NRCS UPDATE FOR THE 2019 INTERAGENCY NUTRIENT MANAGEMENT CONFERENCE

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INTRO

- ENGINEERING UPDATES

- ENGINEERING AND AGRONOMIC STANDARD UPDATES

- Agronomy Updates
CONCENTRATED LIVESTOCK AREA GUIDANCE

- Guidance for planning concentrated livestock areas
  - Exhibit 1 – Resource Evaluation Procedure for Concentrated Livestock Areas
  - Exhibit 2 – Guidance for In-Field Evaluation of Concentrated Livestock Areas
  - Exhibit 3 – CNMP Planning Considerations for Evaluating Concentrated Livestock Areas
  - Exhibit 4 – P Index Ratings and Pasture Management Guidance
  - Exhibit 5 – Size Requirements for Heavy Use Areas by Animal Type and Weight
## Exhibit 5

### Dairy Lot - Square Footage per Head

<table>
<thead>
<tr>
<th>Animal Type/Weight (lbs.)</th>
<th>Young Stock 250-400</th>
<th>Heifer 600-800</th>
<th>Mature Cow 1,000-1,400</th>
<th>Bull 2,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paved Feeding Area (Applies to sites with existing housing)</td>
<td>30-40 SF</td>
<td>40-50 SF</td>
<td>60-75 SF</td>
<td>100 SF</td>
</tr>
<tr>
<td>Paved Feeding and Resting Area <em>(Applies to sites w/o existing animal housing)</em></td>
<td>50-60 SF</td>
<td>60-75 SF</td>
<td>100-115 SF</td>
<td>140 SF</td>
</tr>
<tr>
<td>Unpaved Surface **</td>
<td>250-300 SF</td>
<td>350-500 SF</td>
<td>600-700 SF</td>
<td>600-800 SF</td>
</tr>
</tbody>
</table>

**Note: To determine the total area needed see note ***

### Beef Lot - Square Footage per Head

<table>
<thead>
<tr>
<th>Animal Type/Weight (lbs.)</th>
<th>Cow/calf pair 1,200</th>
<th>Feeder 600</th>
<th>Finisher 1000</th>
<th>Bull 2,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paved Feeding Area (Applies to sites with existing animal housing)</td>
<td>60-75 SF</td>
<td>40-50 SF</td>
<td>50-60 SF</td>
<td>100 SF</td>
</tr>
<tr>
<td>Paved Feeding and Resting Area <em><strong>(Applies to sites w/o existing animal housing)</strong></em></td>
<td>100-125 SF</td>
<td>55-65 SF</td>
<td>70-80 SF</td>
<td>140 SF</td>
</tr>
<tr>
<td>Unpaved Surface</td>
<td>400-500 SF</td>
<td>200-250 SF</td>
<td>300-400 SF</td>
<td>600-800 SF</td>
</tr>
<tr>
<td>Unpaved Surface (no mounds)</td>
<td>550-650 SF</td>
<td>400-500 SF</td>
<td>500-600 SF</td>
<td>800-1,000 SF</td>
</tr>
<tr>
<td>Unpaved Surface (with mounds)</td>
<td>20-45 SF</td>
<td>20-45 SF</td>
<td>20-45 SF</td>
<td>60 SF</td>
</tr>
</tbody>
</table>
New Irrigation Guide

- Provides general planning, design, and management guidance on various methods of irrigation
- Optimizes quantity and quality of harvested product by supplementing natural precipitation
- Includes information
  - Soils
  - Climate
  - Water Supplies
  - Crops
  - Farming Conditions specific to PA
PA-Design Guide 11
Floors (Slabs on Ground) for Concrete Structures

- Concrete floor design for Waste Storage Facilities, Heavy Use Areas, Waste Transfer, Agrichemical Handling Facilities
- Tables and Formulas included for each floor type
- Developed based on NEM Title 210, Section 536.22
  - ACI 350 Environmental Engineering Concrete Structures
  - ACI 318 Building Code Requirements for Structural Concrete
561 Heavy Use Area Protection

