12/09/2009

NPDES PERMIT SPEED OF PROCESSING FORM

FACILITY NAME THOMAS-SPRINGERTON?JEFF DOCUMENT NUMBER

COUNTY HAMILTON REVIEWER JS UNIT R REGION 7 MAJOR [ ]

NPDES NUMBER ILA010067 CURRENT PERMIT EXPIRATION DATE / / BURDEN REDUCTION (E,N,I,A,D) [ ]

REQ TYPE/DATE / / REQ TYPE/DATE / / TYPE OF APPLICATION

REQ TYPE/DATE / / REQ TYPE/DATE / / NEW [X] REN [ ] MOD [ ] TERM [ ] REA [ ]

REQ TYPE/DATE / / REQ TYPE/DATE / / INITIAL FEE PAID [ ]

DATE RECEIVED 11/16/2009

RECORDS UNIT LOG IN 12/09/2009

SENT TO WORD PROCESSING

APPROVED BY REVIEWER FOR 15 DAY NOTICE

APPROVED BY UNIT MANAGER

TO P.N. CLERK FOR 15 DAY NOTICE

RE-15 DAY NOTICE

RETURNED TO REVIEWER

APPROVED BY REVIEWER FOR PUBLIC NOTICE

APPROVED BY UNIT MANAGER

TO P.N. CLERK FOR 30 DAY NOTICE

RE-PUBLIC NOTICE

RETURNED TO REVIEWER

APPROVED BY REVIEWER FOR ISSUANCE

APPROVED BY UNIT MANAGER

APPROVED BY SECTION MANAGER

DATE ISSUED

ACTION [ ] PERMIT [ ] NO PERMIT REQUIRED [ ] VOID

[ ] MODIFICATION [ ] REFUSAL OF MODIFICATION [ ] FEE CATEGORY

[ ] TERMINATION [ ] DENIAL [ ] CSO CATEGORY

November 11, 2009

Orig: Records Unit
cc: Beverly Booker
Roger Callaway
Bruce Yurdin
Marion Region, WPC
Richard Breckenridge, MC #35

Agency reply due 12/13/2009

Beverly Booker, Illinois EPA
Bureau of Water, CAS # 19
P.O. Box 19276
Springfield, Illinois 62794-9276

Re: Violation Notice # W-2009-00206

Dear Ms. Booker,

This constitutes a response to a Violation Notice we received. We are addressing each apparent violation listed in Attachment A by attaining compliance through the recommendations that your letter offered in Attachment B.

1. We contacted Frank & West Environmental Engineers, Inc. on June 10, 2009 and spoke with Chris West regarding the unusual circumstances that had occurred as a result of land application of manure. He said they would fill out and submit any forms that might be required. They are the agency that the NRCS recommended for us to have develop the Comprehensive Nutrient Management Plan in 2006 for our swine facility.
   We received a completed NPDES form from them September 17 and we mailed a signed copy to them on September 18, 2009. Find enclosed copy of forms. Chris stated they would wait to submit our NPDES forms when they finished the update to our CNMP. We called October 8 for an update on permit filing and CNMP. We received a return call from Chris on October 22 stating they needed more info for our CNMP and would get back to us with the details. We are currently working on info they need to update the CNMP. We need an extension of time, if possible, of 45 days from your receipt of this letter, to complete our CNMP updates.
   Our stormwater management plan is to be included in Section 9 of the CNMP.
   Our spill response plan is to be included in Section 8 of the CNMP.
2. We currently have a NRCS developed and approved hog composter at our swine facility, a $14,000 structure. It has been in place and used since construction in 1999. See enclosed paperwork. We have not had any excess leachate from composter as a result of rainfall to cause any problems by discharging into field tile riser. The accidental release due to clamps unbuckling while loading out manure happened to be located close by composter and created a more obvious situation than usually exists. We feel the recommendations in Item 2 are an unnecessary and excessive expense (minimal cost of at least $5000.00). Add that on top of the $8,500.61 fish kill liability, as well as current and incomplete fees of $1092.00 and more from Frank & West to complete necessary forms, etc. to be filed. All as a result of an unfortunate fast and unexpected significant rainfall that created this entire situation during land application by a contractual land applicator. We have a very good record with the EPA and have demonstrated good management practices at our swine facility. We have strived to appropriately

land apply our manure and will continue to do so in the future. Our efforts to maintain an attractive, well kept, neat facility with trees and nicely mowed grass demonstrate our goals as a responsible livestock producer. See enclosed photos. We just recently received notification that we have once again met the Cargill Pork criteria for the Environmental Stewardship Award. It is designed to recognize Cargill Pork contract producers for their outstanding practices and commitment toward environmental excellence.

