

Illinois STATEMENT OF WORK
 Comprehensive Nutrient Management Plan

**Manure and Wastewater Handling and Storage –
 Inventory and Evaluation**

SUGGESTED
DOCUMENTATION FORMAT

The Plan developer will provide maps, plotted surveys, or photographs adequate to delineate all lots or buildings where animals are confined, all collection and transfer facilities and all facilities for storing and treating waste materials from the livestock production operation. (Separate maps with proposed practices will be presented). The Plan developer will provide a contour map of the site adequate to delineate sources of and flow direction for clean water through and around buildings and facilities. Existing clean water diversions should be sketched on the map. Photo's/surveys shall be adequate to document required setbacks from non-farm residences, wells, etc.

The plan developer will provide a brief description explaining how waste materials are, or will be collected from each confinement facility (e.g., pit under slatted floor for swine building or daily scrape and haul for a dairy lot).

The plan developer will provide a brief statement explaining how waste materials are, or will be, transferred from each collection or storage facility (e.g., slurry pumped from pit under building, transferred to field utilization site in a slurry wagon and surface applied with incorporation in 24 hours).

The plan developer will describe the current method of mortality management and provide recommendations (if needed) to meet federal, state or local requirements and to minimize the movement of pathogens offsite.

The plan developer will document, as applicable:

- 1) Type, number and average weight of all livestock sharing (or planned to share) the confinement facilities subject to the CNMP. This documentation will include planned periods of confinement for each type and size of animals inventoried.

- 2) Total cubic feet of manure and other solids and liquids generated per day/week/month at the confinement areas subject to the CNMP and pounds of nutrients (N, P & K) which are available for waste utilization, each year, from the waste stream. If manure/wastewater test results are not available, nutrient content of manure/wastewater may be based on tables found in the Midwest Plan Service publication, Livestock Waste Facilities Handbook, MWPS-18, Second Edition or other sources approved by the NRCS.

Animal Waste Management Plan Report from AWM or similar documentation.

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<p>3) Pounds and cubic feet of bedding or other solids and gallons and cubic feet of wastewater, grey water and other liquids added to the waste stream.</p> <p>4) Capacity of all existing manure and wastewater handling and storage facilities and inspection reports and photographic evidence of the physical state of these facilities.</p> <p>5) Types of equipment/facilities existing and planned for delivering manure and wastewater to field and for application.</p> <p>The following recordkeeping documents (forms) shall be provided to the landowner/operator for any existing waste storage and handling facilities:</p> <ul style="list-style-type: none"> - Operation and Maintenance Requirements for structural measures. See O&M requirements for applicable standards in IL e-FOTG. - Forms for documenting inspections and maintenance. May be similar to Form 13A, Illinois Manure Management Plans Made Simple: A Step by Step Workbook. - Emergency action plans (overtopping, structure failure, 25 year storm occurrence) including IEMA phone number (800-782-7860) for reporting releases of wastes. - Mortality management documentation (if applicable) - <p><u>Manure and Waste Water Handling & Storage - Planned Practices</u></p> <p>The Plan developer will include recommendations for practices the landowner needs to implement in order to meet her/his management goals and to comply with provisions of the Illinois Livestock Management Facilities Act or other state and federal laws.</p> <p>Provide estimated quantities for proposed practices, not part of a preliminary plan, such as diversions, roof runoff management, heavy use protection, mortality management, and manure transfer at the confinement area (production to storage).</p> <p>“Planned Practices” which will require a preliminary plan will include any proposed:</p> <ul style="list-style-type: none"> - Waste Storage Facilities - Waste Treatment Lagoons - Wastewater Treatment Strips & Sediment Basins - Anaerobic Digesters - Manure transfer from storage/treatment to fields for utilization. 	<p><i>Animal Waste Management Plan Report from AWM or similar documentation.</i></p> <p><i>Animal Waste Management Plan Report from AWM or similar documentation.</i></p> <p><i>Equipment screen from MMP, Manure Management Planning Handbook Form 10A or similar documentation.</i></p> <p><i>Illinois Manure Management Plans Workbook Forms 2, 3 D-G, 13A, 14 A-L or similar documentation.</i></p>
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All practices plans will meet standards set forth in Section IV of the Illinois Field Office Technical Guide, the Illinois Livestock Management Facilities Act and all other state or local ordinances.

All preliminary plans shall include a separate map or photo locating proposed practices. Preliminary plans shall include:

1. For all manure & wastewater transfer facilities – manure production sites to fields:
 - a. Location of facilities on photo and contour map.
 - b. Type of facility (e.g., concrete reception pit, pvc pipe, centrifugal pump, etc) & approximate quantities of materials required.

