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. OPERATION NAME</th>
<th>CURRENT PERMIT NUMBER</th>
<th>COUNTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yarick Hill RE, LLC</td>
<td>MO-651093</td>
<td>Bates</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PHYSICAL ADDRESS</th>
<th>LEGAL DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>SW 9508 County Road</td>
<td>Sec.:12 Twn.:38N Rng.:33W</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CITY</th>
<th>STATE</th>
<th>ZIP CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rich Hill</td>
<td>MO</td>
<td>64779</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.2 OWNER (PROVIDE LEGAL NAME)</th>
<th>EMAIL ADDRESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yarick Hill RE, LLC</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MAILING ADDRESS</th>
<th>CITY</th>
<th>STATE</th>
<th>ZIP CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1300 S, Hwy 75</td>
<td>Pipestone</td>
<td>MN</td>
<td>56164</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.3 CONTINUING AUTHORITY (IF DIFFERENT THAN THE OWNER)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>MAILING ADDRESS</th>
<th>CITY</th>
<th>STATE</th>
<th>ZIP CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PART 2 - PERMIT TYPE AND PERMIT ACTION

2.1 PERMIT TYPE

- [ ] NPDES Site Specific Permit
  - Request review of draft permit prior to public notice. [ ] Yes  [ ] No

- [ ] NPDES General Permit (MOG01)

- [x] State No-Discharge General Permit (MOGS1)

2.2 PERMIT ACTION

- [ ] New Permit
  - Permit fees may be paid online by credit card or eCheck through a system called JetPay. Use the URL provided to make an online payment.
  - NPDES Site Specific Permit - [URL]
  - NPDES General Permit (MOG01) - [URL]
  - State No-Discharge General Permit (MOGS1) - [URL]

- [ ] Renewal

- [ ] Modification
  - Permit fees may be paid 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: [URL]

- [ ] Ownership Transfer
  - [ ] PREVIOUS OWNERS NAME
  - [ ] ADDRESS
  - [ ] CITY STATE ZIP CODE
  - [ ] SIGNATURE DATE

*See instructions for additional requirements and documents for the request permit action.
### 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>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 - Farrowing, drains into Gestation</td>
<td></td>
<td></td>
<td>1,366,316</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>002</td>
<td>C - Gestation</td>
<td></td>
<td></td>
<td>7,361,107</td>
<td>4,164,105</td>
<td>645</td>
<td></td>
</tr>
<tr>
<td>003</td>
<td>C - GDU</td>
<td></td>
<td></td>
<td>1,856,343</td>
<td>1,059,241</td>
<td>640</td>
<td></td>
</tr>
<tr>
<td>004</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>005</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></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>Permitted 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 - Farrowing</td>
<td>1080</td>
<td>4 - Farrowing</td>
<td>800</td>
<td></td>
<td></td>
</tr>
<tr>
<td>002</td>
<td>5 - Gestation</td>
<td>5260</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>003</td>
<td>5 - GDU</td>
<td>1920</td>
<td>4 - GDU</td>
<td>768</td>
<td></td>
<td></td>
</tr>
<tr>
<td>004</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>005</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### PART 4 – OPERATIONAL INFORMATION

#### 4.1 OPERATIONAL INFORMATION (SEE INSTRUCTIONS)

- CAFO Class Size: 1B
- SIC Code(s): 0213

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

- Yes [ ]
- No [x]

### 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 [x]
- No [ ]

### PART 6 – ANIMAL MORTALITY

#### 6.1 PENETRANT METHOD OF DISPOSING OF ROUTINE ANIMAL MORTALITIES

- Composting [x]
- 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 composted within 24 hours of death and compost material land applied.

### PART 7 – DIVERSION OF CLEAN WATER

#### 7.1 Is clean stormwater diverted from the production area?

- Yes [x]
- No [ ]

#### 7.2 IF YES, DESCRIBE CONTROLS AND MEASURES USED TO DIVERT STORMWATER

Production area is roofed and site will be graded to direct stormwater away from structure.

#### 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?

- No [x]
- Yes [ ]

#### 8.2 LIST MEASURES USED TO PREVENT CONFINED ANIMAL FORM HAVING DIRECT CONTACT WITH WATERS OF THE STATE.

Animals are confined.

### PART 9 – CHEMICAL HANDLING

#### 9.1 Are chemicals and other contaminants handled, managed, stored, and disposed of in accordance with 10 CSR 20-8.300(5)(E)?

- Yes [x]
- No [ ]

### PART 10 – MANURE ANALYSIS TESTING

#### 10.1 LIST EACH TYPE OF MANURE SOURCE TO BE TESTED ANNUALLY (I.E. MANURE, LITTER, COMPOST, WASTE WATER).

- Manure, compost

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

Manure samples will be taken and sent to a laboratory for nutrient analysis.

### PART 11 – RECORD KEEPING

#### 11.1 Are records of all inspections, manure transfers, discharges and land application maintained?

- Yes [ ]
- No [x]
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>TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barry Kerkaer</td>
<td>Manager</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SIGNATURE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barry Kerkaer</td>
<td>May 22, 2019</td>
</tr>
</tbody>
</table>

PART 13 - ENGINEER CERTIFICATION

As of August 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>Engineer Firm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>Address</td>
</tr>
<tr>
<td>City</td>
<td>City State Zip Code</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

MO 789-2312 (03-19)
May 3, 2019

Dear Landowner,

Yarick Hill RE, LLC would like to inform you of their intentions to build and operate a sow complex in Bates County.

The site will consist of three buildings, all of which will have below building manure storage pits. The site’s total capacity will be 6,292 sows, 1,568 nursery pigs, 48 boars and 1,920 replacement gilts. Manure from the pits will be applied to fields using an injected hose applicator system and will be incorporated into the soil within 24 hours of application. The manure nutrients will be applied on cropland in Bates County at a rate based on a manure sample pulled from the pits yearly, and the nutrient uptake of the crops. If you have any questions or comments please contact the Water Protection Program at the Missouri Department of Natural Resources. They will accept comments 30 days from the date of this letter. Their contact information is:

Water Protection Program  
Missouri Department of Natural Resources  
P.O. Box 176  
Jefferson City, MO 65102  
(573) 751-1300

The site will be located in Section 12, Township 38-N Range 33-W, Bates County, Missouri.

The CAFO site owner’s contact information is:

Yarick Hill RE, LLC  
1300 S. Hwy 75  
Pipestone, MN 56164  
(507) 825-7032

If you require additional information please contact the following:

The Pinnacle Group  
620 Country Club Road  
Iowa Falls, IA 50126  
(641) 648-7300

Thank you,  
The Pinnacle Group
Parcel; 19 (20.99 ac.)

