

AG. WASTE SYSTEMS PLANNING GUIDE

Prepared by: _____ Date: _____

I. BASIC DATA

(See NEH, Part 651, AWMFH, Ch. 2)

A. Contacts

➤ Name of Operation: _____
Name of Owner/Operator...: _____
Principal Contact: _____
Address (RR, P.O. Box, etc.): _____
City, State, Zip: _____
Telephone No.: _____

NOTES:

➤ B. Facility Description *(Give a brief description of the facilities, any special problem and management objectives.)*

C. Waste Management Data

➤ How many times per year is manure/waste collected? _____

Is waste stored on site before disposal/use? Yes or No

If yes, describe how, where and how long?

Existing Handling Method(s): Liquid Slurry Solid. Describe existing waste-handling equipment:

Describe the frequency for cleaning lots, lanes, feed bunk areas, etc., or frequency and volume of flushing holding pits, gutters, parlor and equipment, etc.

How is storm runoff currently handled?

Are dead animals currently disposed of on site? Yes or No If yes, how?
(Burial, incineration, on-farm compost, off-farm transfer)

Are there local zoning or other regulations that will affect waste management at this facility? Yes or No

If yes, explain:

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II. WASTE PRODUCTION DATA

(see NEH, Part 651, AWMFH, Ch. 4)

A. Animal Inventory								
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
Animal Type(s) & Production Phase	Existing Capacity (# head)	Max. Cap. (# head)	Working Capacity (# head)	Avg. Wt. (lb.)	Animal Units (no.)	Confinement Period(s) (from ___ to ___)	Manure Collected (%)	Where will Manure be Stored?
				Total AU's:				

- (a) Describe all animals confined by species, age class (cow versus calf), management group (lactating versus dry cow), etc.
- (b) Number of animals on site when inventory was made. (c) Estimate the maximum number of animals that could occupy the facility.
- (d) Annual average working capacity to be used for planning and design – include proposed expansion.
- (e) Estimate the average weight of this type of animal during its confinement period.
- (f) Multiply the working capacity (d) by the average weight (e) and divide by 1,000 lb.
- (g) Show the usual time period(s) this type of animal is confined in the facility (e.g., January to April, October to December, etc.).
- (h) List amount of manure collected by percent. (i) State which facility manure will be stored in.

B. Other Solid Waste Generation					
Source	Current Volume	Units	Proposed Volume	Units	Notes/Explanation
Bedding	_____	lbs/animal/day	_____	lbs/animal/day	_____
Waste Feed	_____	cu.ft./day	_____	cu.ft./day	_____
Dead Animal Carcasses:	_____	# head/yr	_____	# head/yr	(never placed in facility)
Other	_____	_____	_____	_____	_____

C. Process Wastewater Generation			
Source	Existing Use	Proposed Use	Notes/Explanation
Milking Parlor	_____ gal/day	_____ gal/day	_____
Milkhouse related	_____ gal/day	_____ gal/day	_____
Silage Pit Seepage	_____ gal/day	_____ gal/day	_____
Flush tanks/gutters/etc. :	_____ gal/day	_____ gal/day	_____
Leaking watering facilities:	_____ gal/day	_____ gal/day	_____
Other	_____ gal/day	_____ gal/day	_____
Total extra water to facility:	_____ gal/day	_____ gal/day	_____

D. Storm Runoff Producing Areas		25-Year, 24-Hour Rainfall Depth: _____ Inches			
Source	Existing Area	Units (circle one)	Proposed Area	Units (circle one)	Notes/Explanation
Roofs or Covered Lots	_____	Sq. Ft. or Ac.	_____	Sq. Ft. or Ac.	_____
Paved open lots	_____	Sq. Ft. or Ac.	_____	Sq. Ft. or Ac.	_____
Unpaved open lots	_____	Sq. Ft. or Ac.	_____	Sq. Ft. or Ac.	_____
Contributing Drainage Area :	_____	Sq. Ft. or Ac.	_____	Sq. Ft. or Ac.	_____
Drainage Area to be diverted:	_____	Sq. Ft. or Ac.	_____	Sq. Ft. or Ac.	_____

E. Dust and Odors
Describe any current or anticipated problems resulting from dust or odors produced at the site:

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III. SITE INVENTORY

(See NEH, Part 651, AWMFH, Ch. 2 and 8)

A. Legal Description Section _____, Township _____, Range _____, _____ P.M., _____ County

Site is shown on USGS Quadrangle Sheets(s): _____
 (attach copy when available)

This site is approximately _____ from _____
 (distance and direction) (nearest town)

B. Location Map (Use USGS or DRG Map – Insert after Page 6 of 6)

Show all of the following within a two mile radius of the facility:

- Location of the facility, public roads and fields receiving waste from the facility;
- Location of public, commercial and residential developments;
- Wells, streams, canals, lakes, wetlands, general direction of land slopes, and drainage areas affecting the facility, and the general direction of prevailing winds;
- Include Section, Township and Range on Map and "N" Reference;
- Indicate county located in and name of cooperator and date;
- Include topography map of facility and fields.

