Livestock Facility Siting Technical Expert Committee
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Livestock Siting Technical Expert Committee 2010
Subcommittee Assignment

Committee Co-Chairs

Richard Castelnuovo. DATCP

Ed Odgers. DATCP

Odor Subcommittee

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Cheryl Daniels. DATCP

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Livestock Facility Siting Technical Expert Committee

Logistics and Ground Rules

The Technical Expert Committee will operate according to the ground rules, committee structure and logistics summarized in this document. The goal is to facilitate participation, enhance discussions and complete the development of a robust set of recommendations by the December deadline.

Committee Structure and Logistics

1. Committee co-chairs Richard Castelnuovo and Ed Odgers will serve as spokespersons.

2. All meetings will be noticed under the Open Meetings Law. The public may attend, however meeting agendas will not include a public involvement component. DATCP staff will create and maintain a mailing list for members of the public interested in receiving information related to the committee's work.

3. All meetings will generally run between 9:00 a.m. and 3:00 p.m. In advance of a scheduled meeting members may agree to modify the agenda, e.g. starting earlier and/or ending later. Likewise members have the flexibility to schedule additional meetings necessary to develop recommendations. Meetings shall only be rescheduled if there is adequate time to properly public announce the change.

4. The committee's assignment is in the detailed charge distributed at the first meeting. The committee is not responsible for addressing issues outside the specific questions.

5. The committee will complete much of its work through subcommittees. This format was selected to make the most efficient use of members' time and ensure completion by the December deadline.

6. Committee members and advisors were assigned to subcommittees based on their expertise and knowledge in key areas. DATCP staff support is assigned to each subcommittee.

7. Advisors can participate in subcommittee deliberations but will not participate in the full committee's decision making process to approve final recommendations. Committee members can seek the advice of other technical experts if necessary.

8. Each subcommittee will develop recommendations using the consensus process. It is not expected that decisions will be made by voting. Each subcommittee determines which recommendations are forwarded to the entire committee for consideration.

9. The full committee will use a consensus process to determine which subcommittee recommendations get forwarded to Secretary Nilsestuen. The full committee should show appropriate deference to the work of each subcommittee, and is responsible for ensuring the internal consistency of recommendations. It is not expected that decisions will be made by voting.

10. Final committee recommendations must conform to the format required for presentation to Secretary Nilsestuen.

11. DATCP staff will handle the logistical tasks associated with meetings, including the preparation of agendas and meeting materials, distribution of information related to meetings (electronically usually 7 days in advance), and preparation of meeting notes.

12. Members may be reimbursed for necessary out-of-pocket expenses associated with attending the meetings. If interested contact DATCP staff.

Ground Rules for Participation

13. Members are expected to take individual responsibility for contributing. Members are expected to complete homework assignments between meetings, help set meeting objectives, and support the group in completing its assignment.

14. Every member's contribution is valuable:
    - Actively listen and encourage others to contribute
    - State ideas clearly and concisely
    - Ask questions
    - Be unconditionally constructive
    - Be factual, focus on the issue or problem not the person

15. Members should engage in respectful communication: speaking one person at a time, minimizing interruptions, and focusing attention on the deliberations at hand.

16. Meetings will start and end on time. Be mindful of sticking to the agenda without sacrificing productive group dynamics.

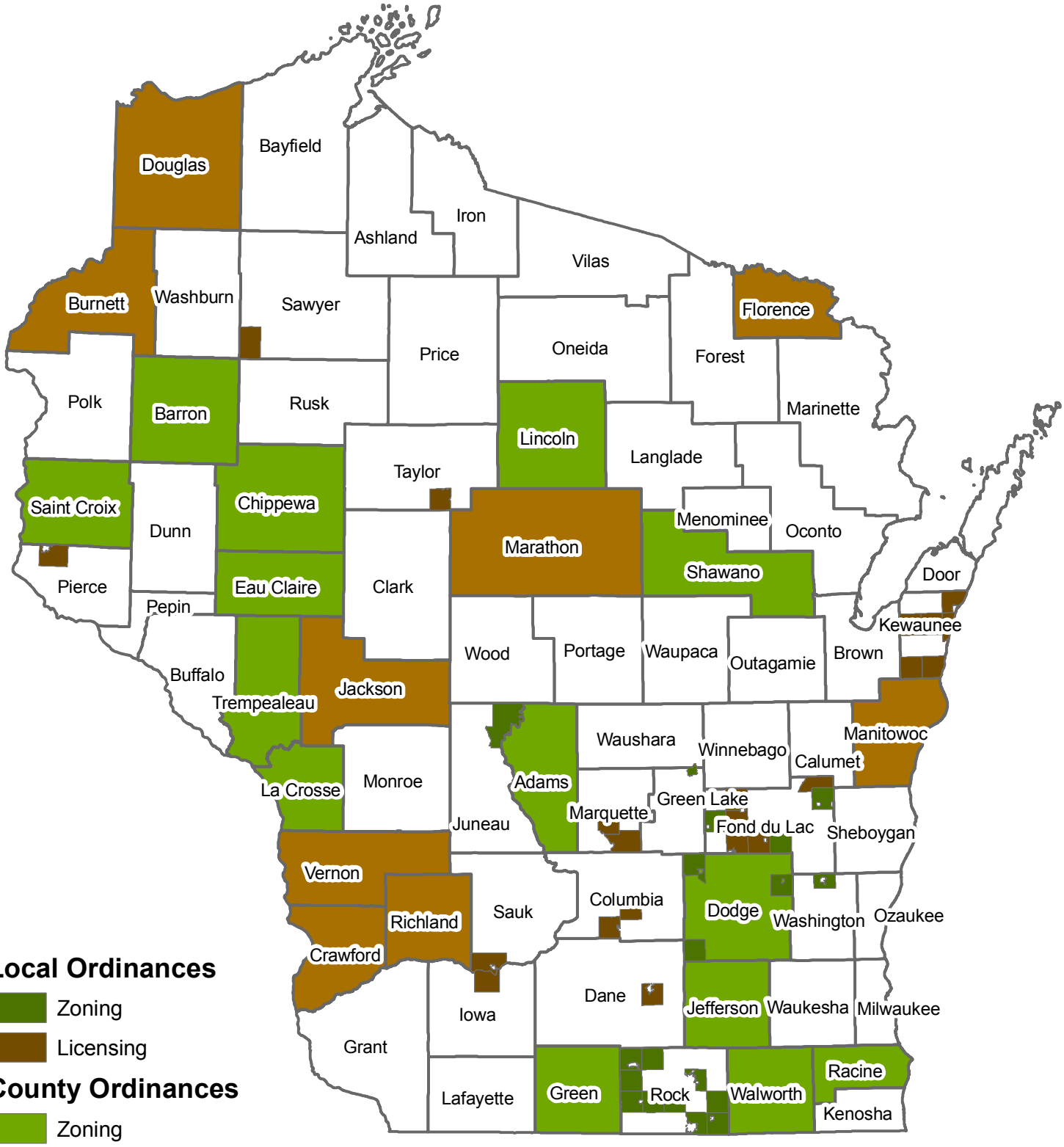
17. Members should place a priority on attending meetings. If you cannot make a meeting it is your responsibility to contact the appropriate DATCP staff, and to provide the group your homework materials. In order to maintain the collaboration and dynamics of the committee substitution of members is discouraged

18. Members should attend to their own individual needs – water, stretching, etc.

19. The public is welcome to attend committee meetings to listen to deliberations of the members. While the meetings are not designed to provide opportunities for public participation, there will be other occasions for the public to comment and share their ideas. Opportunities for public involvement include ATCP Board meetings when the committee's recommendations are presented, and any rulemaking related to the committee's recommendations.

