.

Uncontaminated groundwater from dewatering excavations.

All non-storm water discharges will be directed to the sediment basin prior to discharge.

SPILL PREVENTION:

Good Housekeeping:

An effort will be made to store only enough material to do the job.

All material stored outside will be stored in a neat orderly manner in appropriate containers and under roof if possible.

Products will be kept in their original containers with manufacturers label.

Whenever possible all product will be used up before disposing of the container.

Manufacturers' recommendation for proper use and disposal will be followed.

Hazardous Products:

These practices are used to reduce risks associated with hazardous materials.

Products will be kept in original containers unless they are not resealable.

Original labels and material safety data will be retained on site.

If surplus product must be disposed of, manufacturers' or state recommended methods for proper disposal will be followed.

Petroleum Products:

All onsite vehicles will be monitored for leaks and receive preventive maintenance to reduce the chance of leaks. Petroleum products will be stored in tightly sealed and labeled containers. Any asphalt products used on site will be applied according to the manufacturers' recommendations.
Fertilizers:

Fertilizers used will be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer will be worked into the soil to limit exposure to storm water. Storage will be in a covered shed. The contents of any partially used bags will be transferred to a sealable plastic container to avoid possible spills.

Spill Control Practices:

Good housekeeping and material management practices discussed in the previous sections of this plan as well as common sense is to be used in case of any spills.
WORKSHEET
SOIL-PLANT FILTER FOR SWINE COMPOST

Farrow-to-finish _______ Farrow only _______ Farrow nursery _______ Nursery only ___ X ___ Finish Only ________

1. Calculate weight of mortality composted annually.
Use actual mortality weights and percentages if known. Table 1 gives values.

1a. Sow Herd - Farrowing, Breeding, and Gestation

\[
\text{# sows} \times \% \text{ mortality} \times \text{avg wt mortality, lbs} \div 100,000 = \text{Kwt composted}
\]

1b. Nursery Pigs

\[
\text{# nursery pig spaces} \times \% \text{ mortality} \times \text{avg wt mortality, lbs} \times \text{turns/yr} \div 100,000 = \text{72.134 Kwt composted}
\]

1c. Finishing Pigs

\[
\text{# finishing pig spaces} \times \% \text{ mortality} \times \text{avg wt mortality, lbs} \times \text{turns/yr} \div 100,000 = \text{Kwt composted}
\]

1d. Total weight of carcass composted annually.
Total thousand weights composted annually =

\[
1a \quad 0
\]

\[
+ 1b \quad 72.134
\]

\[
+ 1c
\]

\[
= \quad 72.1 \text{ Kwt}
\]

---

TABLE 1. AVERAGE WEIGHTS AND PERCENT MORTALITY IN SWINE PRODUCTION

<table>
<thead>
<tr>
<th>PRODUCTION PHASE</th>
<th>WEIGHT RANGE LBS</th>
<th>AVG. WT LBS.</th>
<th>% MORTALITY*</th>
<th>Turns / Yr*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Low</td>
<td>Avg</td>
</tr>
<tr>
<td>Sow herd, F+B+G</td>
<td>350 - 400</td>
<td>375</td>
<td>2.7</td>
<td>6.8</td>
</tr>
<tr>
<td>Nursery</td>
<td>13 - 50</td>
<td>32</td>
<td>1.4</td>
<td>3.4</td>
</tr>
<tr>
<td>Wean-To-Finish</td>
<td>12 - 250</td>
<td>135</td>
<td>1.7</td>
<td>4.2</td>
</tr>
<tr>
<td>Finishing</td>
<td>50 - 250</td>
<td>150</td>
<td>1.7</td>
<td>4.2</td>
</tr>
</tbody>
</table>

*Data taken with permission from Pig Champ (division of Swine Graphics, Webster City, IA) database of performance statistics for swine. Low, average, and high represent the 10th, 50th and 90th percentiles of performance respectively.
2. Calculate nitrogen produced in finished compost annually.

\[
\text{kwt composted annually (1d) } 72.1 \times 18 \text{ lb N/Kwt} = 1298.4 \text{ lb N in finished compost.}
\]

3. Calculate acres soil-plant filter for finished compost (conservative approach - 100 lbN/acre)

\[
\text{Nitrogen in finished compost (2) } 1298.4 \text{ lbN} / 100 \text{ lbN/acre} = 13.0 \text{ acres soil-plant filter for compost}
\]

4. Estimate weight and volume of finished compost produced annually

\[
\text{Kwt composted annually (1d) } 72.1 \times (1-%\text{recycled } /100) \times 1 \text{ ton finished compost / Kwt} = 36.1 \text{ tons finished compost}
\]

*% recycled is the percentage of finished compost used to replace sawdust in the composting recipe. Experience suggests up to 50% of the sawdust requirements may be finished compost.