Landowner notification

Date: May 21, 2019
Field Name: Parcel; 19
Location: Bates Co., Missouri, U.S.
Farm Name: Yarick Hill
Client Name: P-Index
Total Acres: 20.99
Field Boundary Start Location:
Latitude: 38.09126698
Longitude: -94.50690818

3000 ft Buffer
(21.0 ac.) Field Boundary
U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com™.

OFFICIAL USE

Certified Mail Fee
$3.50

☐ Return Receipt (hardcopy) $ 
☐ Return Receipt (electronic) $ 
☐ Certified Mail Restricted Delivery $ 
☐ Adult Signature Required $ 
☐ Adult Signature Restricted Delivery $ 

Postage $ 

Total Postage and Fees $4.00

Sent to
Bates County Commissioners
Street and Apt. No. or P.O. Box No.
North Delaware
City, State ZIP
Butler, MO 64730

PS Form 3800, April 2015
See Reverse for Instructions
<table>
<thead>
<tr>
<th>From: Tommy and Colleen Woodman</th>
<th>To: Franklin Trust</th>
</tr>
</thead>
<tbody>
<tr>
<td>5004 3W State Rd. 9 64779</td>
<td>9027 SW County Rd. 105 B 64426</td>
</tr>
<tr>
<td>May 24, 2019</td>
<td>May 24, 2019</td>
</tr>
<tr>
<td>Total Postage and Fees $4.00</td>
<td>Total Postage and Fees $4.00</td>
</tr>
<tr>
<td>Certified Mail Fee $9.50</td>
<td>Certified Mail Fee $9.50</td>
</tr>
<tr>
<td>Extra Services &amp; Fees (check box, add fee as appropriate)</td>
<td></td>
</tr>
<tr>
<td>Return Receipt (handcopy) $</td>
<td>Return Receipt (handcopy) $</td>
</tr>
<tr>
<td>Return Receipt (electronic) $</td>
<td>Return Receipt (electronic) $</td>
</tr>
<tr>
<td>Certified Mail Restricted Delivery $</td>
<td>Certified Mail Restricted Delivery $</td>
</tr>
<tr>
<td>Adult Signature Required $</td>
<td>Adult Signature Required $</td>
</tr>
<tr>
<td>Adult Signature Restricted Delivery $</td>
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<tr>
<td>Postage $0.50</td>
<td>Postage $0.50</td>
</tr>
</tbody>
</table>

For delivery information, visit our website at www.usps.com

PS Form 3800, April 2015
PS Form 4200, April 2015
USPS Tracking®

FAQs  >  (https://www.usps.com/faqs/uspstracking-faqs.htm)

Track Another Package  +

Tracking Number: 70171450000234177339

Your item was delivered to an individual at the address at 11:14 am on May 8, 2019 in RICH HILL, MO 64779.

☑ Delivered
May 8, 2019 at 11:14 am
Delivered, Left with Individual
RICH HILL, MO 64779

Get Updates  ∨

Feedback

Text & Email Updates  ∨

Tracking History  ∨

Product Information  ∨

See Less  ∧

Can't find what you're looking for?

Go to our FAQs section to find answers to your tracking questions.

FAQs (https://www.usps.com/faqs/uspstracking-faqs.htm)
Tracking Number: 70171450000234177308

Your item was delivered at 4:07 pm on May 7, 2019 in RICH HILL, MO 64779.

☑ Delivered
May 7, 2019 at 4:07 pm
Delivered
RICH HILL, MO 64779

Text & Email Updates
Tracking History
Product Information

Can’t find what you’re looking for?
Go to our FAQs section to find answers to your tracking questions.

FAQs (https://www.usps.com/faqs/uspstracking-faqs.htm)
USPS Tracking®

FAQs > (https://www.usps.com/faqs/uspstracking-faqs.htm)

Track Another Package +

Tracking Number: 70171450000234177322

Your item was delivered at 4:15 pm on May 9, 2019 in NEVADA, MO 64772.

☑ Delivered
May 9, 2019 at 4:15 pm
Delivered
NEVADA, MO 64772
Get Updates ▼

Feedback

Text & Email Updates ▼

Tracking History ▼

Product Information ▼

See Less ▲

Can’t find what you’re looking for?

Go to our FAQs section to find answers to your tracking questions.

FAQs (https://www.usps.com/faqs/uspstracking-faqs.htm)
USPS Tracking

Track Another Package +

Tracking Number: 70171450000234177315

Your item was delivered at 8:46 am on May 7, 2019 in RICH HILL, MO 64779.

☑ Delivered
May 7, 2019 at 8:46 am
Delivered
RICH HILL, MO 64779

Get Updates ↘

Text & Email Updates ↗

Tracking History ↗

Product Information ↗

See Less ↗

Can’t find what you’re looking for?
Go to our FAQs section to find answers to your tracking questions.

FAQs (https://www.usps.com/faqs/uspstracking-faqs.htm)
ALERT: PAYMENT TRANSACTIONS ON SOME APPLICATIONS WILL BE TEMPORARILY UNAVAIL...

USPS Tracking®

Track Another Package +

Tracking Number: 70171450000234177421

Expected Delivery on

WEDNESDAY

22 MAY 2019 by 8:00pm

☑ Delivered

May 22, 2019 at 9:08 am
Delivered, Left with Individual
BUTLER, MO 64730

Get Updates ↪

Text & Email Updates

Tracking History

Product Information

See Less ↩

Can’t find what you’re looking for?

https://tools.usps.com/go/TrackConfirmAction?id=fullpage&i=2&text=28777=&label=70171450000234177421%2C
USPS Tracking®

FAQs (https://www.usps.com/faqs/uspstracking-faqs.htm)

Track Another Package +

Tracking Number: 70150640000713859677

Your item was delivered to an individual at the address at 11:01 am on May 31, 2019 in RICH HILL, MO 64779.

☑ Delivered

May 31, 2019 at 11:01 am
Delivered, Left with Individual
RICH HILL, MO 64779

Get Updates ✓

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Text & Email Updates

Tracking History

Product Information

See Less ↻

Can't find what you're looking for?

Go to our FAQs section to find answers to your tracking questions.