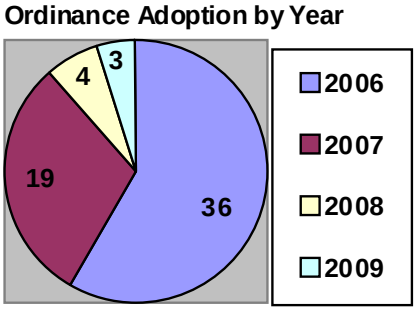
Livestock Siting Ordinances

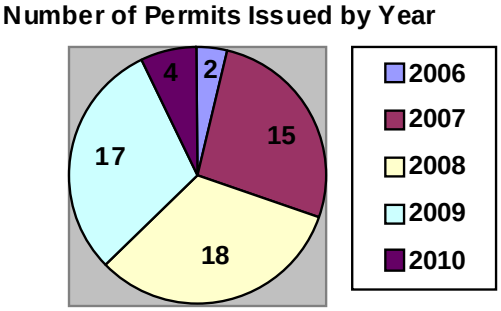
Map created July 13, 2010



Local Implementation Data

Local livestock siting ordinances 23 counties, 38 towns and 1 city 29 licensing ordinances, 33 zoning ordinances					
County	Jackson	Vernon	Carlton	Luxemburg	Rock
Adams	Jefferson	Walworth	Casco	Magnolia	Rosendale
Barron	La Crosse		Clinton	Marshfield	Spring Green
Burnett	Lincoln	**Town**	Cottage Grove	Metomen	Spring Valley
Chippewa	Manitowoc	Anhapee	Edgewater	Oakfield	Springvale
Crawford	Marathon	Arlington	Fox Lake	Packwaukee	Turtle
Dodge	Racine	Armenia	Franklin	Pierce	Union
Douglas	Richland	Bradford	Harmony	Plymouth	Wyoming
Eau Claire	Shawano	Buffalo	Kewaskum	Porter	
Florence	St. Croix	Byron	Little Black	Portland	**City**
Green	Trempealeau	Calumet	Lowville	River Falls	City of Berlin





56 facilities are locally permitted

- 45 by counties, 11 by towns
- 38 licenses, 18 zoning
- 26 CAFOs locally permitted, 12 of these used their DNR permit in lieu of Worksheets 3, 4 & 5

Number of Permitted Facilities by Size, Animal Units	
AU	# of Facilities
Less than 499	2
500 to 899	15
900 to 999	13
1000 to 3,999	21
4000 to 10,000	4
More than 10,000	1

38 of 55 Permitted Facilities Comply With the Odor Standard	
Status	# of Facilities
Exempt, < 500 or < 1,000 AU	16
Exempt, distance > 2,500 ft	1
Voluntary compliance < 1,000 AU	13
Required to comply > 1,000 AU	26

Livestock Facility Siting Technical Expert Committee
Web Resources

Application-Related Materials

Includes worksheets and support materials to complete worksheets such as the odor standard spreadsheet, manure generation calculator and BARNY runoff model. Also provides checklist for making completeness determination, http://www.datcp.state.wi.us/arm/agriculture/land-water/livestock_siting/applic_matls_tech_assist.jsp

Fact Sheets and Information

Includes explanatory materials that are organized by these topics: General Information; Local Government: Deciding to Regulate; Local Government: Existing Ordinances and Permits; Local Government: Local Implementation and Review; Livestock Operators, http://www.datcp.state.wi.us/arm/agriculture/land-water/livestock_siting/factsheets_information.jsp

Interactive Map

Provides up-to-date information about local governments with zoning or licensing ordinances that require local permit approval to expand or build a new livestock facility, https://datcpgis.wi.gov/livestock/

Livestock Facility Siting Four Year Evaluation Report, May 2006 – April 2010

Summarizes implementation of the siting rule over the past four year, includes highlights of public comments from listening sessions, and identifies issues within the scope of the four year review of the rule, http://www.datcp.state.wi.us/arm/agriculture/land-water/livestock_siting/pdf/LivestockSitingFacilities.pdf

Livestock Facility Siting Review Board

Includes Board decisions regarding requests for review of local permit approvals or denials, http://www.datcp.state.wi.us/arm/agriculture/land-water/livestock_siting/siting_review_board.jsp

Technical Expert Committee

Provides the latest information about the committee, its work, and meeting activity, http://www.datcp.state.wi.us/arm/agriculture/land-water/livestock_siting/technical_expert_committee.jsp

Date of enactment: **April 13, 2004**
2003 Assembly Bill 868 Date of publication*: **April 27, 2004**

2003 WISCONSIN ACT 235

AN ACT *to create* 15.135 (1), 93.90 and 165.25 (4) (as) of the statutes; **relating to:** the siting and expansion of certain livestock facilities, local zoning ordinances relating to livestock facilities, creating a Livestock Facility Siting Review Board, and granting rule−making authority.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

SECTION 1. 15.135 (1) of the statutes is created to read:

15.135 **(1)** LIVESTOCK FACILITY SITING REVIEW BOARD. (a) There is created a livestock facility siting review board which is attached to the department of agriculture, trade and consumer protection under s. 15.03. The board consists of the following members:

1. A member representing the interests of towns, selected from a list of names submitted by the Wisconsin Towns Association.

2. A member representing the interests of counties, selected from a list of names submitted by the Wisconsin Counties Association.

3. A member representing environmental interests, selected from a list of names submitted by environmental organizations.

4. A member representing livestock farming interests, selected from a list of names submitted by statewide agricultural organizations.

5. Three other members.

(b) The members under par. (a) shall be nominated by the secretary of agriculture, trade and consumer protection, and with the advice and consent of the senate appointed, for 5−year terms.

SECTION 2. 93.90 of the statutes is created to read:

93.90 Livestock facility siting and expansion. (1) This section is an enactment of statewide concern for the purpose of providing uniform regulation of livestock facilities.

(1m) DEFINITIONS. In this section:

(a) "Animal unit" has the meaning given in s. NR 243.03 (3), Wis. Adm. Code.

(b) "Application for approval" means an application for approval of a livestock facility siting or expansion.

(c) "Board" means the livestock facility siting review board.

(d) "Expansion" means an increase in the number of animals fed, confined, maintained, or stabled.

(e) "Livestock facility" means a feedlot or facility, other than a pasture, where animals used in the production of food, fiber, or other animal products are or will be fed, confined, maintained, or stabled for a total of 45 days or more in any 12−month period. "Livestock facility" does not include an aquaculture facility.

(f) "Political subdivision" means a city, village, town, or county.

(2) DEPARTMENT DUTIES. (a) For the purposes of this section, the department shall promulgate rules specifying standards for siting and expanding livestock facilities. In promulgating the rules, the department may incorporate by cross−reference provisions contained in rules promul-

* Section 991.11, WISCONSIN STATUTES 2001−02 : Effective date of acts. "Every act and every portion of an act enacted by the legislature over the governor's partial veto which does not expressly prescribe the time when it takes effect shall take effect on the day after its date of publication as designated" by the secretary of state [the date of publication may not be more than 10 working days after the date of enactment].

gated under ss. 92.05 (3) (c) and (k), 92.14 (8), 92.16, and 281.16 (3) and ch. 283. The department may not promulgate rules under this paragraph that conflict with rules promulgated under s. 92.05 (3) (c) or (k), 92.14 (8), 92.16, or 281.16 (3) or ch. 283.

