



PROJECT: Cold Springs Farms - 60's  
PROJECT NO.: 238-08012A  
COMPUTATION BY: JEO      DATE: 8/25/09      SH. NO.: 1  
CHECKED BY:      DATE:      OF: 1

Subject: Animal Waste Produced

Animal Data																
					Actual			ASAE D384.2				VS		TS		AU
						Weight	Manure	Weight	Manure	Manure						
	Animals		Quantity		Lbs	cf/d-a		Lbs	cf/d/AU	CF/day	lbs/d/AU	lbs/day	lbs/d/AU	lbs/day		
	Earth Lot		140		639	0.55		1000	0.55	49.2	3.40	304.2	11.00	984.1	89.5	
	Earth Lot		120		639	0.55		1000	0.55	42.2	3.40	260.7	11.00	843.5	76.7	
	Earth Lot		100		639	0.55		1000	0.55	35.1	3.40	217.3	11.00	702.9	63.9	
	Earth Lot		80		639	0.55		1000	0.55	28.1	3.40	173.8	11.00	562.3	51.1	
						0.00		0	0.00	0.0	0.00	0.0	0.00	0.0	0.0	
						0.00		0	0.00	0.0	0.00	0.0	0.00	0.0	0.0	
						0.00		0	0.00	0.0	0.00	0.0	0.00	0.0	0.0	
						0.00		0	0.00	0.0	0.00	0.0	0.00	0.0	0.0	
						0.00		0	0.00	0.0	0.00	0.0	0.00	0.0	0.0	
	Total		440							155		956		3093	281	

Rainfall Data	
County, State	JoDaviess, Illinois
Precip for storage period	23.0 in
Annual Lake Evap	32.5 in
% Evap for storage period	78%
1 Yr 2 Hr Storm Event	1.52 in
2 Yr 24 Hr Storm Event	3.11 in
25 Yr 24 Hr Storm Event	5.6 in
Storage Period	6.0 Months
VS Loading Rate	
ODOR Loading Rate	

Rainfall Data (Indiana Only)	
Location	JoDaviess, Illinois
50 Yr 24 Hr Storm Event	6.5 in
IDEM 50 Yr 24 Hr Storm	6.0 in
Greater of Storm Events	6.5 in
Rainfall Data (NPDES)	
Location	JoDaviess, Illinois
100 Yr 24 Hr Storm Event	7.4 in

Location Data																													
Animals	Holding Pond					Covered Stack					Uncovered Stack					Rect. Tank							Circular Tank				Pasture	Settling Basin	
	E14	E15									61	62	63	64															
1: Earth Lot	4%										96%																		
2: Earth Lot	4%											96%																	
3: Earth Lot	4%												96%																
4: Earth Lot	4%													96%															
Parlor																													
Sprinkler																													
Waters																													
Silage leach																													
Other																													
Solid Removal																													
Lagoon treat																													
Runoff		100%																											
25Y Runoff		100%																											
Solid Stored																													
Wash Water																													
Flush Water																													
Bedding																													
50Y Runoff																													

\*Values calculated above are based on data from the Livestock Waste Facilities Handbook



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Facility Volumes (CF/day)																																																																
Holding Pond						Covered Stack					Uncovered Stack					Rect. Tank								Circular Tank				Pasture		Settling Basin																																		
Facility	E14	E15	0	0	0	0%	0	0%	0	0	61	62	63	64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																
Solids Remov	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00																																
Manure	6.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	47.23	40.49	33.74	26.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00																																
Wash	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00																																
Flush	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00																																
Bedding	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00																																
Runoff	0.00	847.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00																																
Solids Store	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00																																
Daily Vol	6.19	847.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	47.23	40.49	33.74	26.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00																																
Annual Vol	2258	309354	0	0	0	0	0	0	0	0	17241	14778	12315	9852	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																
Density lb/cf	0	0	0	0	0	50	50	50	50	50	32	32	32	32	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																
Annual Tons	0	0	0	0	0	0	0	0	0	0	276	236	197	158	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																
Annual Gal	1.69E+04	2.31E+06	0.00E+00	0.00E+00	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																
# LOADS	29	3856	0	0	0	0	0	0	0	0	35	30	25	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																
TIME	0	64	0	0	0	0	0	0	0	0	18	15	13	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																

Facility	Manure	Wash	Flush	Bedding	Runoff	Solids Rem	Solids Sto	Total V
Total CF/d	154.6	0.0	0.0	0.0	847.5	0.0	0.0	1002.2

Annual Manure & Wates Water Volumes								
Facility	Manure	Wash	Flush	Bedding	Runoff	Solids Rem	Solids Sto	Total V
Total CF	56443	0	0	0	309354	0	0	365797

Storage Volumes (CF/Period)																												
		Holding Pond				Covered Stack					Uncovered Stack					Rect. Tank						Circular Tank				Pasture	Settling Basin	
Storage		E14	E15			0%	0	0%	0	0	61	62	63	64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period (M)		12.00	6.00								12.00	12.00	12.00	12.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period (D)		365	180	0	0	0	0	0	0	0	365	365	365	365	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Required Vol																												
CF		2258	152558	0	0	0	0	0	0	0	17241	14778	12315	9852	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GALLONS		16881	1140676	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TONS		0	0	0	0	0	0	0	0	0	276	236	197	158	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Designed Vol																												
CF		14918	169420	0	0	0	0	0	0	0	108291	93631	84731	81971	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GALLONS		111542	1266751	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TONS		0	0	0	0	0	0	0	0	0	1733	1498	1356	1312	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Extra																												
CF		12660	16862	0	0	0	0	0	0	0	91050	78853	72416	72119	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GALLONS		94661	126075	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TONS		0	0	0	0	0	0	0	0	0	1457	1262	1159	1154	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Storage Volumes	Required Vol CF	Required Vol GALLONS	Designed Vol CF	Designed Vol GALLONS	Extra CF
Total	209001	1157557	552960	1378293	343960

AVAILABLE		REQUIRED
PASTURE 1 ACRES		0.0 ac

(FIGURES 0.25 IN COVER ON ENTIRE PASTURE)

Annual Storage Volumes Hauled			APPLICATION INFROMATION					
Type	UNITS	Volume	TYPE	SIZE	UNITS	LOAD/HR	# LOADS	TIME
LIQUID	GAL	3,000,335	LIQUID	600	GAL	60	5001	84
SOLID	TONS	867	SOLID	400	bu	2	110	55
(MANURE & PRECIP)								

Storage Volumes (CF/Period)																														
			Holding Pond			Covered Stack					Uncovered Stack					Rect. Tank					Circular Tank					Pasture	Settling Basin			
	Storage	E14	E15	0	0	0	0%	0	0%	0	0	61	62	63	64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Working	2257.7148	152557.96	0	0	0	0	0	0	0	0	17240.73	14777.77	12314.81	9851.846	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	24 hr runoff	0	112474.96	0	0	0	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	24 hr storm	5571.0667	31841.25	0	0	0	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Precip	5494.2317	44203.658	0	0	0	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Treatment	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Residuals	0	34296	0	0	0	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Freeboard	9316	116428.5	0	0	0	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	35300	508664.06	0	0	0	0	0	0	0	0	17241	14778	12315	9852	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Gal to Haul	57961.304	1471186.6	0	0	0	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	-	0	0
	Tons to Haul	-	-	-	-	-	0	0	0	0	0	276	236	197	158	0	-	-	-	-	-	-	-	-	-	-	0	0	0	0
	Annual gal	57961.304	2942373.3	0	0	0											0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Annual tons						0	0	0	0	0	276	236	197	158	0										0	0	0	0	0