FAQs (https://www.usps.com/faqs/uspstracking-faqs.htm)
USPS Tracking® FAQs (https://www.usps.com/faqs/uspstracking-faqs.htm)

Track Another Package +

Tracking Number: 70150640000713859653

Expected Delivery on

TUESDAY

28 May 2019 by 8:00pm

☑ Delivered

May 28, 2019 at 10:57 am
Delivered, Left with Individual
LEES SUMMIT, MO 64064

Get Updates ↓

Text & Email Updates

Tracking History

May 28, 2019, 10:57 am
Delivered, Left with Individual
LEES SUMMIT, MO 64064

Your item was delivered to an individual at the address at 10:57 am on May 28, 2019 in LEES SUMMIT, MO 64064.
May 28, 2019, 8:29 am
Out for Delivery
LEES SUMMIT, MO 64064

May 28, 2019, 8:19 am
Sorting Complete
LEES SUMMIT, MO 64064

May 28, 2019, 7:19 am
Arrived at Unit
LEES SUMMIT, MO 64064

May 27, 2019
In Transit to Next Facility

May 26, 2019, 9:28 pm
Departed USPS Regional Facility
KANSAS CITY MO DISTRIBUTION CENTER

May 25, 2019, 6:35 pm
Arrived at USPS Regional Facility
KANSAS CITY MO DISTRIBUTION CENTER

May 25, 2019, 8:54 am
Departed USPS Regional Facility
DES MOINES IA DISTRIBUTION CENTER

May 24, 2019, 9:01 pm
Arrived at USPS Regional Facility
DES MOINES IA DISTRIBUTION CENTER

Product Information

https://tools.usps.com/go/TrackConfirmAction?tRef=fullpage&tLc=2&text28777=&tLabel=
USPS Tracking® FAQs

Track Another Package +

Tracking Number: 70150640000713859660

Your item was delivered to an individual at the address at 11:31 am on May 30, 2019 in RICH HILL, MO 64779.

☑ Delivered
May 30, 2019 at 11:31 am
Delivered, Left with Individual
RICH HILL, MO 64779

Get Updates ↘

Text & Email Updates

Tracking History

May 30, 2019, 11:31 am
Delivered, Left with Individual
RICH HILL, MO 64779
Your item was delivered to an individual at the address at 11:31 am on May 30, 2019 in RICH HILL, MO 64779.

May 28, 2019, 11:48 am
Notice Left (No Authorized Recipient Available)
RICH HILL, MO 64779
May 28, 2019, 7:39 am
Arrived at Unit
RICH HILL, MO 64779

May 27, 2019
In Transit to Next Facility

May 26, 2019, 4:22 pm
Departed USPS Regional Facility
KANSAS CITY MO DISTRIBUTION CENTER

May 25, 2019, 5:40 pm
Arrived at USPS Regional Facility
KANSAS CITY MO DISTRIBUTION CENTER

May 25, 2019, 8:54 am
Departed USPS Regional Facility
DES MOINES IA DISTRIBUTION CENTER

May 24, 2019, 9:03 pm
Arrived at USPS Regional Facility
DES MOINES IA DISTRIBUTION CENTER

Can’t find what you’re looking for?
Go to our FAQs section to find answers to your tracking questions.
USPS Tracking FAQs

Track Another Package +

Tracking Number: 70171450000234177438

Your item has been delivered to an agent at 1:39 pm on May 29, 2019 in RICH HILL, MO 64779.

☑ Delivered

May 29, 2019 at 1:39 pm
Delivered, To Agent
RICH HILL, MO 64779

Get Updates ▼

Text & Email Updates ▼

Tracking History ▼

May 29, 2019, 1:39 pm
Delivered, To Agent
RICH HILL, MO 64779
Your item has been delivered to an agent at 1:39 pm on May 29, 2019 in RICH HILL, MO 64779.

May 28, 2019, 11:26 am
Notice Left (No Authorized Recipient Available)
RICH HILL, MO 64779
May 28, 2019, 7:39 am
Arrived at Unit
RICH HILL, MO 64779

May 27, 2019
In Transit to Next Facility

May 26, 2019, 4:27 pm
Departed USPS Regional Facility
KANSAS CITY MO DISTRIBUTION CENTER

May 25, 2019, 3:57 pm
Arrived at USPS Regional Facility
KANSAS CITY MO DISTRIBUTION CENTER

May 25, 2019, 8:54 am
Departed USPS Regional Facility
DES MOINES IA DISTRIBUTION CENTER

May 24, 2019, 8:20 pm
Arrived at USPS Regional Facility
DES MOINES IA DISTRIBUTION CENTER

Can’t find what you’re looking for?
Go to our FAQs section to find answers to your tracking questions.
USPS Tracking® FAQs > (https://www.usps.com/faqs/uspstracking-faqs.htm)

Track Another Package +

Tracking Number: 70150640000713859707

Expected Delivery on

TUESDAY

28 MAY 2019 by 8:00pm

☑ Delivered

May 28, 2019 at 11:21 am
Delivered, Left with Individual
RICH HILL, MO 64779

Get Updates ▼

Text & Email Updates ▼

Tracking History ▲

May 28, 2019, 11:21 am
Delivered, Left with Individual
RICH HILL, MO 64779
Your item was delivered to an individual at the address at 11:21 am on May 28, 2019 in RICH HILL, MO 64779.
May 28, 2019, 7:39 am
Arrived at Unit
RICH HILL, MO 64779

May 27, 2019
In Transit to Next Facility

May 26, 2019, 4:27 pm
Departed USPS Regional Facility
KANSAS CITY MO DISTRIBUTION CENTER

May 25, 2019, 3:57 pm
Arrived at USPS Regional Facility
KANSAS CITY MO DISTRIBUTION CENTER

May 25, 2019, 8:54 am
Departed USPS Regional Facility
DES MOINES IA DISTRIBUTION CENTER

May 24, 2019, 8:20 pm
Arrived at USPS Regional Facility
DES MOINES IA DISTRIBUTION CENTER

Can’t find what you’re looking for?
Go to our FAQs section to find answers to your tracking questions.
USPS Tracking FAQ

Track Another Package +

Tracking Number: 70150640000713859691

Expected Delivery on

TUESDAY

28 MAY 2019 by 8:00pm

☑ Delivered

May 28, 2019 at 9:43 am
Delivered, Left with Individual
HUME, MO 64752

Get Updates ▼

Text & Email Updates ▼

Tracking History ▲

May 28, 2019, 9:43 am
Delivered, Left with Individual
HUME, MO 64752

Your item was delivered to an individual at the address at 9:43 am on May 28, 2019 in HUME, MO 64752.
May 28, 2019, 8:24 am
Out for Delivery
HUME, MO 64752

May 28, 2019, 8:14 am
Sorting Complete
HUME, MO 64752

May 28, 2019, 8:09 am
Arrived at Unit
HUME, MO 64752

May 27, 2019, 3:42 pm
Departed USPS Regional Facility
KANSAS CITY MO DISTRIBUTION CENTER

May 26, 2019
In Transit to Next Facility

May 25, 2019, 3:57 pm
Arrived at USPS Regional Facility
KANSAS CITY MO DISTRIBUTION CENTER