 Plans for transfer facilities at the confinement site, not part of the waste transfer to fields for utilization, shall stand alone.
2. For all waste storage facilities
 - a. Location of facility
 - Locate facility on a photo and contour map.
 - Document location of 100 year floodplain, if known.
 - Document suitability of foundation materials for type of storage facility proposed (see Illinois Livestock Management Facilities, Act)
 - b. Type of proposed facility required capacity and dimensions and approximate quantities of materials required (e.g., cubic yards of concrete, board feet of lumber, etc).
 - c. If earthen storage, estimate of earthwork and liner material quantities to construct and seal the facility and materials to install monitoring wells as applicable.
3. For all waste treatment facilities
 - a. location of facility on photo and contour map.
 - Document location of 100 year flood plain, if known.
 - Document suitability of soils for infiltration areas, settling basins foundations, etc.

Animal Waste Management Plan Report from AWM Design Sheets from Chapter 10 of the NRCS Agriculture Waste Management Field Handbook or similar documentation.

FEMA Flood Maps

County Soil Survey, Tables 14-16

Design Sheets from Chapter 10, NRCS AWM Field Handbook, Illinois Manure Management Plans Workbook Forms 4 A-C or similar documents.

FEMA Flood Maps

County Soil Survey Tables 14-16

Design Sheets from Chapter 10

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<p>b. Types of proposed facility, required capacities, dimensions and approximate quantities of materials required to construct.</p> <p>c. If manure and/or waste water are to be confined in an earthen facility, estimate of material quantities and cost to seal the facility and install monitoring wells as applicable.</p> <p>The following record keeping documents (forms) shall be furnished to the landowner/operator for all planned facilities.</p> <ul style="list-style-type: none"> • Manufacturers/suppliers operation and maintenance recommendations (if applicable) • Operation and maintenance requirements for structural measures (See O&M Requirements in applicable standards, IL eFOTG) • Forms for documenting inspections and maintenance (Similar to Form 13A, Illinois Manure Plans Made Simple: A Step by Step Workbook) • Emergency action plans including phone number of IEMA for reporting releases of wastes. • Mortality Management Documentation (if applicable) <p>The plan developer will discuss the planned/existing system for Manure and Wastewater Handling and Storage with the producer and will obtain written concurrence from the producer for all practices proposed to be implemented as part of the CNMP.</p> <p><u>Nutrient Management</u></p> <p>The plan developer will develop a budget for nitrogen, phosphorus and potassium for all sources of nutrients and all fields or conservation management units controlled by the landowner/operator (or fields which the operator has written permission to utilize) for nutrient management. . The budget will outline the rates of manure to be applied to each field and show the total manure to be applied for each year of the plan.</p> <p>The plan developer will work with the landowner/operator and the local office of the USDA-NRCS to gather all necessary information on fields under landowner/operators control for developing a nutrient management plan.</p>	<p><i>NRCS AWMFH, Illinois Manure Management Plans Workbook Forms 4 A-C or similar documents.</i></p> <p><i>Illinois Manure Management Plans Workbook Forms 11 A-J or similar documents.</i></p> <p><i>Illinois Manure Management Plans Workbook Form 14 A-L or similar documents.</i></p> <p><i>MMP Plan Data report, Fields, Crops, and Analysis Table, IL WK.xls or Form 10B from Illinois Manure Management Plans Workbook</i></p>
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The plan developer will provide maps of all fields, where manures may be utilized, showing all wells, sinkholes or open water areas and the setback(s) for manure application. Areas where application restrictions exist (steep slopes, floodplains, organic soils, etc) will be noted, along with restrictions as per IL-633, Waste Utilization Standard. The map should show total field acres and acres for manure application. An index, table or list of all fields will be included in the plans which list field, total acres and application acres.

The plan will cover the period of the crop rotation for all fields where manure is applied or other period acceptable to NRCS

The plan will include a section for recording existing and future manure test results. Manure tests for liquid manure will be taken every time manure is removed from each type of storage until average nutrient values can be determined. Manure tests for solid manure will be taken before each major spreading time such as spring and fall until average nutrient values can be determined. Manure tests will include Total N, ammonium N, P₂O₅, and K₂O. If no manure test is available, use values in MWPS-18 or other source acceptable to NRCS and indicate source of data used. Producer will be provided information on manure sampling, storage, and shipping.

If the plan developer does not use MMP, values used to determine manure application rates will be documented. Values for organic nitrogen mineralization (current manure and previous 3 years applications), ammonium nitrogen losses and mineralization rates for phosphorus and potassium will be from MWPS-18, or other source acceptable to NRCS. The plan will indicate source of data used.

The plan will include soil testing schedules for all fields where manure may be applied. Soil tests are required and will be taken at 4 year intervals or less and sample size shall be no more than 2 ½ acres unless approved by NRCS. Producer will be provided information indicating the above sampling requirements for future sampling.

If soil tests indicate P levels below 300 pounds per acre, manure may be applied in excess of crop P uptake, not to exceed the nitrogen needs of the next crop. On fields with soil test P over 300 pounds per acre or where there are no acceptable soil tests, manure may not be applied at rates exceeding the P uptake levels of the crop and no commercial fertilizers with P are allowed. Use average crop yields for all calculations and nutrient uptake (removal) values from the Illinois Agronomy Handbook. Provide documentation in the plan for crop yields used. For each

Can use reference maps/photos in the Land Treatment Section.