\[
\text{Tons finished compost } 36.1 \times 2000 \text{ lb / ton} / 30 \text{ lb / cu ft} = 2404.5 \text{ cu ft finished compost}
\]

\[
\text{Cu Ft finished compost } 2404.5 / 27 \text{ cu ft / cu yd} = 89.1 \text{ cu yd finished compost}
\]

5. Calculate acres soil-plant filter for manure (conservative approach - 100 lb N/acre)

\[
\text{# sows } 0 \times \text{avg wt lbs} / 1000 = 0 \text{ Kwt}
\]

\[
\text{# nursery pigs } 9600 \times \text{avg wt lbs} / 1000 = 336 \text{ Kwt}
\]

\[
\text{# finishing pigs } \times \text{avg wt lbs} / 1000 = \text{Kwt}
\]

\[
\text{Total} = 336 \text{ Kwt}
\]

\[
\text{acres soil-plant filter for manure} = \text{total Kwt } 336.0 \text{ / 5 Kwt/acre} = 67.2 \text{ acres}
\]

(See PAN Calcs)

6. Calculate total soil-plant filter area for compost and manure

\[
\text{Compost soil-plant filter, acres (3) } 13.0 \text{ + manure soil-plant filter, acres (5) } 67.2 \text{ = 80.2 total soil-plant filter, acres}
\]
SWINE COMPOSTER WORKSHEET

1. Calculate weight of carcasses composted. Use data from actual experience, or use Table 2.

   Sow Herd
   # sows x avg wt x % (Table 2) / 100 = lbs loss/yr
   ______________ x ______________ lbs. x __________ / 100 = 0 lbs./yr

   Nursery
   # pig spaces x avg wt x % (Table 2) / 100 = lbs loss/yr
   ______________ x ______________ lbs. x __________ / 100 = 11097.6 lbs./yr

   Finishing
   # pig spaces x avg wt x % (Table 2) / 100 = lbs loss/yr
   ______________ x ______________ lbs. x __________ / 100 = 0 lbs./yr

   Total = 11097.6 lbs./yr

   lbs. Composted daily = (lbs/yr) / 365
   = ______________ lbs/yr / 365 = 30.4 lbs./day

2. Calculate primary and secondary bin volume.

   lbs composted daily (Step 1) x 20 = primary bin volume, cu ft
   ______________ lbs./day x 20 = 608 cu ft primary bin volume

   lbs composted daily (Step 1) x 20 = secondary bin volume, cu ft
   ______________ lbs./day x 20 = 608 cu ft secondary bin volume

3. Calculate bin area (use volumes from Step 2).

   bin volume, cu ft / depth (usually 5 - 6 ft) = bin area, sq ft
   ______________ cu ft / __________ __________ ft = __________ sq ft primary bin

   bin volume, cu ft / depth (usually 5 - 6 ft) = bin area, sq ft
4. Calculate number of bins (at least 3 bins required).

   primary bin area (Step 3) / (100 - 200 sq ft / bin) = # bins

   \[
   \frac{111 \text{ sq ft}}{100 \text{ sq ft / bin}} = 1.1 \text{ primary bins}
   \]

   secondary bin area (Step 3) / (100 - 200 sq ft / bin) = # bins

   \[
   \frac{111 \text{ sq ft}}{100 \text{ sq ft / bin}} = 1.1 \text{ secondary bins}
   \]

   Use 3 Bins

5. Calculate bin dimensions.

   bin depth = composting depth (usually 5 - 6 ft) = 5.5 ft depth

   bin width = loader bucket width + 2 ft or wider = 5.5 ft width

   bin length = bin area (Step 3) / bin width

   \[
   \frac{111 \text{ sq ft}}{5.5 \text{ ft}} = 20 \text{ ft length}
   \]

6. Calculate annual sawdust requirements.

   lbs composted / yr (Step 1) x 0.0037 = cu yd sawdust / yr

   \[
   11097.6 \text{ lbs / yr} \times 0.0037 = 41 \text{ cu yd sawdust / yr}
   \]
<table>
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<th>Sender: Complete This Section</th>
<th>Complete This Section on Delivery</th>
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<tr>
<td><strong>Summers Heritage Farms, LLC</strong>&lt;br&gt;5105 Cook Road&lt;br&gt;St. Joseph, MO 64505</td>
<td><strong>Norma Bea Gardner</strong>&lt;br&gt;1724 Thornton St.&lt;br&gt;Leavenworth, KS 66048</td>
<td><strong>Vince &amp; Mary Williams</strong>&lt;br&gt;6685 Taylor Makenzye Court&lt;br&gt;Oak Hill, VA 20171</td>
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<tr>
<td><strong>Larry Vaughen</strong>&lt;br&gt;21186 State Highway C&lt;br&gt;Pattonsburg, MO 64670</td>
<td></td>
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1. Complete items 1, 2, and 3.<br>2. Print your name and address on the reverse so that we can return the card to you.<br>3. Attach this card to the back of the mailpiece, or on the front if space permits.