(b) In promulgating rules under par. (a), the department shall consider whether the proposed standards, other than those incorporated by cross−reference, are all of the following:

1. Protective of public health or safety.

1m. Practical and workable.

2. Cost−effective.

3. Objective.

4. Based on available scientific information that has been subjected to peer review.

5. Designed to promote the growth and viability of animal agriculture in this state.

6. Designed to balance the economic viability of farm operations with protecting natural resources and other community interests.

7. Usable by officials of political subdivisions.

(c) The department shall review rules promulgated under par. (a) at least once every 4 years.

(d) The secretary shall appoint a committee of experts to advise the department on the promulgation of the rules under par. (a) and on the review of rules under par. (c).

(e) In addition to the rules under par. (a), the department shall promulgate rules that do all of the following:

1. Specify the information and documentation that must be provided in an application for approval in order to demonstrate that a livestock facility siting or expansion complies with applicable state standards under sub. (2) (a).

2. Specify the information and documentation that must be included in a record of decision making under sub. (4) (b).

(3) POLITICAL SUBDIVISION AUTHORITY. (a) Notwithstanding ss. 33.455, 59.03 (2) (a), 59.69, 60.10 (2) (i), 60.61, 60.62, 61.34 (1), 61.35, 62.11 (5), 62.23, 66.0415, 92.07 (2), 92.11, and 92.15 (3) (a), a political subdivision may not disapprove or prohibit a livestock facility siting or expansion unless at least one of the following applies:

1. The site is located in a zoning district that is not an agricultural zoning district.

2. The site is located in an agricultural zoning district in which the proposed new or expanded livestock facility is prohibited, subject to pars. (b) and (c).

3. The proposed new or expanded livestock facility violates an ordinance adopted under s. 59.692, 59.693, 60.627, 61.351, 61.354, 62.231, 62.234, or 87.30.

4. The proposed new or expanded livestock facility violates a building, electrical, or plumbing code that is consistent with the state building, electrical, or plumbing code for that type of facility.

5. The proposed new or expanded livestock facility will have 500 or more animal units and violates a state standard under sub. (2) (a).

6. The proposed new or expanded livestock facility will have 500 or more animal units and violates a requirement that is more stringent than the state standards under sub. (2) (a) if the political subdivision does all of the following:

a. Adopts the requirement by ordinance before the applicant files the application for approval.

b. Bases the requirement on reasonable and scientifically defensible findings of fact, adopted by the political subdivision, that clearly show that the requirement is necessary to protect public health or safety.

8. The proposed new or expanded livestock facility will have fewer than 500 animal units but will exceed a size threshold for requiring a special exception or conditional use permit that was incorporated into the political subdivision's ordinances before July 19, 2003, and the proposed new or expanded livestock facility violates a state standard under sub. (2) (a).

9. The proposed new or expanded livestock facility will have fewer than 500 animal units but will exceed a size threshold for requiring a special exception or conditional use permit that was incorporated into the political subdivision's ordinances before July 19, 2003, and the proposed new or expanded livestock facility violates a requirement that is more stringent than the state standards under sub. (2) (a) if the political subdivision does all of the following:

a. Adopts the requirement by ordinance before the applicant files the application for approval.

b. Bases the requirement on reasonable and scientifically defensible findings of fact, adopted by the political subdivision, that clearly show that the requirement is necessary to protect public health or safety.

(ae) A political subdivision that requires a special exception or conditional use permit for the siting or expansion of any of the following livestock facilities shall require compliance with the applicable state standards under sub. (2) (a) as a condition of issuing the special exception or conditional use permit:

1. A new or expanded livestock facility that will have 500 or more animal units.

2. A new or expanded livestock facility that will have fewer than 500 animal units but that will exceed a size threshold for requiring a special exception or conditional use permit that was incorporated into the political subdivision's ordinances before July 19, 2003.

(am) Notwithstanding par. (ae), a political subdivision may apply to a new or expanded livestock facility described in par. (ae) 1. or 2., as a condition of issuing a special exception or conditional use permit, a setback requirement that is less stringent than a setback require-

ment under sub. (2) (a) if the setback requirement is incorporated in the political subdivision's ordinances as a numerical standard.

(ar) Notwithstanding par. (ae) a political subdivision may apply to a new or expanded livestock facility described in par. (ae) 1. or 2., as a condition of issuing a special exception or conditional use permit, a requirement that is more stringent than the state standards under sub. (2) (a) if the political subdivision does all of the following:

1. Adopts the requirement by ordinance before the applicant files the application for approval.

2. Bases the requirement on reasonable and scientifically defensible findings of fact, adopted by the political subdivision, that clearly show that the requirement is necessary to protect public health or safety.

(b) Notwithstanding ss. 59.69, 60.61, 60.62, 61.35, and 62.23, a political subdivision may not prohibit a type of livestock facility in an agricultural zoning district based on number of animal units if livestock facilities of that type with fewer animal units are allowed in that zoning district, unless the political subdivision also has an agricultural zoning district in which livestock facilities of that type are permitted or conditional uses without respect to number of animal units.

(c) Notwithstanding ss. 59.69, 60.61, 60.62, 61.35, and 62.23, a political subdivision may not enact or enforce a zoning ordinance with a category of agricultural district in which livestock facilities are prohibited unless the political subdivision bases that prohibition on reasonable and scientifically defensible findings of fact, adopted by the political subdivision, that clearly show that the prohibition is necessary to protect public health or safety.

(d) Notwithstanding ss. 92.15 (4) and 281.16 (3) (e), a political subdivision that requires compliance with state standards under sub. (2) (a) as a condition of issuing a special exception or conditional use permit for an expanded livestock facility is not required to determine that cost−sharing is available to the operator of the livestock facility for facilities or practices needed to comply with those standards if the livestock facility will have 500 or more animal units.

(e) Notwithstanding ss. 59.69, 60.61, 60.62, 61.35, and 62.23, a political subdivision may not enact a requirement that a person obtain a special exception or conditional use permit for the expansion of a livestock facility that exists when the requirement takes effect, except that a political subdivision may enact a requirement that a person obtain a special exception or conditional use permit for the expansion of a livestock facility that exists when the requirement takes effect if the requirement applies only when the number of animal units that the livestock facility will have after expansion will exceed by more than 20 percent the largest number of animal units that were at the livestock facility for at least 90 days in the 12−month period before the requirement takes effect.

(f) For the purposes of this subsection, the number of animal units that a livestock facility will have is the largest number of animal units that will be fed, confined, maintained, or stabled at the livestock facility on at least 90 days in any 12−month period.

(4) POLITICAL SUBDIVISION PROCEDURE. (a) No later than 45 days after a political subdivision receives an application for approval, the political subdivision shall notify the applicant whether the application for approval is complete and, if it is not complete, what information is needed to complete the application for approval. As soon as the applicant has provided all of the required information, the political subdivision shall notify the applicant that the application for approval is complete.

(b) A political subdivision shall make a record of its decision making on an application for approval, including a recording of any public hearing, copies of documents submitted at any public hearing, and copies of any other documents provided to the political subdivision in connection with the application for approval.