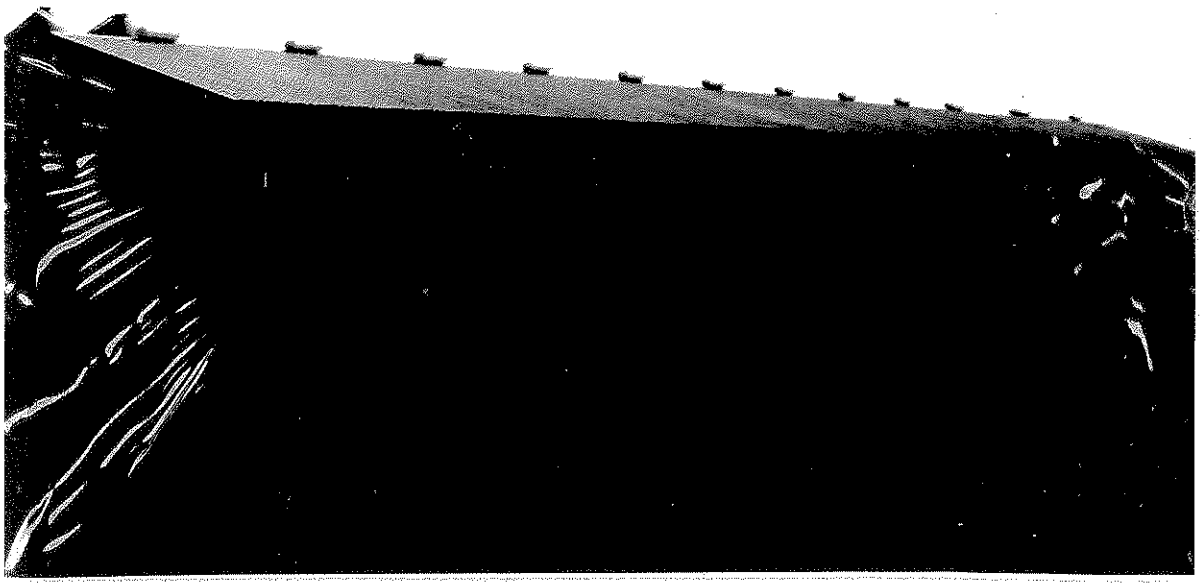
3. We will remove and properly dispose of the used composter material stockpiled on the ground surface west of our facilities confinement buildings when crops have been harvested and soil moisture is applicable.
4. All accidentally released livestock waste was immediately, properly and thoroughly removed and cleaned up from lawn. Leachate was also addressed.
5. Tributary of Beaver Creek where livestock waste had accumulated from release of waste from recent land application activities has been thoroughly flushed and cleaned of all manure.
6. We understand the process that the IDNR uses to assess a fish kill. Beaver Creek is more of a seasonal creek rather than a continual flow type. Except during significant rainfalls, water is usually observed only in pooled areas, especially by the low water crossings. The 3.5 mile stretch they evaluated had three low water crossings within it. The typical IDNR approach they used with the 4 station samples and the expansion factor should not apply in this case since water and fish were not in place throughout the full 3.5 miles. Ask any 25-75 farmers that utilize land adjacent to Beaver Creek and they will tell you that it is usually dry with occasional pooled areas, except during rain. If the numbers of fish we are being charged were placed back at this location we would expect them not to survive. The current assessed number of fish is unfair and unreasonable. We appeal the monetary value charged as there were 1135 fish actually counted. We expect to pay for those and possibly 50% more. We feel the total numbers should be reduced to a more realistic level. Our responsibility is to replace the value of what was actually lost. We would appreciate your consideration of this matter.

