

STATEMENT OF WORK
Comprehensive Nutrient Management Plan
MISSOURI

PLANNING

Deliverables:

These deliverables apply to this individual planning activity. When specific conservation practices are utilized, refer to the appropriate Statements of Work.

A comprehensive nutrient management plan (CNMP) shall address all land units that the animal feeding operation (AFO) owner and/or operator owns or has decision-making authority over and on which manure and organic by-products will be generated, handled, stored, or applied. The CNMP shall address all manure produced by the livestock operation, including manure applied to land that is part of the operation as well as manure transported off-site.

1. Document the AFO owner's/operator's consideration of the six CNMP elements. It is recognized that a CNMP may not contain all six elements; however, they need to be considered by the AFO owner/operator during development of the CNMP, and the decisions regarding each must be documented. These elements are:
 - A. Manure and Wastewater Handling and Storage
 - B. Land Treatment Practices
 - C. Nutrient Management
 - D. Record Keeping
 - E. Feed Management
 - F. Other Utilization Activities

NOTE: Each CNMP element must meet the specific criteria provided in Section 600.54 of the National Planning Procedures Handbook (NPPH).

CNMPs will contain actions that address water quality criteria for the livestock production area, and land on which the manure and organic by-products will be applied (i.e., as a minimum address CNMP elements A, B, C, and D listed in item 1 above). This includes addressing soil erosion to reduce the transport of nutrients within or off of a field to which manure is applied. For AFO owners and/or operators who do not land-apply any manure or organic by-products, the CNMP will address only the livestock production areas (i.e., address CNMP elements A, D, E, and F listed in item 1 above).

2. Provide documentation that addresses the following items:
 - a. General site information
 - i. Names, phone numbers, and addresses of the AFO owner(s) and operator(s).
 - ii. Location of production site: legal description, driving instructions from nearest post office, and the emergency 911 coordinates (if available).
 - iii. Farmstead sketch showing scale outline of structures and buildings pertinent to the animal feeding operation.
 - iv. Plat map or local proximity map.
 - v. Operation procedures specific to the production site and practices.
 - vi. Existing documentation of present facility components that would aid in evaluating existing conditions, capacities, etc. (i.e., as-built plans, year installed, number of animals for which a component was originally designed, etc.).
 - b. Applicable permits or certifications
 - i. Federal, Tribal, State or local permits and/or ordinances.
 - ii. Professional engineer's (PE) signature on applicable planned NRCS practice standards.

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- iii. Operator or manager certifications.
- iv. Manure applicator certifications.
- v. Record of inspections or site assessments.
- c. **Manure and Wastewater Handling and Storage**--Manure production information
 - i. Animal types, phases of production, and length of confinement for each type at this site.
 - ii. Animal count and average weight for each phase of production on this site.
 - iii. Manure storage type, volume, and approximate length of storage.
 - iv. Measured or calculated daily manure and wastewater volumes for this site.
 - v. Description of transfer equipment, systems, and procedures. Include existing documentation of present facility components that would aid in evaluating existing conditions, capacities, etc. (i.e., as-built plans, year installed, number of animals for which a component was originally designed, etc.).
 - vi. Operation and maintenance activities for the collection, storage, treatment, and transfer of manure and wastewater, including associated equipment, facilities, and structures.
 - vii. Nutrient content and volume of manure, if transferred to others.
 - viii. List all required and/or facilitating practices planned.
- d. **Land Treatment Practices** and Application Site Information
 - i. Date plan prepared.
 - ii. Written manure application agreements (where applicable).
 - iii. Aerial maps of land application area.
 - iv. Readable individual field maps with clearly marked and labeled setbacks, buffers, and waterways, and environmentally sensitive areas, such as sinkholes, wells, gullies, tile inlets, etc.
 - v. Legal description of land sites, including watershed codes.
 - vi. Specific and unique field identification codes.
 - vii. Land use designation.
 - viii. Soil map, with appropriate interpretations.
 - ix. Risk assessments for potential nitrogen or phosphorus transport from fields. (See NRCS General Manual 190, Part 402, Nutrient Management, Section 402.07).
 - x. Land treatment practices planned and applied for control of overland water flow, and level of treatment they provide.
- e. **Nutrient Management** and Manure Application Plans
 - i. Crop types, realistic yield targets, and expected nutrient uptake amounts.
 - ii. Current soil tests (not more than 4 years old; not more than 2 years old when developing a new plan).
 - iii. Annual manure tests for each individual manure storage containment.
 - iv. Application equipment descriptions and methods of application.
 - v. Expected application seasons and estimated days of application per season.
 - vi. Use Manure Management Planner (MMP) or an equivalent tool to estimate application amounts per acre (volume in gallons or tons per acre, and pounds of plant available nitrogen, phosphorus as P₂O₅, and potassium as K₂O per acre).
 - vii. Calculate the acres needed for on-site or off-site distribution of manure generated by this operation, respecting any guidelines published for nitrogen or phosphorus soil loading limits.
- f. **Record Keeping**--Actual Activity Records
 - i. Record of internal inspections for manure system components.
 - ii. Record of any spill events and remedial actions taken.
 - iii. Planned and applied rates, methods of application, and timing (month and year) of nutrients applied. (Include all sources of nutrients, i.e., manure, commercial fertilizers, etc.).
 - iv. Current and planned crop rotation.