(c) A political subdivision shall base its decision on an application for approval on written findings of fact that are supported by the evidence in the record under par. (b).

(d) Except as provided in par. (e), a political subdivision shall approve or disapprove an application for approval no more than 90 days after the day on which it notifies the applicant that the application for approval is complete. If an applicant complies with the rules promulgated under sub. (2) (e) 1. and the information and documentation provided by the applicant is sufficient to establish, without considering any other information or documentation, that the application complies with applicable requirements for approval, the political subdivision shall approve the application unless the political subdivision finds, based on other clear and convincing information or documentation in the record, that the application does not comply with applicable requirements.

(e) A political subdivision may extend the time limit in par. (d) if the political subdivision needs additional information to determine whether to approve or deny the application for approval, if the applicant makes a material modification to the application for approval, or for other good cause specified in writing by the political subdivision.

(5) REVIEW OF SITING DECISIONS. (a) In this subsection "aggrieved person" means a person who applied to a political subdivision for approval of a livestock facility siting or expansion, a person who lives within 2 miles of a livestock facility that is proposed to be sited or expanded, or a person who owns land within 2 miles of a livestock facility that is proposed to be sited or expanded.

(b) An aggrieved person may challenge the decision of a political subdivision on an application for approval on the grounds that the political subdivision incorrectly applied the state standards under sub. (2) (a) that are applicable to the livestock facility siting or expansion or violated sub. (3), by requesting the board to review the decision. An aggrieved person is not required to exhaust the political subdivision's administrative remedies before requesting review by the board. An aggrieved person shall request a review under this paragraph within 30 days after the political subdivision approves or disapproves the application for approval or, if the aggrieved person chooses to exhaust the political subdivision's administrative remedies, within 30 days after the final decision in the political subdivision's administrative review process.

(bm) Upon receiving a request under par. (b), the board shall notify the political subdivision of the request. The political subdivision shall provide a certified copy of the record under sub. (4) to the board within 30 days after the day on which it receives the notice.

(c) Upon receiving the certified copy of the record under par. (bm), the board shall determine whether the challenge is valid. The board shall make its decision without deference to the decision of the political subdivision and shall base its decision only on the evidence in the record under sub. (4) (b). In a case that involves the application of requirements related to water quality, the board shall consult with the department of agriculture, trade and consumer protection or with the department of natural resources concerning the application of the requirements related to water quality. The board shall make its decision within 60 days after the day on which it receives the certified copy of the record under par. (bm), except that the board may extend this time limit for good cause specified in writing by the board.

(d) If the board determines that a challenge is valid, the board shall reverse the decision of the political subdivision. The decision of the board is binding on the political subdivision, subject to par. (e). If a political subdivision fails to comply with a decision of the board that has not been appealed under par. (e), an aggrieved person may bring an action to enforce the decision.

(e) An aggrieved person or the political subdivision may appeal the decision of the board to circuit court. The filing of an appeal does not in itself stay the effect of a decision of the board.

(f) A circuit court to which a decision of the board is appealed under par. (e) shall review the decision of the board based on the evidence in the record under sub. (4) (b).

SECTION 3. 165.25 (4) (as) of the statutes is created to read:

165.25 **(4)** (as) The department of justice shall furnish legal services to the livestock facility siting review board in defending appeals under s. 93.90 (5) (e) of decisions of the board.

SECTION 4. Nonstatutory provisions.

(1) PROPOSED RULES. The department of agriculture, trade and consumer protection shall submit in proposed form the rules required under section 93.90 (2) (a) and (e) of the statutes, as created by this act, to the legislative council staff under section 227.15 (1) of the statutes no later than the first day of the 12th month beginning after the effective date of this subsection.

(2) TERMS OF INITIAL BOARD MEMBERS. Notwithstanding the length of the terms specified for members of the livestock facility siting review board in section 15.135 (1) (b) of the statutes, as created by this act, the initial members shall be appointed for the following terms:

(a) The member appointed under section 15.135 (1) (a) 1. of the statutes, as created by this act, for a term expiring on May 1, 2007.

(b) The member appointed under section 15.135 (1) (a) 2. of the statutes, as created by this act, for a term expiring on May 1, 2008.

(c) The member appointed under section 15.135 (1) (a) 3. of the statutes, as created by this act, and one member appointed under section 15.135 (1) (a) 5. of the statutes, as created by this act, for terms expiring on May 1, 2009.

(d) The member appointed under section 15.135 (1) (a) 4. of the statutes, as created by this act, and one member appointed under section 15.135 (1) (a) 5. of the statutes, as created by this act, for terms expiring on May 1, 2010.

(e) One member appointed under section 15.135 (1) (a) 5. of the statutes, as created by this act, for a term expiring on May 1, 2011.

SECTION 5. Initial applicability.

(1) The treatment of section 93.90 of the statutes first applies to applications for approval of livestock facility siting or expansion that are received on the effective date of this subsection.

SECTION 6. Effective dates. This act takes effect on the day after publication, except as follows:

(1) The treatment of section 93.90 of the statutes and SECTION 5 (1) takes effect on the first day of the 18th month beginning after publication.

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Chapter ATCP 51

LIVESTOCK FACILITY SITING

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Note: This chapter is adopted under authority of ss. 93.07 (1) and 93.90 (2), Stats. This chapter interprets Wisconsin's livestock facility siting law, s. 93.90, Stats. According to the livestock facility siting law, a county, town, city or village ("political subdivision") may not prohibit or disapprove a new or expanded livestock facility of any size unless one of the following applies:

The site is located in a zoning district that is not an agricultural zoning district.

The site is located in an agricultural zoning district where the livestock facility is prohibited. A prohibition, if any, must be clearly justified on the basis of public health or safety. The livestock facility siting law limits exclusionary zoning based solely on livestock facility size.

The proposed livestock facility violates a valid local ordinance adopted under certain state laws related to shoreland zoning, floodplain zoning, construction site erosion control or stormwater management.

The proposed livestock facility violates a local building, electrical or plumbing code that is consistent with the state building, electrical or plumbing code for that type of facility.

The proposed livestock facility will have 500 or more "animal units" (or will exceed a lower permit threshold incorporated in a local *zoning* ordinance prior to July 19, 2003), and the proposed facility violates one of the following:

- A state livestock facility siting standard adopted by the department under this chapter.
- A more stringent local ordinance standard enacted prior to the siting application. The more stringent local standard must be based on reasonable and scientifically defensible findings of fact, adopted by the local jurisdiction, which clearly show that the standard is necessary to protect public health or safety.

Some, but not all, political subdivisions require local approval of new or expanded livestock facilities. The livestock facility siting law *does not require* local approval. But *if* local approval is required, the political subdivision must grant or deny approval based on this chapter. A political subdivision may *not* consider other siting criteria, or apply standards that differ from this chapter, except as provided in the livestock facility siting law or this chapter.

The department must review the livestock facility siting standards under this chapter at least once every 4 years (*see* s. 93.90 (2) (c), Stats.). The department will review the standards at least annually during the first 4 years of rule implementation. The department will track local siting applications and decisions (*see* s. ATCP 51.34 (5)), and will review that information at least monthly during the first year of rule implementation.

The livestock facility siting law includes the following statements of legislative intent:

"This *[law]* is an enactment of statewide concern for the purpose of providing uniform regulation of livestock facilities."