May 25, 2019, 8:54 am
Departed USPS Regional Facility
DES MOINES IA DISTRIBUTION CENTER

May 24, 2019, 8:21 pm
Arrived at USPS Regional Facility
DES MOINES IA DISTRIBUTION CENTER

Product Information
USPS Tracking® FAQs > (https://www.usps.com/faqs/uspstracking-faqs.htm)

Track Another Package +

Tracking Number: 70150640000713859684

Expected Delivery on

TUESDAY

28 MAY 2019 by 8:00pm

☑ Delivered

May 28, 2019 at 12:03 pm
Delivered, Left with Individual
RICH HILL, MO 64779

Get Updates ▼

Text & Email Updates ▼

Tracking History

May 28, 2019, 12:03 pm
Delivered, Left with Individual
RICH HILL, MO 64779
Your item was delivered to an individual at the address at 12:03 pm on May 28, 2019 in RICH HILL, MO 64779.
May 28, 2019, 7:39 am
Arrived at Unit
RICH HILL, MO 64779

May 27, 2019
In Transit to Next Facility

May 26, 2019, 4:27 pm
Departed USPS Regional Facility
KANSAS CITY MO DISTRIBUTION CENTER

May 25, 2019, 3:57 pm
Arrived at USPS Regional Facility
KANSAS CITY MO DISTRIBUTION CENTER

May 25, 2019, 8:54 am
Departed USPS Regional Facility
DES MOINES IA DISTRIBUTION CENTER

May 24, 2019, 9:01 pm
Arrived at USPS Regional Facility
DES MOINES IA DISTRIBUTION CENTER

Can’t find what you’re looking for?
Go to our FAQs section to find answers to your tracking questions.
Yarick Hill RE, LLC Project Summary

Yarick Hill RE, LLC, proposes to build a three-building swine facility in Bates County, Section 12, Township 38 North, Range 33 West. The site will consist of a gestation barn housing 5,260 swine over 55 pounds, a farrowing barn housing 1,080 sows and 800 pigs under 55 pounds, and a gilt development unit for 1,920 swine over 55 pounds and 768 swine under 55 pounds. A composter will also be built on the site to process mortalities. The facility will have an animal unit capacity of 3460.8 animal units, making it a Class 1B Confined Animal Feeding Operation.

Manure will be stored in formed concrete pits below the gestation barn and GDU. Manure from the farrowing barn will drain into the gestation barn pit, which will be designed with ample capacity for both barns. Manure storage exceeds 365 for all deep pit structures. Refer to the enclosed engineering report for manure production and storage calculations.

Manure from Yarick Hill RE, LLC will be land applied at agronomic rates based on the crop removal of manure nutrients. Manure will be analyzed annually for nitrogen and phosphorus content and application rates adjusted accordingly. Manure will be injected. Mortalities will be composted within 24 hours of death and the compost material land applied.
Yarick Hill RE, LLC
SWINE FACILITY
SE 1/4, Section 12, T38N, R33W
Howard Township
Bates County, Missouri

GESTATION FACILITY MANURE
PRODUCTION & STORAGE CALCULATIONS

FARROWING FACILITY MANURE
PRODUCTION & STORAGE CALCULATIONS

GILT DEVELOPMENT FACILITY MANURE
PRODUCTION & STORAGE CALCULATIONS

Prepared by

STOCKWELL

201 Walnut, Yankton, SD 57078

May 2019

I hereby certify that I am a licensed professional in the State of Missouri. To the best of my knowledge, information and belief, the manure management and containment system is designed in general conformance with applicable laws, codes, and regulations as of the date of signing.

Jon R. Brown, P.E.
Missouri Licensed Civil Engineer
License No. 2016000021
**Manure Production For Animal Operations**

Manure Characteristics, MWPS-18, Section 1, Second Edition

Table 6

<table>
<thead>
<tr>
<th>Animal Type</th>
<th>Size, lb</th>
<th>Manure Production ft³/day</th>
<th>No. of Animals</th>
<th>Waste Volume ft³/day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursery Pig</td>
<td>25</td>
<td>0.03</td>
<td>800</td>
<td>24</td>
</tr>
<tr>
<td>Nursery Pig</td>
<td>40</td>
<td>0.05</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Finishing</td>
<td>150</td>
<td>0.12</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Finishing</td>
<td>220</td>
<td>0.18</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Gestating</td>
<td>400</td>
<td>0.15</td>
<td>0</td>
<td>0</td>
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<td>0</td>
</tr>
<tr>
<td>Lactating</td>
<td>375</td>
<td>0.28</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Lactating**</td>
<td>450</td>
<td>0.334</td>
<td>1,080</td>
<td>361</td>
</tr>
<tr>
<td>Lactating</td>
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<td>0.37</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>Boar</td>
<td>400</td>
<td>0.13</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Production Data Interpolated from Table Values**

- Total Number of Swine: 1,880
- Total Animal Waste Volume: 385 ft³/day
- Desired Storage Period for AWMS Facility: 365 days

**Total Waste Storage Volume Required:** 140,500 ft³

**Washwater Volume Requirements**

- Washwater / Add'l Waste: 30% (percent of waste production)

**Washwater / Add'l Waste storage required:** 42,150 ft³

**Total Waste and Washwater Storage Volume Required:** 182,650 ft³
### Manure Production for Animal Operations

**Manure Characteristics, MWPS-18, Section 1, Second Edition**

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<th>Waste Volume</th>
</tr>
</thead>
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<tr>
<td>Nursery Pig</td>
<td>25</td>
<td>0.04 ft²/day</td>
<td>0</td>
<td>0 ft³/day</td>
</tr>
<tr>
<td>Nursery Pig</td>
<td>40</td>
<td>0.05 ft²/day</td>
<td>0</td>
<td>0 ft³/day</td>
</tr>
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<td>150</td>
<td>0.12 ft²/day</td>
<td>0</td>
<td>0 ft³/day</td>
</tr>
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<td>0</td>
<td>0 ft³/day</td>
</tr>
<tr>
<td>Gestating</td>
<td>400</td>
<td>0.15 ft²/day</td>
<td>5,212</td>
<td>782 ft³/day</td>
</tr>
<tr>
<td>Gestating**</td>
<td>450</td>
<td>0.165 ft²/day</td>
<td>0</td>
<td>0 ft³/day</td>
</tr>
<tr>
<td>Gestating</td>
<td>500</td>
<td>0.18 ft²/day</td>
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<td>0</td>
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</tr>
<tr>
<td>Lactating</td>
<td>500</td>
<td>0.37 ft²/day</td>
<td>0</td>
<td>0 ft³/day</td>
</tr>
<tr>
<td>Boar</td>
<td>300</td>
<td>0.10 ft²/day</td>
<td>0</td>
<td>0 ft³/day</td>
</tr>
<tr>
<td>Boar</td>
<td>400</td>
<td>0.13 ft²/day</td>
<td>48</td>
<td>6 ft³/day</td>
</tr>
</tbody>
</table>