- Format changes
- Previously added equine to standard
- Previously moved temporary concentrated livestock areas on pastures to PA528
  Prescribed Grazing
468 Lined Waterway or Outlet

- Format changes
- Criteria change: Maximum capacity of 200 CFS was removed
- Table 1: Manning’s “n” values was removed and a reference to Engineering Field Handbook Chapter 16 was added.
313 Waste Storage Structure

- Tank Specifications are more stringent on Sensitive Sites
- Steel schedule in tank floor has increased
- Existing “NRCS Concurred Tank” designs are still valid with exception to floor steel change
520 Pond Sealing or Lining – Compacted Soil Treatment
521 Pond Sealing or Lining – Geomembrane or Geosynthetic Clay Liner

• Previously had 521A Flexible Membrane, 521B Pond Soil Dispersant, and 521C Bentonite

• 520 – A liner for an impoundment constructed using compacted soil

• 521 – A liner for an impoundment using a geomembrane or geosynthetic Clay material
  • HDPE Liners
578 Stream Crossing

- Format changes
- Purpose and Conditions Where Practice Applies were reworded
- Criteria – Additional statements about locations and avoiding the creation of passage barriers for aquatic species
- Bridge Crossings now references NEM, Part 536 – Structural Engineering
- Considerations – Added section on aquatic organisms in stream crossings
- Plans and Specifications – Added specific items to be included
587 Structure for Water Control

- Format changes
- Safety section added
- Cultural and Visual Resources section added
- Statements added about cultural resources
638 Water and Sediment Control Basin

- Format changes
- Purpose unchanged
  - Reduce gully erosion, trap sediment, reduce and manage runoff

- Minor changes to Considerations
  - Biodegradable control blankets
  - Planning and Locating WASCOBs
330 Contour Farming

New definition: Aligning ridges, furrows, and roughness formed by tillage, planting and other operations at a grade near the contour to alter the velocity or the direction of water flow.
Under “General Criteria,” added the following:

“Design the row grades with positive row drainage of not less than 0.2 percent on slopes where ponding is a concern. This would include sites with soil with slow to very slow infiltration rates (soil hydrologic groups C or D), or where crops are sensitive to ponded water.
484 Mulching

Under “General Criteria,” a paragraph was added to remove synthetic mulches and to not incorporate them in the soil. The percentage of ground cover to reduce potential evaporation was increased. Two new references were added.
333 Amending Soil with Gypsum Products

Practice standard was pulled from the FOTG.
Noxious or invasive plants language removed since this is NRCS policy for all matters.

Added criteria to remove phosphorus by harvesting above-ground biomass at least once each year.
Implementation Requirements

- 328 Conservation Crop Rotation
- 340 Cover Crop
- 329 Residue & Tillage Management, No Till
- 345 Residue & Tillage Management, Reduced Till

Reformatted to a single-page, two-sided format, reference to conservation plan map for practice location, reference to design documents, such as RUSLE2 reports, edits to improve format.
Guidance contains procedures to estimate soil loss from ephemeral and classic gullies. Tables provided for estimating erosion rates associated with different depth, width, and length combinations quickly. Formulas to compute erosion soil loss rates where erosion activity varies with gullies are explained with examples and illustrations.
Ephemeral Gully Control on Cropland
“Fix it, don’t disk it”

A new, one-page information guide for addressing the avoidance and control of ephemeral gullies on cropland. Designed to be shared with farmers, the guide stresses the four principles for improving soil health as the first line of defense. No till and cover crops across the drainage area and within the concentrated flow channel are recommended to improve infiltration, minimize runoff, and eliminate sediment detachment for situations where structural practices may not be needed.
General Conservation Publications & Information

Emphemeral Gully Fact Sheet

Gully Control on Cropland: "Fix It, Don’t Disk It!" (PDF, 1.85MB)

Using the ACT Conservation System on Cropland
For healthy Soils, Clean Water, and Profitable Farms. (PDF, 1.6MB)
RUSLE2 / WEPP Update
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