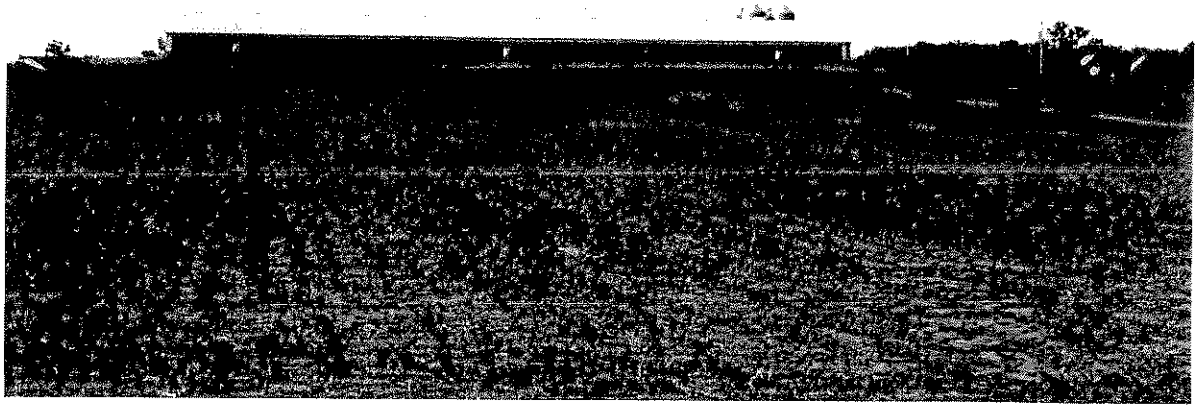
In closing, we feel we represent the hog industry responsibly and strive to do a good job in implementing required practices associated with composting dead swine and land application of manure. If the fish numbers are re-evaluated and stay as is, a request made by us is to see the $6709.65 of replacement fish value be used to release new fish into Beaver Creek at the site of the fish kill. We would like to be notified of that event so that we may be present for such release of fish.
As a farmer, we have always accepted the responsibility of being good stewards of the land. We understand that same responsibility with water as well.

Sincerely,

Jeff Thomas

Jeff Thomas, Owner\Operator
Permit copies, NRCS Composter plan, photos enclosed





Frank & West
Environmental Engineers, Inc.

Sent back 9/16/09

September 14, 2009

Jeff & Julie Thomas
RR #1, Box 127
Springerton, IL 62887

RE: NPDES Forms

Dear Mrs. Thomas,

Please have Jeff sign the two forms where indicated and return to my office in the envelopes provided. Once these are returned and we finish the update to your nutrient management plan, we can submit them all to the Illinois Environmental Protection Agency.

If you have any questions please call.

Regards,

FRANK & WEST
ENVIRONMENTAL ENGINEERS, INC.

C. J. West

Chris J. West, P.E.
President

7226 N. State Route 29 • Springfield, IL 62707-7616 • Phone: 217/487-7686 • Fax: 217/487-7687

Please print or type in the unshaded areas only.

Form Approved. OMB No. 2040-0086.

FORM 1 GENERAL

U.S. ENVIRONMENTAL PROTECTION AGENCY
GENERAL INFORMATION
Consolidated Permits Program
(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

9				
F				D
1 2		13	14	15

LABEL ITEMS

- I. EPA I.D. NUMBER
- III. FACILITY NAME
- V. FACILITY MAILING ADDRESS
- VI. FACILITY LOCATION

RECEIVED
DEC 09 2009
Environmental Protection Agency
WPC--Permit Section

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of **bold-faced terms**.

SPECIFIC QUESTIONS	Mark "X" YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	Mark "X" YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge** to **waters of the U.S.**? (FORM 2A)	16	17	18	B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge** to **waters of the U.S.**? (FORM 2B)	19	X	21
C. Is this a facility which currently results in **discharges** to **waters of the U.S.** other than those described in A or B above? (FORM 2C)	22	23	24	D. Is this a proposed facility *(other than those described in A or B above)* which will result in a **discharge** to **waters of the U.S.**? (FORM 2D)	25	26	27
E. Does or will this facility treat, store, or dispose of **hazardous wastes**? (FORM 3)	28	29	30	F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)	31	32	33
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)	34	35	36	H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)	37	38	39
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)	40	41	42	J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)	43	44	45

III. NAME OF FACILITY

C			
1	SKIP	Jeff Thomas	
15	16 – 29	30	69

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*		B. PHONE *(area code & no.)*			
C 2	Jeff Thomas	(618)	757	2383	
15 16	45	46 48	49 51	52 55	