**Complete Items 1, 2, and 3.**

**Print your name and address on the reverse so that we can return the card to you.**

**Attach this card to the back of the mailpiece, or on the front if space permits.**

---

**Complete This Section on Delivery**

- **A. Signature**
- **B. Received by (Printed Name)**
- **C. Date of Delivery**
- **D. Is delivery address different from Item 1?**
  - **Yes**
  - **No**

**Complete This Section on Delivery**

- **A. Signature**
- **B. Received by (Printed Name)**
- **C. Date of Delivery**
- **D. Is delivery address different from Item 1?**
  - **Yes**
  - **No**

**Complete This Section on Delivery**

- **A. Signature**
- **B. Received by (Printed Name)**
- **C. Date of Delivery**
- **D. Is delivery address different from Item 1?**
  - **Yes**
  - **No**

---

**Domestic Return Receipt**

- **Form 3811, July 2015 PSN 7530-02-000-9053**
- **Form 3811, July 2015 PSN 7530-02-000-9053**
- **Form 3811, July 2015 PSN 7530-02-000-9053**
Complete items 1, 2, and 3.
Print your name and address on the reverse so that we can return the card to you.
Attach this card to the back of the mailpiece, or on the front if space permits.

Steinhart Farms, LLC
111 S. Oak Ave
Chandler, OK 74834

Daviess County Commission
102 N Main Street
Gallatin, MO 64640-1170

John & Mary Quinn
10485 Liv 511
Chillicothe, MO 64601

Lovaa Vaughen
17300 Elmwood Ave
Pattonsburg, MO 64670
Complete Items 1, 2, and 3.

Print your name and address on the reverse so that we can return the card to you.

Attach this card to the back of the mailpiece, or on the front if space permits.

Grantham Farm
114 Dayspring Dr.
Columbia, MO 65203

D. Is delivery address different from Item 1?
If YES, enter delivery address below:

James & Jamie Hoover
17720 State Highway C
Pattonsburg, MO 64670

Michael Gorski
415 Colfax Ave.
Laporte, IN 46350
Complete Items 1, 2, and 3.
Print your name and address on the reverse so that we can return the card to you.
Attach this card to the back of the mailpiece, or on the front if space permits.

Gorden Wray
MO DNR Water Pollution Program
PO Box 176
Jefferson City, MO 65102-0176

Matt & Wendy Nalle
15999 160th Street
Pattonsburg, MO 64670

Joseph Gorski
4029 N 350 E
Rolling Prairie, IN 46371
USPS Tracking

Track Another Package +

Tracking Number: 70181130000200533990

Your item arrived at the CHILLICOTHE, MO 64601 post office at 8:03 am on March 19, 2020 and is ready for pickup.

Available for Pickup
March 19, 2020 at 8:03 am
Available for Pickup
CHILLICOTHE, MO 64601

Get Updates →

Text & Email Updates

Tracking History

March 19, 2020, 8:03 am
Available for Pickup
CHILLICOTHE, MO 64601
Your item arrived at the CHILLICOTHE, MO 64601 post office at 8:03 am on March 19, 2020 and is ready for pickup.

March 14, 2020, 10:24 am
Notice Left (No Authorized Recipient Available)
CHILLICOTHE, MO 64601
The customer has requested that the Postal Service redeliver this item on March 26, 2020 in O FALLON, MO 63366.

March 24, 2020
Redelivery Scheduled
O FALLON, MO 63366

The customer has requested that the Postal Service redeliver this item on March 26, 2020 in O FALLON, MO 63366.

March 23, 2020, 3:29 pm
Notice Left (No Authorized Recipient Available)
KEARNEY, MO 64060
March 30, 2020

Gorden Wray
MDNR
P.O. Box 176
Jefferson City, MO 65102-0176

Re: Nalle Piggery Cypress Creek LLC CAFO

Dear Gorden:

Enclosed is the engineering report, a USB drive and a $150 check for the CAFO proposed by Nalle Piggery Cypress LLC. This is an export only site so a NMP is not included.

Please review the enclosed information and let me know if you have any questions. Please do not hesitate to call me at 314-267-8705.

Sincerely,

Richard Francis, P.E.
NALLE PIGGERY AT CYPRESS CREEK, LLC

MISSOURI CAFO OPERATING PERMIT APPLICATION

FOR

Nalle Piggery at Cypress Creek, LLC
15999 160th Street
Pattonsburg MO 64670

March 2020

Prepared By:
Francis Engineering
4 Matterhorn Ct
O’Fallon, Mo 63366
314-267-8705

This Project was designed in accordance with current regulations
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