"…[T]he department shall consider whether *[livestock facility siting standards]* are all of the following:

- Protective of public health or safety.
- Practical and workable.
- Cost−effective.
- Objective.
- Based on available scientific evidence that has been subjected to peer review.
- Designed to promote the growth and viability of animal agriculture in this state.
- Designed to balance the economic viability of farm operations with protecting natural resources and other community interests.
- Usable by officials of political subdivisions."

Subchapter I — Definitions and General Provisions

ATCP 51.01 Definitions. In this chapter:

(1) "Adjacent" means located on land parcels that touch each other, or on land parcels that are separated only by a river, stream, or transportation or utility right–of–way.

(2) "Affected neighbor" means, for purposes of the odor score calculation under s. ATCP 51.14, a residence or high−use building located within 2,500 feet of any livestock structure at a proposed livestock facility. "Affected neighbor" does not include a residence or high−use building owned by any of the following:

(a) The livestock facility operator.

(b) A person who affirmatively agrees to have the residence or high−use building excluded from the odor score calculation under s. ATCP 51.14.

Note: The odor score calculation under s. ATCP 51.14 is based, in part, on the proximity and density of "affected neighbors." *See Appendix A, worksheet 2.*

(3) "Animal lot" means a feedlot, barnyard or other outdoor facility where livestock are concentrated for feeding or other purposes. "Animal lot" does not include a pasture or winter grazing area. Two or more animal lots at the same livestock facility constitute a single animal lot, for purposes of this chapter, if runoff from the animal lots drains to the same treatment area under s. ATCP 51.20 (2) or if runoff from the animal lot treatment areas converges or reaches the same surface water within 200 feet of any of those treatment areas.

(4) "Animal unit" has the meaning that was given in s. NR 243.03 (3) as of April 27, 2004.

Note: See s. 93.90 (1m) (a), Stats., and s. ATCP 51.04. "Animal unit" equivalents, for different species and types of livestock, are shown in *Appendix A, worksheet 1 (animal units)*. The "animal unit" equivalents are based on s. NR 243.03 (3) as it existed on April 27, 2004 (the date on which the livestock facility siting law, 2003 Wis. Act 235, was published).

(5) "*BARNY* model" means the NRCS "Evaluation System to Rate Feedlot Pollution Potential," ARM−NC−17 (April 1982 version with modifications as of August 2005).

Note: The BARNY model is a commonly used computer model that predicts nutrient runoff from animal lots. Copies of the BARNY model are on file with the department, the secretary of state and the legislative reference bureau. An Excel computer spreadsheet version is available at www.datcp.state.wi.us.

(6) "Bedrock" means the top of the shallowest layer of a soil profile that consists of consolidated rock material or weathered−in−place material, more than 50% of the volume of which will be retained on a 2 mm soil sieve.

(7) "Certified agricultural engineering practitioner" means an agricultural engineering practitioner who is certified under s. ATCP 50.46 with a rating under s. ATCP 50.46 (5) that authorizes the practitioner to certify every matter that the practitioner certifies under this chapter.

(8) "Cluster" means any group of one or more livestock structures within a livestock facility.

(9) "Complete application for local approval" means an application that contains everything required under s. ATCP 51.30 (1) to (4).

(10) "Department" means the Wisconsin department of agriculture, trade and consumer protection.

(11) "Direct runoff" has the meaning given in s. NR 151.015 (7).

Note: Under s. NR 151.015 (7), "direct runoff" means a discharge of a significant amount of pollutants to waters of the state resulting from any of the following practices:

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(a) Runoff from a manure storage facility.

(b) Runoff from an animal lot that can be predicted to reach surface waters of the state through a defined or channelized flow path or man−made conveyance.

(c) Discharge of leachate from a manure pile.

(d) Seepage from a manure storage facility.

(e) Construction of a manure storage facility in permeable soils, or over fractured bedrock, without a liner designed according to s. NR 154.04 (3).

(12) "DNR" means the Wisconsin department of natural resources.

(13) "Expanded livestock facility" means the entire livestock facility that is created by the expansion, after May 1, 2006, of an existing livestock facility. "Expanded livestock facility" includes all livestock structures in the expanded facility, regardless of whether those structures are new, existing or altered.

Note: This chapter applies to local approvals of *new or expanded* livestock facilities that will have 500 or more animal units (or will exceed a lower permit threshold incorporated in a local *zoning* ordinance prior to July 19, 2003). *See* s. ATCP 51.02. Although this chapter covers all livestock structures in an "expanded livestock facility," existing structures are subject to less rigorous standards than new or expanded structures, and are completely exempt from certain requirements.

(14) "Expansion" means an increase in the largest number of animal units kept at a livestock facility on at least 90 days in any 12−month period. The acquisition of an existing livestock facility, by the operator of an adjacent livestock facility, does not constitute an "expansion" unless that operator increases the largest number of animal units kept at the combined livestock facilities on at least 90 days in any 12−month period.

Note: See s. ATCP 51.04.

(15) "Fine soil particles" means soil particles that pass through a # 200 soil sieve.

Note: See s. NR 151.002 (32).

(16) "High−use building" means any of the following buildings:

(a) A residential building that has at least 6 distinct dwelling units.

(b) A restaurant, hotel, motel or tourist rooming house that holds a permit under s. 254.64, Stats.

(c) A school classroom building.

(d) A hospital or licensed care facility.

(e) A non−farm business or workplace that is normally occupied, during at least 40 hours of each week of the year, by customers or employed workers.

(17) "Karst feature" means an area or superficial geologic feature subject to bedrock dissolution so that it is likely to provide a conduit to groundwater. "Karst feature" may include caves, enlarged fractures, mine features, exposed bedrock surfaces, sinkholes, springs, seeps or swallets.

(18) "Livestock" means domestic animals traditionally used in this state in the production of food, fiber or other animal products. "Livestock" includes cattle, swine, poultry, sheep and goats. "Livestock" does not include equine animals, bison, farm−raised deer, fish, captive game birds, ratites, camelids or mink.

(19) "Livestock facility" means a feedlot, dairy farm or other operation where livestock are or will be fed, confined, maintained or stabled for a total of 45 days or more in any 12–month period. A "livestock facility" includes all of the tax parcels of land on which the facility is located, but does not include a pasture or winter grazing area. Related livestock facilities are collectively treated as a single "livestock facility" for purposes of this chapter, except that an operator may elect to treat a separate species facility as a separate "livestock facility."

Note: See definition of "related livestock facilities" in sub. (36) and "separate species facility" in sub. (38).

(20) "Livestock structure" means a building or other structure used to house or feed livestock, to confine livestock for milking, to confine livestock for feeding other than grazing, to store livestock feed, or to collect or store waste generated at a livestock facility. "Livestock structure" includes a barn, milking parlor, feed storage facility, feeding facility, animal lot or waste storage facility. "Livestock structure" does not include a pasture or winter grazing area, a fence surrounding a pasture or winter grazing area, a livestock watering or feeding facility in a pasture or winter grazing area, or a machine shed or like facility that is not used for livestock.

(21) "Local approval" means an approval, required by local ordinance, of a new or expanded livestock facility. "Local approval" includes a license, permit, special exception, conditional use permit or other form of local authorization. "Local approval" does not include any of the following:

(a) An approval required by a political subdivision within the scope of its authority under s. 59.692, 59.693, 60.627, 61.351, 61.354, 62.231, 62.234 or 87.30, Stats.