V. FACILTY MAILING ADDRESS

A. STREET OR P.O. BOX			
C 3	Rt. #1, Box 127		
15 16	45		

B. CITY OR TOWN		C. STATE	D. ZIP CODE
C 4	Springerton	IL	62887
15 16	40	41 42	47 51

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER	
C 5	SW 1/4 of the NW1/4 of Section 24 of T-4N, R-7E
15 16	45

B. COUNTY NAME	
	Hamilton
46	70

C. CITY OR TOWN		D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
C 6	Springerton	IL	62887	
15 16	40	41 42	47 51	52 54

EPA Form 3510-1 (8-90)

RECEIVED
NOV 16 2009
IEPA/CAS

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

VII. SIC CODES *(4-digit, in order of priority)*

A. FIRST	B. SECOND
0213 (specify) Agricultural - Swine Facility	(specify)

C. THIRD	D. FOURTH
(specify)	(specify)

VIII. OPERATOR INFORMATION

A. NAME: Jeff Thomas

B. Is the name listed in item VIII-A also the owner? ☑ YES ☐ NO

C. STATUS OF OPERATOR *(Enter the appropriate letter into the answer box; if "Other," specify.)*

F = FEDERAL; S = STATE; P = PRIVATE; M = PUBLIC *(other than federal or state)*; O = OTHER *(specify)*

P (specify)

D. PHONE *(area code & no.)*: A (618) 757-2383

E. STREET OR P.O. BOX: Rt. #1, Box 127

F. CITY OR TOWN: Springerton

G. STATE: IL

H. ZIP CODE: 62887

IX. INDIAN LAND

Is the facility located on Indian lands? ☐ YES ☑ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES *(Discharges to Surface Water)*	D. PSD *(Air Emissions from Proposed Sources)*
9 N	9 P

B. UIC *(Underground Injection of Fluids)*	E. OTHER *(specify)*
9 U	9 (specify)

C. RCRA *(Hazardous Wastes)*	E. OTHER *(specify)*
9 R	9 (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers, and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS *(provide a brief description)*

The farm consists of 4 wean-to-finish swine buildings that each hold 1250 hd. The facilities have 8' deep pits for estimated capacities of 561,000 gallons each and storage periods of 370 days.

XIII. CERTIFICATION *(see instructions)*

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE *(type or print)*	B. SIGNATURE	C. DATE SIGNED
Jeff Thomas - Owner	Jeff Thomas	9-18-09

COMMENTS FOR OFFICIAL USE ONLY

C

Form Approved
OMB No. 2040-0250
Approval expires 12-15-05

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)

FORM 2B NPDES

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATIONS FOR PERMIT TO DISCHARGE WASTEWATER
CONCENTRATED ANIMAL FEEDING OPERATIONS AND AQUATIC ANIMAL PRODUCTION FACILITIES

I. GENERAL INFORMATION Applying for: Individual Permit ☐ Coverage Under General Permit ☐

A. TYPE OF BUSINESS	B. CONTACT INFORMATION	C. FACILITY OPERATION STATUS
☒ 1. Concentrated Animal Feeding Operation (complete items B, C, D, and Section II)	Owner/or Operator Name: Jeff Thomas	☒ 1. Existing Facility
☐ 2. Concentrated Aquatic Animal Production Facility (complete items B, C, and section III)	Telephone: (618.0( ) 7,572,383.00	☐ 2. Proposed Facility
	Address: Rt. #1, Box 127	
	Facsimile: ( )	
	City: Springerton State: IL Zip Code: 62884	

D. FACILITY INFORMATION

Name: Jeff Thomas Telephone: (618.0( ) 7,572,383.00
Address: Rt. #1, Box 127 Facsimile: ( )
City: Springerton State: IL Zip Code: 62884
County: Hamilton Latitude: 38.162 Longitude: -88.389

If contract operation: Name of Integrator:
Address of Integrator:

II. CONCENTRATED ANIMAL FEEDING OPERATION CHARACTERISTICS

A. TYPE AND NUMBER OF ANIMALS

1. TYPE	2. ANIMALS: NO. IN OPEN CONFINEMENT	2. ANIMALS: NO. HOUSED UNDER ROOF
☐ Mature Dairy Cows		
☐ Dairy Heifers		
☐ Veal Calves		
☐ Cattle (not dairy or veal)		
☒ Swine (55 lbs. or over)		5,000.00
☐ Swine (under 55 lbs.)		
☐ Horses		
☐ Sheep or Lambs		
☐ Turkeys		

B. Manure, Litter and/or Wastewater Production and Use

a) How much manure, litter and wastewater is generated annually by the facility? _____ tons _____ gallons

b) If land applied how many acres of land under the control of the applicant are available for applying the CAFOs manure/litter/wastewater? _____ acres

c) How many tons of manure or litter, or gallons of wastewater produced by the CAFO will be transferred annually to other persons? tons/gallons (*circle one*) tons

[redacted]

☐ Chickens (Broilers)			[redacted]
☐ Chickens (Layers)			
☐ Ducks			
☐ Other Specify _____			
3. TOTAL ANIMALS			

C. ☐ TOPOGRAPHIC MAP

D. TYPE OF CONTAINMENT, STORAGE AND CAPACITY

1. Type of Containment	Total Capacity (in gallons)
☐ Lagoon	
☐ Holding Pond	
☐ Evaporation Pond	
☐ Other: Specify _____	

2. Report the total number of acres contributing drainage: _____ acres

3. Type of Storage	Total Number of Days	Total Capacity (gallons/tons)
☐ Anaerobic Lagoon		
☐ Storage Lagoon		
☐ Evaporation Pond		
☐ Aboveground Storage Tanks		
☒ Belowground Storage Tanks	371.00	2,244,000.00
☐ Roofed Storage Shed		
☐ Concrete Pad		
☐ Impervious Soil Pad		
☐ Other: Specify _____		

E. NUTRIENT MANAGEMENT PLAN

A. Has a nutrient management plan been developed? ☒ Yes ☐ No

B. Is a nutrient management plan being implemented for the facility? ☒ Yes ☐ No

C. If no, when will the nutrient management plan be developed? Date: _____

D. The date of the last review or revision of the nutrient management plan. Date: _____

E. If not land applying, describe alternative use(s) of manure, litter and or wastewater:

Form Approved
OMB No. 2040-0250
Approval expires 12-15-05

F. LAND APPLICATION BEST MANAGEMENT PRACTICES
Please check any of the following best management practices that are being implemented at the facility to control runoff and protect water quality:

☐ Buffers ☐ Setbacks ☐ Conservation tillage ☐ Constructed wetlands ☐ Infiltration field ☐ Grass filter ☐ Terrace

III. CONCENTRATED AQUATIC ANIMAL PRODUCTION FACILITY CHARACTERISTICS

A. For each outfall give the maximum daily flow, maximum 30-day flow, and the long-term average flow.

1. Outfall No.	2. Flow (*gallons per day*)		
	a. Maximum Daily	b. Maximum 30 Day	c. Long Term Average

B. Indicate the total number of ponds, raceways, and similar structures in your facility.

1. Ponds	2. Raceways	3. Other

C. Provide the name of the receiving water and the source of water used by your facility.

1. Receiving Water	2. Water Source

D. List the species of fish or aquatic animals held and fed at your facility. For each species, give the total weight produced by your facility per year in pounds of harvestable weight, and also give the maximum weight present at any one time.

1. Cold Water Species			2. Warm Water Species		
a. Species	b. Harvestable Weight (*pounds*)		a. Species	b. Harvestable Weight (*pounds*)	
	(1) Total Yearly	(2) Maximum		(1) Total Yearly	(2) Maximum

E. Report the total pounds of food during the calendar month of maximum feeding.

1. Month	2. Pounds of Food

IV. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. Name and Official Title (*print or type*)
JEFF THOMAS - OWNER

B. Phone No. (618) 757-2383

C. Signature Jeff Thomas

D. Date Signed 9-18-09

COMPUTATION SHEET
SCS–ENG–523 Rev. 8–69

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

STATE IL		PROJECT Jeff Thomas Hog Composting Facility		
BY JTH	DATE 5/13/99	CHECKED BY	DATE	JOB NO.
SUBJECT Design Comps				SHEET 1 OF

