



WILLETT HOFMANN  
& ASSOCIATES INC  
ENGINEERING ARCHITECTURE LAND SURVEYING

April 24, 2015

Pinnacle Group  
620 Country Club Rd.  
Iowa Falls, IA 50126

Attn: Mr. John Everly

Re: Calloway Farrowing  
Permit Number GS10485  
Depth and Volume Tables  
WHA No. 1001F15

Dear Mr. Everly:

In response to the recommendation of the State of Missouri Administrative Hearing Commission for the above referenced project, we have prepared depth and volume tables for the proposed Isolation and Gestation Facilities. Please find attached the tables for your review and submittal to the Missouri Department of Natural Resources for permit amendment.

Please note the following:

- As discussed in the original permit submittals and correspondence, the farrowing building will be drained to the gestation building at each turn of animals.
- The depth and volume tables include the pump out pit volumes, which were conservatively omitted in the original storage calculations, and therefore differ slightly from the storage calculations.

Please find enclosed a full size copy of the revised sheets as noted above, as well as the geotechnical report for your review.

Please call me at 815-232-3506 if you have any questions or require any additional information.

Sincerely,

WILLETT, HOFMANN & ASSOCIATES, INC.

BY Brian K. Converse  
Brian K. Converse, P.E., S.E.

BKC:MRL:rv

Enclosures

cc: Brad Eichelberger w/encl. via email  
Michael Blaser w/encl. via email  
File

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**Calloway Farrowing  
Isolation Building Depth and Volume Table**

Manure Depth Above Pit Floor (ft)	Depth Below Bottom of Slats (ft)	Depth Below Bottom of Beams (ft)	Storage Volume (Cubic Feet)
1	7	6.17	19,725
2	6	5.17	39,449
3	5	4.17	59,174
4	4	3.17	78,899
5	3	2.17	98,624
6	2	1.17	118,348
6.17	1.83	1	121,702
7	1	0.17	138,073

A	Building Length (ft)	307.167	Inside Dimensions	
B	Building Width (ft)	65	Inside Dimensions	
C	Divider Wall Thickness (ft)	0.83		6 walls
D	Pump-Out Pit Area (sq ft)	20.18	(4.33 ft. x 4.67 ft)	13 pits
E	Column Area (sq ft)	1.07	(1.17 ft diameter)	168 columns
	Available storage	$(A)*(B)-(6*C*B)+13*E-168*F$		19,724.74

**Calloway Farrowing  
Gestation Building Depth and Volume Table**

Manure Depth Above Pit Floor (ft)	Depth Below Bottom of Slats (ft)	Depth Below Bottom of Beams (ft)	Storage Volume (Cubic Feet)
1	9	8.17	118,532
2	8	7.17	237,065
3	7	6.17	355,597
4	9	5.17	474,129
5	5	4.17	592,662
6	4	3.17	711,194
7	3	2.17	829,726
8	2	1.17	948,259
8.17	1.83	1	968,409
9	1	0.17	1,066,791

A	Building Length (ft)	622.67	Inside Dimensions	
B	Building Width (ft)	191.67	Inside Dimensions	
C	Divider Wall Thickness (ft)	0.83		1 Wall
D	Pump-Out Pit Area (sq ft)	34.23	(7.33 x 4.67)	3 pits
E	Pump-Out Pit Area (sq ft)	20.18	(4.33 ft. x 4.67 ft)	13 pits
F	Column Area (sq ft)	1.07	(1.17 ft diameter)	954 columns
	Available storage	$(A)*(B)-(C*A)+3D+13E-954F$		118,532.32