Note: See s. 93.90 (3) (a) 3., Stats. The statutes listed in par. (a) pertain to shoreland zoning, floodplain zoning, construction site erosion control and stormwater management.

(b) An approval required under a local building, electrical or plumbing code, if the standards for approval are consistent with standards established under the state building, electrical or plumbing code for that type of facility.

Note: See s. 93.90 (3) (a) 4., Stats.

(22) "Local ordinance" or "local code" means an ordinance enacted by a political subdivision.

(23) "Manure" means excreta from livestock kept at a livestock facility. "Manure" includes livestock bedding, water, soil, hair, feathers, and other debris that becomes intermingled with livestock excreta in normal manure handling operations.

(24) "Minor alteration" of a livestock structure means a repair or improvement in the construction of an existing livestock structure that does not result in a substantially altered livestock structure.

(25) "Navigable waters" has the meaning given in s. 30.01 (4m), Stats.

(26) "New livestock facility" means a livestock facility that will be used as a livestock facility for the first time, or for the first time in at least 5 years. "New livestock facility" does not include an expanded livestock facility if any portion of that facility has been used as a livestock facility in the preceding 5 years.

Note: This chapter applies to local approvals of *new or expanded* livestock facilities that will have 500 or more animal units (or will exceed a lower permit threshold incorporated in a local *zoning* ordinance prior to July 19, 2003). See s. ATCP 51.02.

(27) "NRCS" means the natural resource conservation service of the United States department of agriculture.

(28) "Operator" means a person who applies for or holds a local approval for a livestock facility.

(29) "Pasture" means land on which livestock graze or otherwise seek feed in a manner that maintains the vegetative cover over all of the grazing or feeding area.

(30) "Person" means an individual, corporation, partnership, cooperative, limited liability company, trust or other legal entity.

(31) "Political subdivision" means a city, village, town or county.

(32) "Populate" means to add animal units for which local approval is required.

(33) "Property line" means a line that separates parcels of land owned by different persons.

(34) "Qualified nutrient management planner" means a person qualified under s. ATCP 50.48.

(35) "Registered professional engineer" means a professional engineer registered under ch. 443, Stats.

(36) "Related livestock facilities" means livestock facilities that are owned or managed by the same person, and related to each other in at least one of the following ways:

(a) They are located on the same tax parcel or adjacent tax parcels of land.

Note: A mere acquisition of a neighboring livestock facility does not constitute an "expansion" unless more animal units are added to the combined facilities.

See sub. (14).

(b) They use one or more of the same livestock structures to collect or store manure.

(c) At least a portion of their manure is applied to the same landspreading acreage.

Note: Compare definition of "animal feeding operation" under s. NR 243.03 (2). "Related livestock facilities" are treated as a single livestock facility for purposes of local approval, except that a "separate species facility" may be treated as a separate livestock facility. *See* subs. (19) and (38).

(37) "Runoff" means storm water or precipitation including rain, snow, ice melt or similar water that moves on the land surface via sheet or channelized flow.

(38) "Separate species facility" means a livestock facility that meets all of the following criteria:

(a) It has only one of the following types of livestock, and that type of livestock is not kept on any other livestock facility to which the separate species facility is related under sub. (36):

1. Cattle.
2. Swine.
3. Poultry.
4. Sheep.
5. Goats.

Note: For purposes of par. (a), cattle and poultry are different "types" of livestock, but dairy and beef cattle are livestock of the same "type" ("cattle"). Milking cows, heifers, calves and steers (all "cattle") are livestock of the same "type." Turkeys, ducks, geese and chickens are livestock of the same "type" ("poultry").

(b) It has no more than 500 animal units.

(c) Its livestock housing and manure storage structures, if any, are separate from the livestock housing and manure storage structures used by livestock facilities to which it is related under sub. (36).

(d) It meets one of the following criteria:

1. Its livestock housing and manure storage structures, if any, are located at least 750 feet from the nearest livestock housing or manure storage structure used by a livestock facility to which it is related under sub. (36).

2. It and the other livestock facilities to which it is related under sub. (36) have a combined total of fewer than 1,000 animal units.

(39) "Site that is susceptible to groundwater contamination" means any of the following:

(a) An area within 250 feet of a private well.

(b) An area within 1,000 feet of a municipal well.

(c) An area within 300 feet upslope or 100 feet downslope of a karst feature.

(d) A channel with a cross−sectional area equal to or greater than 3 square feet that flows to a karst feature.

(e) An area where the soil depth to groundwater or bedrock is less than 2 feet.

(f) An area where none of the following separates the ground surface from groundwater and bedrock:

1. A soil layer at least 2 feet deep that has at least 40% fine soil particles.

2. A soil layer at least 3 feet deep that has at least 20% fine soil particles.

3. A soil layer at least 5 feet deep that has at least 10% fine soil particles.

Note: *See* s. NR 151.015 (18).

(40) "Substantially altered" livestock structure means a livestock structure that undergoes a material change in construction or use, including any of the following material changes:

(a) An increase in the capacity of a waste storage facility.

(b) The addition of a liner to a waste storage facility.

(c) An increase of more than 20% in the area or capacity of a livestock structure used to house, feed or confine livestock, or to store livestock feed.

(d) An increase of more than 20% in the number of animal units that will be kept in a livestock structure on at least 90 days in any 12−month period.

(41) "Unconfined manure pile" means a quantity of manure at least 175 cubic feet in volume that covers the ground surface to a depth of at least 2 inches, but does not include any of the following:

(a) Manure that is confined within a manure storage facility, livestock housing structure or barnyard runoff control facility.

(b) Manure that is covered or contained in a manner that prevents storm water access and direct runoff to surface water or leaching of pollutants to groundwater.

(42) "Waste" means manure, milking center waste and other organic waste generated by a livestock facility.

(43) "Waste storage facility" means one or more waste storage structures. "Waste storage facility" includes stationary equipment and piping used to load or unload a waste storage structure if the equipment is specifically designed for that purpose and is an integral part of the facility. "Waste storage facility" does not include equipment used to apply waste to land.

(44) "Waste storage structure" means a waste storage impoundment made by constructing embankments, excavating a pit or dugout, or fabricating a structure. "Waste storage structure" does not include equipment used to apply waste to land. For purposes of ss. ATCP 51.12 (2) and 51.14, "waste storage structure" does not include any of the following:

(a) A structure used to collect and store waste under a livestock housing facility.

(b) A manure digester consisting of a sealed structure in which manure is subjected to managed biological decomposition.

(45) "Waters of the state" has the meaning given in s. 283.01 (20), Stats.

(46) "Winter grazing area" means cropland or pasture where livestock feed on dormant vegetation or crop residue, with or without supplementary feed, during the period October 1 to April 30. "Winter grazing area" does not include any of the following:

(a) An area, other than a pasture, where livestock are kept during the period from May 1 to September 30.

(b) An area which at any time has an average of more than 4 livestock animal units per acre.

(c) An area from which livestock have unrestricted access to navigable waters of the state, such that the livestock access prevents adequate vegetative cover on banks adjoining the water.

(d) An area in which manure deposited by livestock causes nutrient levels to exceed standards in s. ATCP 51.16.

(47) "WPDES permit" means a Wisconsin pollutant discharge elimination system permit issued by DNR under ch. NR 243.

History: CR 05−014: cr. Register April 2006 No. 604, eff. 5−1−06.