*Production Data Interpolated from Table Values*

- Total Number of Swine: 5,260
- Total Animal Waste Volume: 788 ft³/day
- Desired Storage Period for AWMS Facility: 365 days

**Total Waste Storage Volume Required:** 287,700 ft³

### Washwater Volume Requirements

Washwater / Add'l Waste: 30% (percent of waste production)

Washwater / Add'l Waste storage required: 86,310 ft³

### Total Waste and Washwater Storage

- Total Waste and Washwater Production (Farrowing): 182,650 ft³
- Total Waste and Washwater Production (Gestation): 374,010 ft³
- Total Waste & Washwater Storage Required: 556,660 ft³
- Total Waste & Washwater Storage Available: 995,533 ft³
<table>
<thead>
<tr>
<th>Producer:</th>
<th>Yarick Hill RE, LLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address:</td>
<td>1300 South Hwy 75</td>
</tr>
<tr>
<td></td>
<td>Pipestone, MN 56164</td>
</tr>
<tr>
<td>County:</td>
<td>Bates</td>
</tr>
<tr>
<td>Location:</td>
<td>SE 1/4, Section 12, T38N, R33W</td>
</tr>
<tr>
<td>Gestation Barn</td>
<td></td>
</tr>
<tr>
<td>SEI Project No:</td>
<td>19097</td>
</tr>
<tr>
<td>Date:</td>
<td>03-May-19</td>
</tr>
</tbody>
</table>

### Deep Pit Volumes

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Interior Length</td>
<td>663.33 ft.</td>
</tr>
<tr>
<td>Total Interior Width</td>
<td>170.16 ft.</td>
</tr>
<tr>
<td>Total Wall Height</td>
<td>10.00 ft.</td>
</tr>
<tr>
<td>Top of Wall to Bottom of Vent Opening</td>
<td>0.00 ft.</td>
</tr>
<tr>
<td>Freeboard</td>
<td>1.00 ft.</td>
</tr>
<tr>
<td>Total Air Circulation Space</td>
<td>1.00 ft.</td>
</tr>
<tr>
<td>Max. Depth of Waste</td>
<td>9.00 ft.</td>
</tr>
<tr>
<td></td>
<td>1,015,850 ft³</td>
</tr>
</tbody>
</table>

### Total Volume

<table>
<thead>
<tr>
<th></th>
<th>1,015,850 ft³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Buildings</td>
<td>1</td>
</tr>
<tr>
<td>Reduction for Columns and Divider Walls</td>
<td>2.0%</td>
</tr>
</tbody>
</table>

### Total Capacity

|                                | 995,533 ft³  |

Stockwell Engineers, Inc
**Manure Production For Animal Operations**

Manure Characteristics, MWPS-S-18, Section 1. Second Edition

**Table 6**

<table>
<thead>
<tr>
<th>Animal Type</th>
<th>Size, lb</th>
<th>Manure Production, ft³/day</th>
<th>No. of Animals</th>
<th>Waste Volume, ft³/day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursery Pig</td>
<td>25</td>
<td>0.04</td>
<td>384</td>
<td>15</td>
</tr>
<tr>
<td>Nursery Pig</td>
<td>40</td>
<td>0.05</td>
<td>384</td>
<td>19</td>
</tr>
<tr>
<td>Finishing</td>
<td>180</td>
<td>0.14</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Finishing**</td>
<td>220</td>
<td>0.160</td>
<td>1,920</td>
<td>346</td>
</tr>
<tr>
<td>Finishing</td>
<td>260</td>
<td>0.21</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Gestating</td>
<td>400</td>
<td>0.15</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Gestating</td>
<td>500</td>
<td>0.18</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Lactating</td>
<td>500</td>
<td>0.37</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Lactating</td>
<td>600</td>
<td>0.45</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Boar</td>
<td>300</td>
<td>0.10</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Boar</td>
<td>400</td>
<td>0.13</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Production Data Interpolated from Table Values**

Total Number of Swine: 2,688
Total Animal Waste Volume: 380 ft³/day
Desired Storage Period for AWMS Facility: 365 days

Total Waste Storage Volume Required: 138,758 ft³

**Washwater Volume Requirements**

Washwater / Add'l Waste Washwater Usage: 30% (percent of waste production)
Washwater / Add'l Waste storage required: 41,628 ft³

**Total Waste and Washwater Storage Volume Required:**

<table>
<thead>
<tr>
<th>Breakdown of Waste &amp; Washwater Production</th>
<th>Manure Production, CF</th>
<th>Storage Available, CF</th>
</tr>
</thead>
<tbody>
<tr>
<td>768 Nursery (1 room) Pit</td>
<td>16,400</td>
<td>36,496</td>
</tr>
<tr>
<td>1,920 Finishing (4 rooms) Pit</td>
<td>164,000</td>
<td>175,458</td>
</tr>
<tr>
<td></td>
<td>180,400</td>
<td>211,947</td>
</tr>
</tbody>
</table>
**Approximate Deep Pit Volumes**

<table>
<thead>
<tr>
<th>Description</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Interior Length</td>
<td>257.25 ft.</td>
</tr>
<tr>
<td>Total Interior Width</td>
<td>77.33 ft.</td>
</tr>
<tr>
<td>Total Wall Height</td>
<td>10.00 ft.</td>
</tr>
<tr>
<td>Top of Wall to Bottom of Vent Opening</td>
<td>0.00 ft.</td>
</tr>
<tr>
<td>Freeboard</td>
<td>1.00 ft.</td>
</tr>
<tr>
<td>Total Air Circulation Space</td>
<td>1.00 ft.</td>
</tr>
<tr>
<td>Max. Depth of Waste</td>
<td>9.00 ft.</td>
</tr>
</tbody>
</table>

\[179,038 \text{ ft}^3\]

**Total Volume**

<table>
<thead>
<tr>
<th>Description</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Volume</td>
<td>179,038 ft$^3$</td>
</tr>
</tbody>
</table>

**Total Capacity**

<table>
<thead>
<tr>
<th>Description</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Capacity</td>
<td>175,458 ft$^3$</td>
</tr>
<tr>
<td>Producer:</td>
<td>Yarick Hill RE, LLC</td>
</tr>
<tr>
<td>----------------</td>
<td>----------------------------------------</td>
</tr>
<tr>
<td>Address:</td>
<td>1300 South Hwy 75</td>
</tr>
<tr>
<td></td>
<td>Pipestone, MN 56164</td>
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<tr>
<td>SEI Project No:</td>
<td>19097</td>
</tr>
</tbody>
</table>