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- v. Weather conditions (preferred and actual) during nutrient application.
 - vi. General soil moisture conditions (preferred and actual) at time of application (i.e., saturated, wet, moist, dry).
 - vii. Actual crop harvest yield from manure application sites.
 - viii. Record of inspections or site assessments.
 - ix. Record of transfer of manure offsite or to a third-party recipient. Include date of transfer, amount of manure transferred, manure nutrient content, and recipient of manure.
 - g. Animal mortality management
 - i. Plan for mortality management, including catastrophic mortality events.
 - ii. Methods and equipment used to implement the mortality management plan.
 - h. **Feed Management**
 - i. Document feeding system and whether producer has control of the feeding ration.
 - ii. List feed ration adjustments or special feed additives.
 - i. **Other Utilization Activities**
 - i. List any system or process for manure utilization that is not contained in earlier sections (e.g., biomass for energy production, composting, pelletizing).
 - j. Operation and Maintenance requirements
 - i. Detailed operation and maintenance procedures for the conservation system, holding facility, etc., contained in the CNMP. This includes procedures such as:
 - 1. Calibration of land application equipment
 - 2. Storage facility emptying schedule
 - 3. Soil and manure sampling techniques
 - k. Emergency action plan covering: fire, personal injury, manure storage and handling, and land application operations.
 - l. Certify that the CNMP meets requirements of the NRCS Field Office Technical Guide (FOTG) conservation practice standards for all practices contained within it. Ensure that the Statements of Work associated with all practices are followed.
3. Develop and deliver plan(s) to appropriate sources. Review planned treatments step-by-step, field-by-field, year-by-year with client.
- a. **All:** Provide one (1) copy of the CNMP and supporting documents to the client and review materials
 - b. **Technical Service Providers (TSPs):** Deliver one (1) final printed plan and one (1) electronic copy of the CNMP on computer compact disc (CD-ROM) to the local NRCS Field Office by the assigned date. Information used to produce the CNMP document shall be supplied in a format compatible with Manure Management Planner (.mmp). Details on access to Manure Management Planner are provided at the end of this document. The final CNMP shall be free of error and typed in a readable font. The electronic version of the final CNMP will be compatible with Microsoft Office Word/Excel/Access 2003. Any maps provided will be supplied in a JPEG (.jpg) format.
 - c. **USDA Service Center personnel:** Develop and record CNMP in NRCS Toolkit, including digitized land units and practice schedule. Information used to produce CNMP information for NRCS Toolkit shall be supplied in a format compatible with Manure Management Planner (.mmp). Details on access to Manure Management Planner are provided at the end of this document.

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FOLLOWUP

Deliverables:

1. Develop and deliver plan(s) to appropriate sources. Review planned treatments step-by-step, field-by-field, year-by-year with client.
2. Review, on-site, the results of the applied management practices outlined in the CNMP
3. Assist client to evaluate both annual and strategic components of the CNMP. Update and (or) revise the CNMP as appropriate.
4. Evaluate the CNMP's effects on soil, water, air, plant, and animal resources.
5. Assist the client to evaluate and assess CNMP record keeping needs.

SUPPORT REFERENCES

- Manure Management Planner (MMP), Purdue University. Free download at www.agry.purdue.edu/mmp.
- Missouri NRCS Electronic Field Office Technical Guide (eFOTG). Access at <http://www.nrcs.usda.gov/technical/efotg/>.

REFERENCES

- NRCS National Planning Procedures Handbook (CNMP Technical Guidance)
- NRCS National Environmental Compliance Handbook
- NRCS Field Office Technical Guide
- NRCS National Engineering Manual
- NRCS National Agronomy Manual
- NRCS National Cultural Resources Procedures Handbook
- NRCS National Engineering Handbook, part 652, National Irrigation Guide
- Manure Characteristics. Midwest Plan Service. MWPS-18. (2)
- Missouri Department of Natural Resources Manual 121, Design Guidelines for Animal Waste Management for Concentrated Animal Feeding Operations.

STATE CONTACT

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