C. Facility Map [(use Aerial Photograph or Digital Ortho Quads (DOQ))]

Show pertinent on site features, such as:

- Location and dimensions of existing or proposed lots, alleys, buildings, ponds, etc.;
- Location of all utilities, dwellings, wells and surface water courses at the site;
- Location of soil boring/sampling sites;
- Indicate county located in and name of cooperator and date.

IV. SOILS DATA

(see NEH, Part 651, AWMFH Ch. 5, 7, and Appendix 10D)

A. Soil Survey Information

Survey Name:			Date:		Map Sheet #:		
Field ID	Dominant Map Unit	% Slope	Texture/Classification USDA USCS		% of Site	Depth to Water, (ft)	Describe any limitations or restrictions

B. Field Inventory Information

Field ID (Acres)	Total ^{1/} Size (Acres)	From Storage ^{2/} Distance (Miles)	Predominant Soil Map Unit	Irrigated ^{2/}	Farm ^{3/} ID	FSA ^{3/} Farm	FSA ^{3/} Tract	FSA ^{3/} Field

^{1/} Total Field Size.
^{2/} Distance from Storage to Field ID.
^{3/} Optional.

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E. Summary of Laboratory Soil Analysis (as required from Section IV-D) (Attach All Test Reports)

Field Sample No.	Grain Size Distribution				Atterberg Limits		Engineering Classification		Moisture-Density Relationship ²		Hydraulic Conductivity ³ , "k" (cm/s)
	fines		sands	gravel	LL	PI	Unified Class	Soil Perm. Group ¹	γ_{dmax} (pcf)	mo %	
	% Clay	% < #200	% < #4	% < 3"							

¹ Reference NEH, Part 651, AWMFH, Ch. 7, Table 7-3. ² Reference ASTM D-698, "Standard Proctor Density". ³ Determined with $\gamma_d @ 90 - 95\%$ of γ_{dmax}

F. Preliminary Earthen Pond/Lagoon Liner Recommendations

(Describe recommended materials, thickness, cover requirements, and any special construction requirements for this site.)

Recommended Material Source(s):

G. General Remarks and Interpretations (Describe in general any concerns or restrictions that should be considered in the facility plan.)

SOIL CLASSIFICATION GUIDELINES

Perm. Group	USCS Class	COARSE TEXTURED SOILS (< 50% passes a #200 sieve)	Gradation			Appearance			
			% #200	Finer #4	than 3"				
I	GW	Well graded gravels: gravel-sand mixtures	broad range from #4 to 3", Cu>4, Cc 1-3			Clean gravel - won't stain a wet palm			
I	GP	Poorly graded gravel	uniform size or gap graded			stain a wet palm			
I or II	GM	Silty gravels: gravel-sand-silt mixtures	non-plastic fines			Dirty Gravel, leaves stain on a wet palm			
II, III, IV	GC	Clayey gravels: gravel-sand-silt mixtures	plastic fines						
I	SW	Well graded sands: sand-gravel mixtures	broad range - #200 to #4, Cu>6, Cc 1-3			Clean sand - won't stain a wet palm			
I	SP	Poorly graded sands	uniform size or gap graded			stain a wet palm			
I or II	SM	Silty sand	sand with non-plastic fines			Dirty sand, leaves stain on a wet palm			
II, III, IV	SC	Clayey sands; sand-clay mixtures	plastic fines						
		FINE TEXTURED SOILS (> 50% passes a #200 sieve)	R a n g e		Ribbon Strength	Dry Crushing Strength	Dilatancy Reaction	Toughness near P.L.	Stickiness
II or III	ML	Silts: silty vs. fine sands; sandy or clayey silts	<50	<22	none	none/slight	quick- slow	none	none
II, III, IV	CL	Low-med. plasticity: silty, sandy or gravelly clays	< 50	>4-33	weak	Med./High	none/v. slow	medium	medium
III or IV	CH	Inorganic clays of high plasticity: fat clays	>50	>22-66	v. strong	High/V. High	none	high	v. high
II, III, IV	MH	Elastic silts; micaceous or diatomaceous silts	>50	<22-66	strong	slight/med.	slow/none	medium	low

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V. WASTE UTILIZATION/DISPOSAL DATA

(see NEH, Part 651, AWMFH Ch. 6 and 11)



A. Where is the waste to be disposed (on-farm)?

B. What acreage is available to dispose of the waste (on-farm)?

If yes: 1. Describe methods used for waste transport and application including when transported, from which facility, and how much is transported.

C. When is waste spread on the fields? Facility _____ Month _____
Incorporation (< 4 days or, within 12 hours or, > 4 days) Check the one that applies.

D. Is any waste transported off-farm? Yes or, No

If yes: 1. Describe methods used for waste transport and application including when transported, from which facility, and how much is transported.

E. Will others be receiving the wastes? Yes or, No

1. Who are the individuals?

2. What acreage(s) are available?