### Approximate Deep Pit Volumes

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Interior Length</td>
<td>77.33 ft.</td>
</tr>
<tr>
<td>Total Interior Width</td>
<td>53.50 ft.</td>
</tr>
<tr>
<td>Total Wall Height</td>
<td>10.00 ft.</td>
</tr>
<tr>
<td>Top of Wall to Bottom of Vent Opening</td>
<td>0.00 ft.</td>
</tr>
<tr>
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</tr>
<tr>
<td>Max. Depth of Waste</td>
<td>9.00 ft.</td>
</tr>
</tbody>
</table>

**Total Volume**

37,234 ft³

**Total Number of Pits**

1

**Reduction for Columns and Divider Walls**

2.0%

**Total Capacity**

36,490 ft³
Yarick Hill RE, LLC
SWINE FACILITY
SE 1/4, Section 12, T38N, R33W
Howard Township
Bates County, Missouri

GESTATION FACILITY MANURE
PRODUCTION & STORAGE CALCULATIONS

FARROWING FACILITY MANURE
PRODUCTION & STORAGE CALCULATIONS

GILT DEVELOPMENT FACILITY MANURE
PRODUCTION & STORAGE CALCULATIONS

Prepared by

STOCKWELL

201 Walnut, Yankton, SD 57078

May 2019

I hereby certify that I am a licensed professional in the State of Missouri. To the best of my knowledge, information and belief, the manure management and containment system is designed in general conformance with applicable laws, codes, and regulations as of the date of signing.

Jon R. Brown, P.E.
Missouri Licensed Civil Engineer
License No. 2016000021
Farrowing Barn

Producer: Yarick Hill RE, LLC
County: Bates
Address: 1300 South Hwy 76
Location: SE 1/4, Section 12, T38N, R33W
Pipestone, MN 56164
Phone: (507) 825-4211

<table>
<thead>
<tr>
<th>Animal Type</th>
<th>Size, lb</th>
<th>Manure Production ft³ / day</th>
<th>No. of Animals</th>
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Total Number of Swine 1,880
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Desired Storage Period for AWMS Facility 365 days

Total Waste Storage Volume Required 140,500 ft³

Washwater Volume Requirements

Washwater / Add'l Waste: 30% (percent of waste production)
Washwater / Add'l Waste storage required 42,150 ft³

Total Waste and Washwater Storage Volume Required: 182,650 ft³
Gestation Barn

Producer: Yarick Hill RE, LLC
Address: 1300 South Hwy 75
Pipestone, MN 55364
Phone: (507) 825-4211

County: Bates
Location: SE 1/4, Section 12, T38N, R33W

Manure Production For Animal Operations

Manure Characteristics, MWPS-18, Section 1, Second Edition
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</tr>
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<td>0.13</td>
<td>48</td>
<td>6</td>
</tr>
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| Total Waste and Washwater Production (Gestation):  | 374,010 ft³ |
| Total Waste &amp; Washwater Storage Required:         | 556,660 ft³ |
| Total Waste &amp; Washwater Storage Available:        | 995,533 ft³ |</p>
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</tr>
<tr>
<td>Total Wall Height</td>
<td>10.00 ft</td>
</tr>
<tr>
<td>Top of Wall to Bottom of Vent Opening</td>
<td>0.00 ft</td>
</tr>
<tr>
<td>Freeboard</td>
<td>1.00 ft</td>
</tr>
<tr>
<td>Total Air Circulation Space</td>
<td>1.00 ft</td>
</tr>
<tr>
<td>Max. Depth of Waste</td>
<td>9.00 ft</td>
</tr>
<tr>
<td>Deep Pit Volumes</td>
<td></td>
</tr>
<tr>
<td>Total Volume</td>
<td>1,015,850 ft³</td>
</tr>
<tr>
<td>Total Number of Buildings</td>
<td>1</td>
</tr>
<tr>
<td>Reduction for Columns and Divider Walls</td>
<td>2.0%</td>
</tr>
<tr>
<td>Total Capacity</td>
<td>995,533 ft³</td>
</tr>
</tbody>
</table>
## GDU Barn

**Producer:** Yarick Hill RE, LLC  
**Address:** 1300 South Hwy 75  
**Pipestone, MN 56164**  
**Phone:** (507) 825-4211

**County:** Bates  
**Location:** SE 1/4, Section 12, T38N, R33W

---

### Manure Production For Animal Operations

**Manure Characteristics, MWPS-18, Section 1, Second Edition**  
**Table 6**

<table>
<thead>
<tr>
<th>Animal Type</th>
<th>Size, lb</th>
<th>Manure Production ft³/day</th>
<th>No. of Animals</th>
<th>Waste Volume ft³/day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursery Pig</td>
<td>25</td>
<td>0.04</td>
<td>384</td>
<td>15</td>
</tr>
<tr>
<td>Nursery Pig</td>
<td>40</td>
<td>0.05</td>
<td>384</td>
<td>19</td>
</tr>
<tr>
<td>Finishing</td>
<td>180</td>
<td>0.14</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Finishing**</td>
<td>220</td>
<td>0.180</td>
<td>1,920</td>
<td>346</td>
</tr>
<tr>
<td>Finishing</td>
<td>260</td>
<td>0.21</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Gestating</td>
<td>400</td>
<td>0.15</td>
<td>0</td>
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<tr>
<td>Gestating</td>
<td>500</td>
<td>0.18</td>
<td>0</td>
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</tr>
<tr>
<td>Lactating</td>
<td>500</td>
<td>0.37</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Lactating</td>
<td>600</td>
<td>0.45</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Boar</td>
<td>300</td>
<td>0.10</td>
<td>0</td>
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</tr>
<tr>
<td>Boar</td>
<td>400</td>
<td>0.13</td>
<td>0</td>
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</tr>
</tbody>
</table>

**Production Data Interpolated from Table Values**

- Total Number of Swine: 2,688
- Total Animal Waste Volume: 380 ft³/day
- Desired Storage Period for AWMS Facility: 365 days

**Total Waste Storage Volume Required:** 138,758 ft³

---

### Washwater Volume Requirements

- Washwater / Add'l Waste Washwater Usage: 30% (percent of waste production)
- Washwater / Add'l Waste storage required: 41,628 ft³

---

### Total Waste and Washwater Storage Volume Required: 180,400 ft³

**Breakdown of Waste & Washwater Production**

- 768 Nursery (1 room) Pit: 16,400 ft³
- 1,920 Finishing (4 rooms) Pit: 164,000 ft³
- 180,400 ft³