ATCP 51.02 Scope of this chapter. (1) This chapter applies to local approvals of the following livestock facilities:

(a) A new or expanded livestock facility that will have 500 or more animal units.

(b) A new or expanded livestock facility that will exceed a lower size threshold, for a special exception or conditional use permit, if the threshold is expressed in terms of a specific number of animals or animal units and was incorporated in a local zoning ordinance prior to July 19, 2003.

Note: Some, but not all, political subdivisions require local approval of new or expanded livestock facilities. The livestock facility siting law *does not require* local approval. But *if* local approval is required, the political subdivision must grant or deny approval based on this chapter. A political subdivision may *not* consider other siting criteria, or apply standards that differ from this chapter, except as provided in the livestock facility siting law or this chapter.

A political subdivision may *not* require local approval for new or expanded livestock facilities smaller than 500 animal units, except as specifically authorized by the livestock facility siting law and this chapter. A political subdivision may apply a lower size threshold adopted by ordinance prior to July 19, 2003 *if that threshold is*

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expressed as a specific number of animals or animal units. A local threshold expressed in locally−defined "animal units" may meet this test, because it effectively indicates a specific number of animals, even if the local ordinance definition of "animal units" differs from the definition in this chapter. However the local application and approval process must use the "animal units" definition in this chapter.

Local approvals under this chapter "run with the land." *See* s. ATCP 51.08. They normally continue to apply, despite changes in ownership, as long as subsequent owners do not violate the terms of the local approval. Some ordinances might require a *pro forma* permit transfer with each transfer of ownership, but that transfer may not ordinarily limit the scope of approval.

A livestock operator is *not* required to obtain local approval under this chapter for the construction, repair or improvement of livestock structures, unless the operator also adds "animal units" for which local approval is required (local building codes and manure storage ordinances may apply). However, a political subdivision may withdraw a local approval granted under this chapter if the livestock operator does any of the following (*see* s. ATCP 51.34 (4)):

• Without local authorization, alters the approved livestock facility in a way that materially violates the terms of the local approval.

• Alters the approved livestock facility so that the altered facility violates the standards in subch. II.

(2) This chapter does not apply to any of the following:

(a) Livestock facilities other than those in sub. (1) that require local approval.

(b) An approval required by a political subdivision within the scope of its authority under s. 59.692, 59.693, 60.627, 61.351, 61.354, 62.231, 62.234 or 87.30, Stats.

Note: *See* s. 93.90 (3) (a) 3., Stats. The statutes listed in par. (b) pertain to shoreland zoning, floodplain zoning, construction site erosion control and stormwater management.

(c) An approval required under a local building, electrical or plumbing code, if the standards for approval are consistent with standards established under the state building, electrical or plumbing code for that type of facility.

Note: *See* s. 93.90 (3) (a) 4., Stats.

History: CR 05−014: cr. Register April 2006 No. 604, eff. 5−1−06.

ATCP 51.04 Animal units. In this chapter, and in every local approval or application for local approval under this chapter, the number of animal units kept or authorized at a livestock facility means the maximum number of animal units that are or may be kept on at least 90 days in any 12−month period.

Note: This section accounts for normal day−to−day and seasonal variations in livestock numbers, as livestock are born, received, moved and marketed. *See* s. 93.90 (3) (f), Stats.

Under this chapter, an applicant for local approval must specify the number of "animal units" for which the applicant seeks authorization. If the application is approved, the approval authorizes that number of "animal units." The authorized number is the maximum number of "animal units" that may be kept on 90 or more days in any 12−month period. A livestock operator may not exceed that authorized number without further local approval.

"Animal unit" equivalents, for different species and types of livestock, are shown in *Appendix A, worksheet 1 (animal units)*. The "animal unit" equivalents are based on s. NR 243.03 (3) as it existed on April 27, 2004 (the date on which the livestock facility siting law, 2003 Wis. Act 235, was published). *See* s. 93.90 (1m) (a), Stats., and s. ATCP 51.01 (4).

History: CR 05−014: cr. Register April 2006 No. 604, eff. 5−1−06.

ATCP 51.06 Local approval of existing livestock facilities. (1) GENERAL. Except as provided in sub. (2), a local ordinance may not require local approval under this chapter for any of the following:

(a) A livestock facility that existed before May 1, 2006 or before the effective date of the local approval requirement.

(b) A livestock facility that the political subdivision has already approved. A prior approval for the construction of a livestock facility implies approval for the maximum number of animal units that the approved livestock facility was reasonably designed to house, except as otherwise clearly provided in the approval. Prior approval of a single livestock structure, such as a waste storage structure, does not constitute prior approval of an entire livestock facility.

Note: For example, if a political subdivision has already approved construction of a livestock facility that was reasonably designed to house up to 800 "animal units," that approval authorizes the operator to keep up to 800 "animal units" at that facility (even if the scope of approval is not explicitly stated in terms of "animal units").

(2) EXPANSIONS. A local ordinance may require local approval under this chapter for the expansion of a pre−existing or previously approved livestock facility under sub. (1) if the number of animal units kept at the expanded livestock facility will exceed all of the following:

(a) The applicable size threshold for local approval under s. ATCP 51.02 (1).

(b) The maximum number previously approved or, if no maximum number was previously approved, a number that is 20% higher than the number kept on May 1, 2006 or on the effective date of the approval requirement, whichever date is later.

Note: Consider the following examples:

Example 1: Suppose that a local ordinance enacted after May 1, 2006 requires local approval for livestock facilities with 500 or more "animal units." "Local approval is *not* required" for a livestock facility that already has 600 "animal units" on the local ordinance effective date, unless the facility expands to more than 720 "animal units." The number of "animal units" kept on the ordinance effective date means the largest number kept on at least 90 days in the 12 months prior to the ordinance effective date (*see* s. 93.90 (3) (e), Stats.).

Example 2: Suppose that a local ordinance enacted prior to July 19, 2003 requires local approval of livestock facilities with 400 or more "animal units." An expansion from 200 "animal units" (existing facility) to 450 "animal units" (expanded facility) will require local approval, unless the political subdivision has already given its approval. If the political subdivision has already approved construction of a livestock facility that is designed to house up to 450 "animal units," the operator does not need further local approval unless the operator proposes to exceed 450 "animal units."

History: CR 05−014: cr. Register April 2006 No. 604, eff. 5−1−06.

ATCP 51.08 Duration of local approval. (1) Except as provided in sub. (2) or s. ATCP 51.34 (4), a local approval under this chapter:

(a) Runs with the land and remains in effect despite a change in ownership of the livestock facility or the land on which it is located.

Note: Some local ordinances may require a *pro forma* permit transfer with each transfer of ownership, but that transfer may not limit the scope of the prior approval.

(b) Remains in effect regardless of the amount of time that elapses before the livestock operator exercises the authority granted by the approval, and regardless of whether the livestock operator exercises the full authority granted by the approval.

Note: For example, if a livestock operator gets local approval under this chapter to expand from 400 "animal units" (existing) to 900 "animal units", the livestock operator may implement the approved expansion over a period of time chosen by the livestock operator. The operator does not lose the approval merely because the operator implements the expansion in gradual stages, or fails to expand by the full amount authorized. However, the operator must at least *begin* the expansion within 2 years, or face possible loss of approval. *See* sub. (2).