MMP Plan Data Report – Analysis Report, Illinois Manure Management Plans Workbook Form 5A or similar forms.

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crop and yield, indicate recommended application rate from each nutrient source, as well as, application method and time.

The plan will document each field where phosphorus application in excess of crop uptake is recommended. For each such field, the plan will predict the rate at which soil test phosphorus will increase and number of years until soil test Phosphorus exceeds 300 pounds per acre

Supplemental nutrients to meet crop needs, not provided by manure, will also be indicated. This will include setback areas, etc. within the fields where manure is not applied and the entire field in years when manures are not applied.

The following record keeping documents (forms) will be furnished to the landowner/operator.

- Forms for recording Soils Test Results
- Forms for recording manure and commercial fertilizer applications.
 - Fields
 - Source and amounts of manure or fertilizer applied and method
 - Time & date of application (See forms in Step 11, Illinois Manure Management Plan Made Simple)
- Form for documenting 3rd Party receipt of waste products (plan developer supplied)
- Forms for recording calibration tests on application equipment.

Illinois Manure Management Plans Workbook Form 6D or similar forms.

NRCS Field Application Record, IMMP Form 12A or similar form

*IMMP Form 12A or similar form
 IMMP Form 13A - C or similar form*

Land Treatment

General – The plan developer shall document:

- Fields where manure and waste water may be utilized (on maps or photographs) showing site specific practice locations.
- Ephemeral or gully erosion concerns in each field
- % slope and slope length used to represent each conservation management unit (See Illinois Agronomy Technical Note 3 – Choosing the Planning Area of a Field” in Section I of the Field Office Technical Guide.)
- Soil types in field and soil type used for planning.
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Presentation To Owner/Operator:

The Plan developer, prior to submission of the final plan to NRCS shall go over the draft plan in detail with the owner/operator of the facility. The plan will be identified to the owner/operator as a draft plan during the presentation. The Plan developer will obtain the owner/operator's initials concurring in draft plan. Any changes or revisions discussed at that time shall be incorporated into the final plan to be delivered to NRCS.

All Nutrient Managements Plans will meet the requirements set forth in Section IV of the Illinois Field Office Technical Guide Standards 590 and 633, the Illinois Livestock Management Facilities Act and all other state and local ordinances.

All nutrient management plans developed under this contract shall be consistent with existing NRCS conservation plans. It is expected that the plan developer will consult the relevant NRCS conservation plan early in the process of developing each nutrient management plan.

Quality Standard. The work described in this PWS shall be carried out in accordance with requirements of the National Planning Procedures Handbook, Subpart E, Parts 600.50 to 600.54 and Subpart F, Part 600.75 for Manure and Wastewater Handling & Storage, Nutrient Management, and Recordkeeping. This NPPH part can be accessed on line at www.nrcs.usda.gov/programs/af/cnmp-guide_index.html.

In addition, all practices planned should be applicable to the system for which the plan is written. Following is a partial listing of component practices. Complete descriptions can be found at http://efotg.nrcs.usda.gov/efotg_locator.aspx?map=IL

Nutrient Management (590) – The use of organic and inorganic nutrients for the production of crops, forages, and pasture.

Waste Utilization (633) – The use of organic waste products for nutrients, energy, or other alternative uses.

Waste Storage Facility (313) – The construction of a storage facility for liquid, semi-solid (slurry), or solid material.

Waste Treatment Lagoon (359) – The construction of a treatment and storage facility for manure or liquid waste material.

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The anaerobic lagoon system comprises most if not all installations.

Manure Transfer (634) – Permanently installed components or pipelines to transport manure between waste management components or application fields.

Compost Facility (317) or Incinerator (769) – Mortality management system that results in a nutrient rich material for utilization.

Closure of Waste Impoundments (360) – The removal of nutrient rich material and the physical elimination or removal of a waste storage or treatment component.

Wastewater Treatment Strip (635) – A treatment component of an agricultural waste management system consisting of a strip or area of herbaceous vegetation.

Roof Runoff Structure (558) – Structures that collect, control and transport precipitation from roofs.

Sediment Basin (350) – A basin constructed to collect and store debris or sediment.

SOURCES CITED

AWM – NRCS Animal Waste Management Software.

See <http://www.wcc.nrcs.usda.gov/awm/>

MMP – Manure Management Planner, developed at Purdue University. See <http://www.wcc.nrcs.usda.gov/awm/>

Illinois Manure Management Plans Workbook, developed by the University of Illinois.

See http://www.age.uiuc.edu/clmt/immp_contents.asp

USDA NRCS Agricultural Waste Management Field Handbook. (NRCS AWMFH). See <http://www.info.usda.gov/CED/>

Midwest Plan Service Publication, Livestock Waste Facilities Handbook, MWPS-18, Second Edition.

IL-eFOTG – Illinois electronic Field Office Technical Guide.

See <http://www.il.nrcs.usda.gov/technical/>

RUSLE 2 – NRCS Revised Universal Soil Loss Equation, Version 2. See http://fargo.nserl.purdue.edu/rusle2_dataweb/
CNMP PWS lastrev.doc