

PART 599 - ENGINEERING PROCEDURES FOR COMPLEX PRACTICES  
AND PRACTICE SYSTEMS

SUBPART A - COMPOSTING FACILITY - 317

KS599.00 Poultry Operations

The following outline contains guidelines and procedures for implementation of composting facilities for poultry operations. It establishes the minimum documentation to be developed for each system.

(a) Planning

(1) Use standard procedure which addresses:

- (i) System operation and resources
- (ii) Collection
- (iii) Transportation
- (iv) Storage
- (v) Treatment
- (vi) Utilization
- (vii) Site Characteristics

(2) Include as part of conservation plan

(b) Design

(1) References

- (i) Agricultural Waste Management Field Handbook (AWMFH)  
(National Engineering Handbook Series Part 651)
- (ii) Field Office Technical Guide, Section IV
- (iii) Kansas Note Keeping and Documentation Manual (KNKDM)

(2) Site survey and investigation

- (i) Topographic survey to locate facilities and determine elevations and drainage
- (ii) Soil borings for foundation characteristics and ground water location
- (iii) Utility locations

(3) Design functions

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- (i) Composting facility
  - (A) Storage volume
    - [1] Complete design worksheet - Refer to Kansas supplements in the AWMFH.
    - [2] Provide adequate volume for primary and secondary stages of dead poultry composting
    - [3] Provide storage volume to contain at least 120 days of litter production
      - [i] May be a combination of ingredient and excess litter storage
      - [ii] Design storage volumes must be covered by a roof or other waterproof cover
  - (B) Structural design
    - [1] Use standard plans or technical note to design interior compost and litter storage structures
    - [2] Building design by consultant or fabricator; provide basic load criteria
- (ii) Supporting practices (as needed)
  - (A) Runoff control
    - [1] Roof (e.g. gutters)
    - [2] Foreign drainage (e.g. diversions)
    - [3] Related erosion control practices (e.g. water & sediment control basins)
  - (B) Leachate control and storage
  - (C) Water table control - subsurface drainage
  - (D) Water supply (e.g. pipeline)
  - (E) Fencing and seeding
  - (F) Access road
- (c) Narrative Plans

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- (1) Waste management plan
  - (i) Complete/edit standard narrative plan; get signatures
  - (ii) Balance nutrient loading with crop production
  - (iii) Location map
    - (A) Facility location showing separation distances, water resources and utilities
    - (B) Acres available for waste utilization: plot on map or show in a table indicating acres vs. legal description
- (2) Operation and maintenance plan
  - (i) Complete/edit standard narrative plan; get signatures
  - (ii) Also include any supporting practices used
- (3) Include a copy of the storage volume design worksheet
- (d) Construction Plans and Drawings
  - (1) Plan view
    - (i) Simple location map
    - (ii) Topographic map with buildings, structures, supporting practices, etc. - A grid map may be used for systems consisting of a composting facility only.
  - (2) Storage structure
    - (i) Plan, front and side views; show isometric view if available
    - (ii) Reinforced concrete structure details
      - (A) Wall and footing section
      - (B) Joint and corner details
      - (C) Bar schedule and quantities
    - (iii) Other details
      - (A) Appurtenances (e.g. leachate drains)
      - (B) Grading, excavation or fill requirements

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- (3) Building plans: supplied by designer or fabricator; keep one copy for design file
- (4) Table of quantities
- (5) Geologic investigation
  - (i) Show soil logs, water table locations, etc.
  - (ii) Show on plan view or separate sheet
- (6) Supporting practices (refer to KNKDM)
  - (i) Profiles and cross sections (e.g. for diversions and waterways)
  - (ii) Component details (e.g. risers, pipes, fences)
  - (iii) Area to be seeded
- (e) Specifications
  - (1) Indicate job name on specs or use a cover sheet
  - (2) Use 317 specs and edit as needed
    - (i) Edit in or out seeding and fencing
    - (ii) Add supporting practice and appurtenance details as needed
    - (iii) Add construction details as needed
- (f) Construction
  - (1) Layout
    - (i) Stake location of building or storage structure
    - (ii) Establish a bench mark
    - (iii) Stake any supporting practices
  - (2) Inspection
    - (i) Items requiring continuous inspection
      - (A) Concrete testing (slump and air only; ticket collection)
      - (B) Concrete placement and consolidation
      - (C) Form removal

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- (D) Any other critical items listed in the construction details section of the specifications or in an inspection plan
- (ii) Items requiring intermittent inspection
  - (A) Foundation preparation
  - (B) Site grading and fill placement
  - (C) Concrete form construction and steel placement
  - (D) Supporting practice construction
- (iii) Building inspection
  - (A) Responsibility of designer or fabricator
  - (B) Note obvious deficiencies only
- (3) Checkout
  - (i) Storage structure: document as-built grades, elevations and dimensions on plans
  - (ii) Supporting practices: follow requirements shown in KNKDM
  - (iii) Building: get written certification from designer or representative of building fabricator or supplier