



PROJECT: Cold Springs Farms - 100s
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
		Quantity	Weight	Manure	Weight	Manure	Manure					
			lbs	cf/d-a	lbs	cf/d/AU	CF/day	lbs/d/AU	lbs/day	lbs/d/AU	lbs/day	
1	Earth Lot	70	766	0.55	1000	0.55	29.5	3.40	182.3	11.00	589.8	53.6
2	Earth Lot	70	766	0.55	1000	0.55	29.5	3.40	182.3	11.00	589.8	53.6
3	Earth Lot	70	766	0.55	1000	0.55	29.5	3.40	182.3	11.00	589.8	53.6
4	Earth Lot	70	766	0.55	1000	0.55	29.5	3.40	182.3	11.00	589.8	53.6
5	Earth Lot	70	766	0.55	1000	0.55	29.5	3.40	182.3	11.00	589.8	53.6
6	Earth Lot	70	766	0.55	1000	0.55	29.5	3.40	182.3	11.00	589.8	53.6
7	Earth Lot	70	766	0.55	1000	0.55	29.5	3.40	182.3	11.00	589.8	53.6
8	Earth Lot	70	766	0.55	1000	0.55	29.5	3.40	182.3	11.00	589.8	53.6
9	Earth Lot	70	766	0.55	1000	0.55	29.5	3.40	182.3	11.00	589.8	53.6
Total		560					236		1458		4719	429

Rainfall Data	
County, State	JoDaviess, Illinois
Precip for storage period	23.4 in
Annual Lake Evap	32.5 in
% Evap for storage period	54%
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	9.0 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

		Location Data																													
		Animals	Holding Pond					Covered Stack					Uncovered Stack					Rect. Tank						Circular Tank				Pasture	Settling Basin		
			E11	E12									E1A-D	E1E-H																	
		1: Earth Lot	4%									96%																			
		2: Earth Lot	4%									96%																			
		3: Earth Lot	4%									96%																			
		4: Earth Lot	4%									96%																			
		5: Earth Lot		4%									96%																		
		6: Earth Lot		4%									96%																		
		7: Earth Lot		4%									96%																		
		8: Earth Lot											96%																		
		Parlor																													
		Sprinkler																													
		Waters																													
		Silage leach																													
		Other																													
		Solid Removal																													
		Lagoon treat																													
		Runoff	42%	58%																											
		25Y Runoff	42%	58%																											
		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	E11	E12	0	0	0	0%	0	0%	0	0	E1A-D	E1E-H	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
Manure	4.72	3.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	113.25	113.25	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
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
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
Runoff	163.95	226.40	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
Daily Vol	168.67	229.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	113.25	113.25	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	61563	83930	0	0	0	0	0	0	0	0	41335	41335	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	60	60	60	0	0	0	0	0	0	0	0	0	0	0	0
Annual Tons	0	0	0	0	0	0	0	0	0	0	661	661	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual Gal	4.60E+05	6.28E+05	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
# LOADS	768	1046	0	0	0	0	0	0	0	0	84	84	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TIME	13	17	0	0	0	0	0	0	0	0	42	42	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	234.7	0.0	0.0	0.0	390.4	0.0	0.0	625.1

Annual Manure & Wates Water Volumes								
Facility	Manure	Wash	Flush	Bedding	Runoff	Solids Rem	Solids Sto	Total V
Total CF	85683	0	0	0	142479	0	0	228162

Storage Volumes (CF/Period)																												
		Holding Pond				Covered Stack					Uncovered Stack					Rect. Tank						Circular Tank				Pasture	Settling Basin	
Storage	E11	E12	0	0	0	0%	0	0%	0	0	E1A-D	E1E-H	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Period (M)	9.00	9.00									12.00	12.00																
Period (D)	270	270	0	0	0	0	0	0	0	0	365	365	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Required Vol																												
CF	45540	62085	0	0	0	0	0	0	0	0	41335	41335	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GALLONS	340503	464208	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
TONS	0	0	0	0	0	0	0	0	0	0	661	661	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Designed Vol																												
CF	53331	70444	0	0	0	0	0	0	0	0	131211	131211	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GALLONS	398753	526709	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
TONS	0	0	0	0	0	0	0	0	0	0	2099	2099	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Extra																												
CF	7791	8359	0	0	0	0	0	0	0	0	89877	89877	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GALLONS	58250	62501	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
TONS	0	0	0	0	0	0	0	0	0	0	1438	1438	0	0	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	190294	804712	386197	925462	195903

AVAILABLE

PASTURE 1 ACRES

REQUIRED

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	1,860,707				LIQUID	600	GAL	60	3102	52
SOLID	TONS	1,323				SOLID	400	bu	2	168	84
(MANURE & PRECIP)											

Storage Volumes (CF/Period)																																
Holding Pond						Covered Stack					Uncovered Stack					Rect. Tank						Circular Tank					Pasture		Settling Basin			
Storage	E11	E12	0	0	0	0%	0	0%	0	0	E1A-D	E1E-H	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Working	45540.079	62084.84	0	0	0	0	0	0	0	0	41334.59	41334.586	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 hr runoff	41181.991	56870.368	0	0	0	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 hr storm	19208	23391.667	0	0	0	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Precip	38126.209	40891.955	0	0	0	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Treatment	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Residuals	33816	44186	0	0	0	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Freeboard	69336	85466	0	0	0	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	255000	321250	0	0	0	0	0	0	0	0	41335	41335	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gal to Haul	625572.83	769957.5	0	0	0	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0
Tons to Haul	-	-	-	-	-	0	0	0	0	0	661	661	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0
Annual gal	834097.11	1026610	0	0	0											0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual tons						0	0	0	0	0	661.3534	661.35337	0	0	0													0	0	0	0	0
S:\228\2008 project numbers\228_08012A (Cold Springs Farm CNMP)\Section 4 (Manure Wastewater)\MSL Calculations\AWM 2000_08_24\2000_08_24 MSL AWM V 11_0100c.xls																																