Facility will be designed to accept mortalities from existing

Operation — 2400 swine @ 120 lb. av. = 288,000 lb.
2400 swine @ 35 lb. av. = 84,000 lb.

total = 372,000 lb. / 4½ months

× 0.03 (3% mortality rate assumed)

11,160 lb. of carcass / 4½ mo.
11,160 lb. ÷ 4.5 mo. (30 days/mo) ≈ 83 lb/day mortality

from Missouri, use 20 ft³ of storage per lb. of animal composted DAILY (primary)

83 lb/day × 20 ft³ = 1,660 ft³ for primary

20 ft³/lb. composted daily (secondary)

83 lb/day × 20 ft³ = 1,660 ft³ for secondary

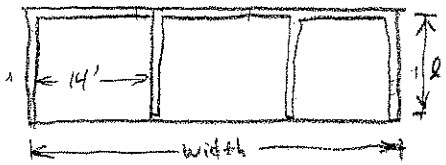
total storage reqʼd: 3,320 ft³ reqʼd

cell 1 – 14 × 14 × 6′ = 1,176 ft³

Use 3 cells – primary, secondary & finishing

1,176′ ft³ × 3 = 3,528 ft³ > 3,320 OK

inside dimensions of cells = 14′ × 14′ × 6′ high



Width = (3 × 14′) + (4 × 8/12′) + 4′ ≈ 50′
(walls; for gutters)

length = 14′ + 8/12′ + 2 = 17′ approx.

use 14′ × 14′ × 6′ high × 3 cells

COMPUTATION SHEET
SCS-ENG-523 Rev. 8-69

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

STATE		PROJECT		
IL		Jeff Thomas Hog Composting Fac., Hamilton Co.		
BY	DATE	CHECKED BY	DATE	JOB NO.
[signature]	5/18/99			
SUBJECT				SHEET 1 OF
Quantities & costs				

Concrete quantity:

Walls:

$4 \times 14' \times 6' \times 8/12' = 224\ ft^3$

$1 \times 44\ 2/3' \times 6' \times 8/12' = 179\ ft^3$

footing:

curb – $0.5' \times 0.5' \times 85' = 21\ ft^3$

footing – $6.5' \times 10/12' \times 4 \times 14' = 303\ ft^3$

$6.5' \times 10/12' \times 24' = 130\ ft^3$

small area $- 50\ ft^3$

floor: $8' \times 11' \times 3 \times 0.5 = 132\ ft^3$ (approx.)

$1{,}039\ ft^3 \left(1\ yd^3 / 27\ ft^3\right) = 38.4$

use 40 yds. concrete

Class 3000X

Steel:

Footing/wall:

horizontal bars – #4 – ||||

Ⓔ 17 bars × (44' + 44') = 1,496 ft #4

(44' + 44' = entire length of footing)

vertical bars –

Ⓒ #5 – 176 × 4' = 704 ft.

Ⓓ #4 – 88 × 5' = 440 ft.

Ⓐ #5 – 176 × 6' = 1,056 ft.

#5: 704 + 1056 = 1,760 ft. #5

#4: 440 + 1,496 = 1,936 ft. #4

COMPUTATION SHEET
SCS–ENG–523 Rev. 8–69

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

STATE IL		PROJECT Jeff Thomas Hog Composter, Hamilton Co.		
BY	DATE 5/20/99	CHECKED BY	DATE	JOB NO.
SUBJECT Quantities & costs				SHEET 3 OF

6" floor : 11' x 8'

#4 bars on 12" spacing

8 x 11' = 88 ft
11 x 8' = 88 ft.

176 ft. #4 bar

Totals :

#5 : 1,760 ft. + 176 ft = 1,936 ft.
#4 : 2,112 ft. + 211 ft. = 2,323 ft.

↑ add 10% for splices, overlap, etc.

#5 : 1,936 ft x 1.043 lb/ft = 2,019 lb.

#4 2,323 ft x 0.668 lb/ft = 1,552 lb.