---

Stockwell Engineers, Inc
<table>
<thead>
<tr>
<th>Approximate Deep Pit Volumes</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Total Interior Length</td>
<td>257.25 ft.</td>
</tr>
<tr>
<td>Total Interior Width</td>
<td>77.33 ft.</td>
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<tr>
<td>Total Wall Height</td>
<td>10.00 ft.</td>
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<tr>
<td>Top of Wall to Bottom of Vent Opening</td>
<td>0.00 ft.</td>
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<tr>
<td>Freeboard</td>
<td>1.00 ft.</td>
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<tr>
<td>Total Air Circulation Space</td>
<td>1.00 ft.</td>
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<tr>
<td>Max. Depth of Waste</td>
<td>9.00 ft.</td>
</tr>
<tr>
<td></td>
<td>179,038 ft³</td>
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</tbody>
</table>

| Total Volume                  | 179,038 ft³ |

| Total Number of Pits          | 1           |
| Reduction for Columns and Divider Walls | 2.0%      |

| Total Capacity                | 175,458 ft³ |
### Approximate Deep Pit Volumes

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Interior Length</td>
<td>77.33 ft</td>
</tr>
<tr>
<td>Total Interior Width</td>
<td>53.50 ft</td>
</tr>
<tr>
<td>Total Wall Height</td>
<td>10.00 ft</td>
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<tr>
<td>Top of Wall to Bottom of Vent Opening</td>
<td>0.00 ft</td>
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<tr>
<td>Freeboard</td>
<td>1.00 ft</td>
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<tr>
<td>Total Air Circulation Space</td>
<td>1.00 ft</td>
</tr>
<tr>
<td>Max. Depth of Waste</td>
<td>9.00 ft</td>
</tr>
</tbody>
</table>

\[
\text{Total Volume} = 37,234 \text{ ft}^3
\]

**Total Number of Pits:** 1

**Reduction for Columns and Divider Walls:** 2.0%

**Total Capacity:** 36,490 ft³
May 1, 2019

Attn: Greg Caldwell
Missouri Department of Natural Resources
Water Protection Program
P.O. Box 176
Jefferson City, MO 65102

RE: Yarick Hill RE, LLC – Bate County, Missouri
Project No. 19097

Dear Mr. Caldwell:

Find enclosed the design submittal information for the Yarick Hill RE, LLC Composting Facility. This information is being submitted to your office for the review and approval of the actively managed composting system to be utilized by the aforementioned facility. For your ease of review, these requirements have been paraphrased and answered in the following order.

1) **Responsible Party for entire project:** Yarick Hill RE, LLC, Barry Kerkaert, 1300 S HWY 75, PO Box 188, Pipestone, MN 56164
   - Location: SE 1/4, Section 12, T38N, R33W, Bates County, Missouri
   - Site Information: The Swine Production Operation includes 8,260 head breeding swine (which includes 1,920 head of development gilts in the GDU) plus 1,568 head of nursery piglets. The compost facility will be located adjacent to the swine site.

2) **Site Preparation:** The composter should be built on an impervious weight-bearing pad that is large enough to allow equipment to maneuver, covered with a roof to prevent excessive moisture on composting material and built of rot resistant material that is strong enough to withstand the force exerted by equipment.

3) **Type of Carcass:** Swine

4) **Disposition of Finished Compost:** The finished compost will be primarily recycled back into the composting operation as a starter bulking agent or utilized for land application in conjunction with their Missouri Department of Natural Resources approved Nutrient Management Plan.

5) **Estimated Quantity:** The average daily death loss is calculated at 925 pounds per day, which can also be translated as total death loss per year of ~337,625 pounds. Please refer to the Compost Bin Sizing Spreadsheet that illustrates this data. *Note the formula has determined that 7 bins are required, but 8 bins will be constructed.*
6) **Type of Composting Materials:** The bulking agents that will be utilized are locally available wood chips and/or sawdust. At times shredded cornstalks will be introduced into the mixture at no greater than a 50/50 blend. Compost material generated from the operation shall also be utilized in the bulking mixture as a seeding agent. An estimated 1,250 cubic yards (512,690 pounds, assuming sawdust bulk density of 410lb/yd³) of bulking material will be required annually. Please refer to the Compost Bin Sizing Spreadsheet for this data.

7) **Actively Managed Composting Procedure:** *Note that the University of Missouri Extension's current published composting procedure is for a static pile system. The actively managed composting procedure was taken from Composting Animal Mortalities, Minnesota Department of Agriculture, May 2009. The procedure, computations and the composter building design were completed with the consultation of the University of Missouri's Extension Service.*

- Place at least 12 inches of bulking agent on the floor of the composting bin. This layer will insulate the composting material from the outside environment, provide carbon to fuel the composting process, and absorb liquids.
- Place the carcasses in a single layer on top of the bulking agent one foot from the wall of the bin and at least six inches apart. This allows air to circulate around the carcasses and insulates them from the environment. Depending on the size of the bin and of the loader, one may not want to build a whole single layer first, because the loader may not be able to reach the back of the bin when more carcasses are added later. This can be avoided by building the pile from the back, building it up and forward simultaneously.
- Cover the carcasses with about 12 inches of bulking agent. Add water as needed to maintain the proper moisture level. Because it is difficult to add water evenly, consider adding it to the bulking agent before it goes on the pile. Caution: If the pile dries out (25% to 45% moisture) and if piles are too large, spontaneous combustion may occur, just as with hay or silage. Attention to moisture, temperature, and pile height is the best protection. An accessible water supply is a good safety precaution. If manure will be used, add it either beneath the bulking agent or incorporated with the bulking agent. The pile is now ready for the next layer.
- Record the species, class, and weight of the carcasses, and the amount and type of bulking agent and into the compost log.
- Place additional carcasses as they become available on the pile in layers following these same steps, allowing 6 to 12 inches of bulking agent between layers. More than one species can be composted in the same bin (if applicable). It may be necessary to use the loader bucket to dig a depression to hold the fresh carcass in place before covering it with bulking agent, especially if it is a large animal. Continue adding carcasses until the pile is close to the top of the bin. Cover the top of the pile with 12 inches of bulking agent to reduce odor and protect against pests. Flies, rodents, and vermin shall be controlled so as not to be a health hazard to human or animal populations.
• After the bin is full, start a second bin following these same steps. Leave the first bin to compost. This first bin has carcasses at various stages of decomposition from largely decomposed (first one in) to just beginning (last one in).

• Monitor the pile daily to make sure that all carcass parts stay completely covered by bulking agent. The pile will settle, so you may need to add additional bulking agent over the top.

• Check the temperature daily and record it in the compost log. The temperature should be taken at multiple locations in the pile, especially near the last animal that was added. Temperatures should be increasing and should soon be between 130° and 150°F.

• If it seems that the pile is not composting correctly because of the temperature or because there are odors, some troubleshooting will need to be done and make adjustments accordingly.

• Once the pile reaches at least 130°F, it should stay above that temperature for at least one week. Do not start counting the days until the area that was added to the pile last reaches this temperature. When the temperature drops, the pile is ready to be turned.

• The typical primary composting time is approximately 45 days for carcasses weighing from 25 to 300 lbs. See the table of estimates for primary composting times by carcass weight.

![Primary Composting Times](image)

<table>
<thead>
<tr>
<th>Carcass Size (lb)</th>
<th>Composting Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-10</td>
<td>15</td>
</tr>
<tr>
<td>10-25</td>
<td>22</td>
</tr>
<tr>
<td>25-300</td>
<td>45</td>
</tr>
</tbody>
</table>

8) **Plan for Turning the Pile and Finishing the Compost:** *As taken from Composting Animal Mortalities, Minnesota Department of Agriculture, May 2009.*

• Layer the bottom of an empty bin with 12 inches of bulking agent.

• Use a front-end or skid loader to move the material from the primary bin to the secondary bin, one bucket at a time. This aerates the pile. Minimal flesh or soft bones should be present, but long bones, skulls, teeth, and pelvis, and some hide, feathers, and fleece may remain. There may be some odor while turning due to disturbance of the anaerobic zones. Look to see whether water needs to be added. If so, add it to the existing pile as needed before or while it is being turned, so that it gets evenly incorporated.

• Cover the fresh pile with another 12 inches of bulking agent to prevent odor and visits by scavenging animals.

• Record the date turned and bulking agent type and volume used in the compost log.
- Monitor and record the temperature of the turned pile daily. Since the composting materials are more consistent now, one doesn’t need to be as careful about taking the temperature in multiple locations.
- Once the pile maintains a temperature in excess of 130° F for seven days and then drops, the compost may be finished.
- Secondary composting times will be similar to the number of days in the primary cycle.
- Inspect the pile. If flesh is no longer visible, the compost can be termed “finished.” It should be dark, humus-like material with very little odor. At this stage, any bones should be so brittle that they can be easily crushed. It is required that the finished product contain no visible pieces of soft tissue. If there is still some flesh visible, you need to turn the pile again and let it go through another heat cycle. With larger animals such as cattle and sheep, more time is needed to completely compost their larger and denser bones. If the compost is finished other than the bones, remove them and place in a new pile for further decomposition.

9) **Plan for Monitoring Temperature:** A probe-type thermometer with a minimum 36-inch stainless steel stem will be used to monitor the temperature of the pile.

10) **Plan for Moisture Testing and Monitoring:** For optimum performance, the moisture content should be between 40% and 60%. Proper moisture judgment can be made by simply feeling the compost. The compost should be moist and leave the hand feeling moist but should not be able to squeeze water out of it. A water hydrant or other water source will be installed next to the composting facility in the event that water needs to be added to the compost.

11) **Plan for Monitoring and Inspection for Complete Decomposition Prior to Distribution:** The finished product should be a dark, humus-like material with minimal odor. Any bones should be brittle and easily crushed. If the compost is finished other than the bones, they shall be removed and placed in a new pile for further decomposition. The finished compost should not contain any visible pieces of soft tissue. If soft tissue is present, the pile should be turned and allowed to go through another heat cycle.

12) **Frequency of Activities:** A logbook will be kept recording dates and weights of carcasses placed in the compost, temperature readings, moisture content, amounts of bulking agents used, dates when compost is turned and dates and amounts of finished compost.

13) **Seasonal or Year-Round:** Year Round
14) **Distance from Natural Surface Water, Wells, and Property Lines:**
- Natural Surface water: An unnamed drainage way is located approximately ¼ mile south/southeast of the proposed compost building.
- Well: The compost building will be located at least 300 feet from any on site wells.

15) **Records for Review Upon Request:** Records for review will be available upon request at the swine operation main office.

This facility is taking the necessary steps to protect the environment and continue to provide needed livestock production in Bates County and the State of Missouri.

We welcome your favorable review of the information. If you have any questions or need any additional information, please do not hesitate to contact us. Thank you.

![Signature]

Sincerely,

Stockwell Engineers, Inc.

Jon R. Brown, PE
Project Engineer
**Daily Mortalities**

<table>
<thead>
<tr>
<th>Carcass Size (lb)</th>
<th>Multiplier for Death Loss*</th>
<th>Loss per Day (lb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-10</td>
<td>3 ft³/day</td>
<td>400</td>
</tr>
<tr>
<td>10-25</td>
<td>5 ft³/day</td>
<td>0</td>
</tr>
<tr>
<td>25-300</td>
<td>10 ft³/day</td>
<td>0</td>
</tr>
<tr>
<td>300-750</td>
<td>14 ft³/day</td>
<td>525</td>
</tr>
<tr>
<td>750-1400</td>
<td>20 ft³/day</td>
<td>0</td>
</tr>
</tbody>
</table>

**Total Death Loss per Day:** 925 lbs

**Primary bin volume required:** 8550 ft³

*Information taken from Minnesota Department of Agriculture, *Composting Animal Mortalities*, pg. 19

**Bins Required**

<table>
<thead>
<tr>
<th>Bin Sizes</th>
<th>Height</th>
<th>Width</th>
<th>Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8 ft</td>
<td>15 ft</td>
<td>24 ft</td>
</tr>
</tbody>
</table>

**Number of Bins Required**

7 Bins Required

**Assuming equal number of primary and secondary bins, plus one storage bin**

**Composting Material Required**

- Total Death Loss per Day (lb): 925 lb
- Total Death Loss per Year (lb): 337,625 lb

**Total Composting Material Required**

1,250 yd³/yr

512,690 lb/yr

**Assuming 100 ft³ of sawdust of equivalent compost material per 1,000 lb of mortality & 4 10 lb/yd³ of sawdust**
<table>
<thead>
<tr>
<th>Date</th>
<th>Bin #</th>
<th>Outside Temperature (°F)</th>
<th>Compost Temperature (°F)</th>
<th>Mortality Added (lb)</th>
<th>Bulk Material Added (lb)</th>
<th>Turn Pile? (Y/N)</th>
<th>Primary or Secondary Composting (P/S)</th>
<th>Material Removed for Land Application (lb)</th>
<th>Material Removed for Recycling (lb)</th>
</tr>
</thead>
<tbody>
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