3,571 lb. total

Cost est. :

Fine aggregate/Road chat for base:

$17.5' \times 50' \times .5' \times \frac{1\ yd^3}{27\ ft^3} \times 1.6\ T/yd^3$ = 26 tons @ $15.00/ton delivered & placed

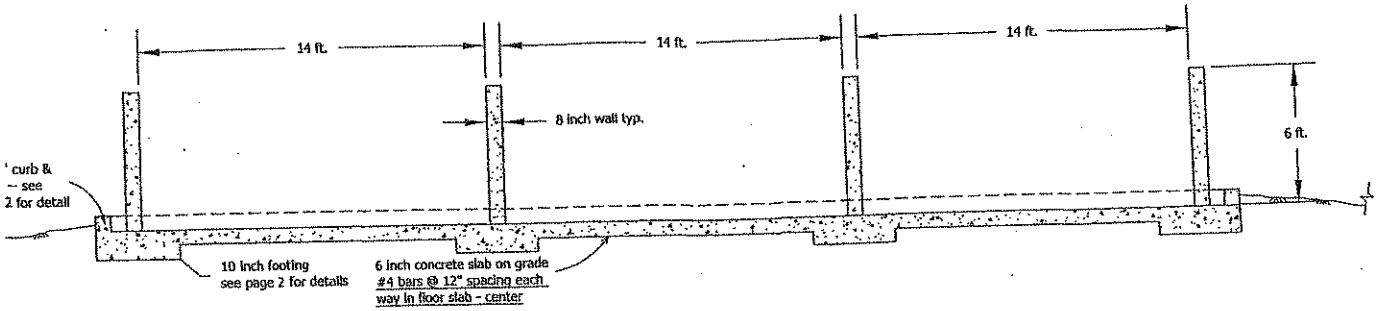
26 tons @ $400

Concrete : 40 CY @ $180/yd. = $7,200
incl. forming

Steel : 3,571 lb. @ 1.00/lb. = $3,571
incl. tying, etc.

Grading, topsoil stripping, misc. — $800

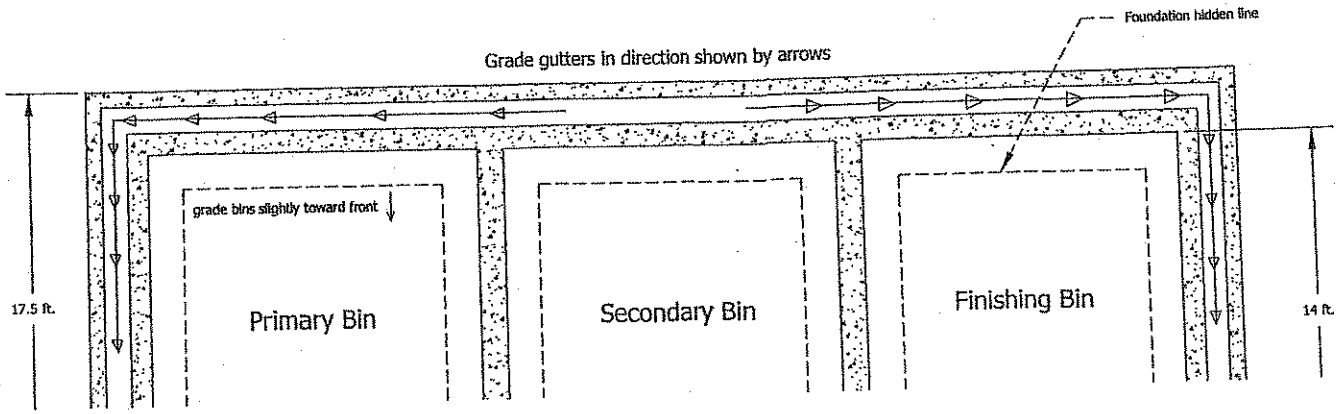
total cost est. = $11,971, use $12,000

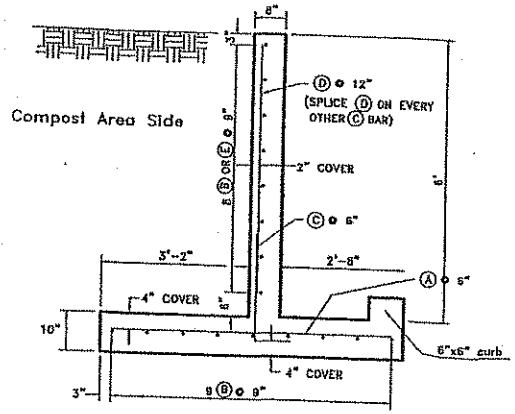


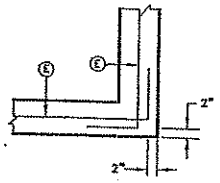
Structure Cross Section - Not to Scale

See page 2 for details of concrete placement, and wall dimension details.

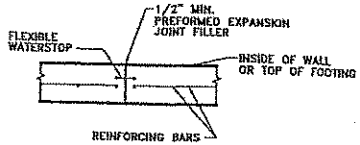
Grade surrounding area to drain away from facility.



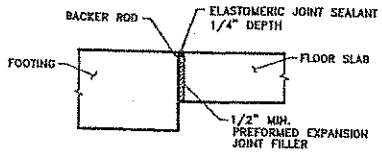




CORNER DETAIL (PLAN VIEW)



WALL & FOOTING EXPANSION JOINT DETAIL ①



NOTE: A FLEXIBLE WATERSTOP MAY BE USED INSTEAD OF THE BACKER ROD & JOINT SEALANT.

FOOTING–FLOOR SLAB ISOLATION JOINT DETAIL ②

VIEWS & DETAILS NOT TO SCALE

CONDITIONS OF USE

SURCHARGE = 100 Psf
BACKFILL = 6 FEET

BAR SCHEDULE

MARK	SIZE	QUANTITY	TYPE	a	b	LENGTH	TOTAL LENGTH
A	#5		Str.	——	——	6'-0	See enj.
B *	#4		Str.	——	——		sheets for estimates
C	#5		21	0'-9	3'-3	4'-0	
D	#4		Str.	——	——	5'-0	
E *	#4		21	1'-0			

* SPLICES IN MARK B AND E BARS ARE 15 MIN.

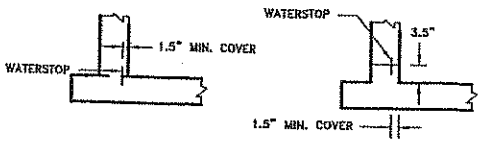
#4 BARS, TOTAL LENGTH = 2,323' X 0.668 LBS/FT. = 1,552 POUNDS

#5 BARS, TOTAL LENGTH = 1,936' X 1.043 LBS/FT. = 2,019 POUNDS

ESTIMATED QUANTITIES:

QUANTITY	UNIT	ITEM
40	CU. YDS.	CONCRETE 0.349 CU. YDS./FT.
4,259 Ft.	LN. FT.	REINFORCING BARS
—	LN. FT.	—— " PREFORMED EXPANSION JOINT FILLER
—	LN. FT.	FLEXIBLE WATER STOP
—	LN. FT.	BACKER ROD
—	UNIT	ELASTOMERIC JOINT SEALANT
—	LN. FT.	6" X 1/8" STEEL PLATE
—	LN. FT.	HYDROPHYLIC WATERSTOP

3' see details



CONSTRUCTION JOINT DETAIL ③

WATERSTOP ALTERNATIVES

1) 6" X 1/8" CONTINUOUS STEEL PLATE
2) FLEXIBLE WATERSTOP
3) HYDROPHYLIC WATERSTOP

NOTES:

TS MEDIUM DESIGN LIFE (20 YEARS).
BE AWAY FROM THE WALL.
SLOPED AWAY FROM THE WALL.

S: (WORKING STRESS DESIGN)
= 3500 psi STEEL f_s = 20000 psi (GRADE 40)
DING: (REFER TO TABLE 1 – LATERAL EARTH PRESSURE VALUES, 313 STANDARD, SECTION IV OF THE TECHNICAL GUIDE.)

GENERAL NOTES:

1. STANDARDIZED DESIGN: MUST BE ADAPTED TO SPECIFIC SITE.
2. A 6" MINIMUM THICKNESS OF COMPACTED SAND OR GRAVEL SUBBASE SHALL BE PLACED UNDER THE FOOTING.
3. IN CONSTRUCTION JOINT DETAIL ③, THE SLAB SURFACE MUST BE THOROUGHLY CLEANED WITH WATER AND A WIRE BRUSH. THE SURFACE OF THE JOINT SHALL BE KEPT MOIST FOR AT LEAST 1 HR. PRIOR TO PLACEMENT OF NEW CONCRETE.
4. IF WATER TIGHTNESS IS NOT REQUIRED, FLEXIBLE WATERSTOPS,