(2) A political subdivision may withdraw a local approval granted under this chapter unless the livestock operator does all of the following within 2 years after a local approval is granted:

(a) Begins populating the approved livestock facility.

(b) Begins construction on every new or expanded livestock housing structure, and every new or expanded waste storage structure, proposed in the application for local approval.

(3) If a local approval is appealed, the local approval is deemed to be granted for purposes of sub. (2) when the appeal is concluded. Withdrawal of a local approval under sub. (2) does not prevent a livestock operator from obtaining a new local approval under this chapter.

Note: A political subdivision should exercise sound judgment in deciding whether to withdraw a local approval under sub. (2). The political subdivision may consider extenuating circumstances, such as adverse weather conditions, that may affect an operator's ability to comply. A political subdivision should give the operator prior notice, and a reasonable opportunity to demonstrate compliance, before withdrawing a local approval.

History: CR 05−014: cr. Register April 2006 No. 604, eff. 5−1−06.

Subchapter II — Livestock Facility Siting Standards

ATCP 51.10 Livestock facility siting standards; general. (1) STATE STANDARDS APPLY. Except as provided in sub. (2) or (3), a political subdivision shall grant or deny local approvals covered by this chapter based on the standards in this subchapter.

(2) STATE STANDARDS INCORPORATED IN LOCAL ORDINANCE. Beginning on November 1, 2006, a political subdivision may not deny a local approval covered by this chapter unless the political subdivision incorporates by local ordinance the standards in this subchapter and the application requirements in subch. III. A local

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ordinance may incorporate the standards and application requirements by reference, without reproducing them in full.

Note: The livestock facility siting law, s. 93.90, Stats., limits the reasons for which a political subdivision may deny local approval. For the first 6 months after the effective date of this chapter, from May 1, 2006 to November 1, 2006, a political subdivision may deny local approval based on standards in this chapter without incorporating those standards by local ordinance. *See* sub. (1). Sub. (2) applies beginning on November 1, 2006.

(3) MORE STRINGENT LOCAL STANDARDS. A political subdivision may not apply local standards that are more stringent than the standards in this subchapter unless all of the following apply:

(a) The political subdivision is authorized to adopt the local standards under other applicable law.

(b) The political subdivision enacted the standards by local ordinance, before the livestock facility operator filed the application for local approval.

(c) The political subdivision enacted the standards based on reasonable and scientifically defensible findings of fact adopted by the political subdivision's governing authority.

(d) The findings of fact under par. (c) clearly show that the standards are needed to protect public health or safety.

Note: *See* s. 93.90 (3) (ar), Stats.

(4) ORDINANCE PROVISIONS FILED WITH DEPARTMENT. Within 30 days after a political subdivision enacts an ordinance provision under sub. (2) or (3), the political subdivision shall file a copy of the ordinance provision with the department. Failure to file the ordinance provision with the department does not invalidate the ordinance provision. The political subdivision shall file the ordinance provision, by mail, fax or e−mail, at the following applicable address:

Wisconsin Department of Agriculture,
Trade and Consumer Protection
Agricultural Resource Management Division
Bureau of Land and Water Resources
P.O. Box 8911
Madison, WI 53708−8911
Fax: (608) 224−4615
E−mail: ordinance@datcp.state.wi.us

History: CR 05−014: cr. Register April 2006 No. 604, eff. 5−1−06.

ATCP 51.12 Livestock structures; location on property. (1) PROPERTY LINE AND ROAD SETBACKS; GENERAL. Livestock structures shall comply with local ordinance requirements related to setbacks from property lines and public roads, except that no local setback requirement may do any of the following:

(a) Require a livestock structure to be set back more than 100 feet from any property line or public road right−of−way, except as provided in sub. (2), if the livestock facility will have fewer than 1,000 animal units.

(b) Require a livestock structure to be set back more than 200 feet from any property line, or more than 150 feet from any public road right−of−way, except as provided in sub. (2), if the livestock facility will have 1,000 animal units or more.

(c) Prevent the use of a livestock structure that was located within the setback area prior to the effective date of the setback requirement.

(d) Prevent the expansion of a livestock structure that was located within the setback area prior to the effective date of the setback requirement, other than an expansion toward the property line or public road to which the local setback applies.

Note: Many local jurisdictions have established basic property line and road setback requirements by ordinance. Setbacks vary depending on local circumstances, and often reflect years of local experience. Subsection (1) honors local setback requirements, provided that the setbacks do not exceed the limits specified in sub. (1).

(2) MANURE STORAGE STRUCTURE; SETBACK. A waste storage structure may not be located within 350 feet of any property line, or within 350 feet of the nearest point of any public road right−of−way, unless one of the following applies:

(a) The location of the waste storage structure complies with a local ordinance that specifies a shorter setback that is specific to waste storage facilities or waste storage structures.

(b) The waste storage structure existed prior to May 1, 2006. This paragraph does not authorize an expansion, toward a property line or public road right−of−way, of a waste storage structure that is located within 350 feet of that property line or public road right−of−way.

(c) The waste storage structure is a single new waste storage structure constructed no closer to the relevant property line or public road than a waste storage structure that existed on the same tax parcel prior to May 1, 2006, provided that the new structure is no larger than the existing structure and is located within 50 feet of the existing structure.

Note: See definition of "waste storage structure" in s. ATCP 51.01 (44).

(3) NAVIGABLE WATERS AND WETLANDS. A livestock facility shall comply with an applicable shoreland or wetland zoning ordinance that is enacted within the scope of authority granted under s. 59.692, 61.351 or 62.231, Stats.

Note: Essentially all navigable waters are now protected by ordinances that require building setbacks of 75 feet or more (depending on the ordinance). Zoning restrictions, if any, typically apply to *new or enlarged structures*. A zoning ordinance applies for purposes of sub. (3) if it is enacted within the scope of statutory authority under s. 59.692, 61.351 or 62.231, Stats., even if it is also enacted under other authority.

(4) FLOODPLAIN. A livestock facility shall comply with an applicable floodplain zoning ordinance that is enacted within the scope of statutory authority under s. 87.30, Stats.

Note: County or local zoning ordinances currently apply to many, but not all, waterways (not all waterways have mapped floodplains). Zoning restrictions, if any, typically apply to *new or enlarged structures*. A zoning ordinance applies for purposes of sub. (4) if it is enacted within the scope of statutory authority under s. 87.30, Stats., even if it is also enacted under other authority.

(5) WELLS. (a) Wells in a livestock facility shall comply with chs. NR 811 and 812.

(b) Except as provided in par. (c), new or substantially altered livestock structures shall be separated from existing wells by the distances required in chs. NR 811 and 812, regardless of whether the livestock facility operator owns the land on which the wells are located.

(c) Paragraph (b) does not prohibit the alteration of a livestock structure that existed on May 1, 2006, unless that alteration reduces the distance between the livestock structure and an existing well.

Note: DNR rules under chs. NR 811 and 812 spell out well construction and well location standards to protect water supplies. Violation of well setback requirements in ch. NR 811 or 812 may prevent use of a well. DNR may grant appropriate variances, as provided in chs. NR 811 and 812.

(6) PRESUMPTION. For purposes of local approval, a livestock facility is presumed to comply with this section if the application for local approval complies with s. ATCP 51.30.

Note: Under s. ATCP 51.30, an application must be complete, credible and internally consistent. The application must include an area map, a site map, and a certification that the livestock facility complies with this section (*see Appendix A*). A local approval is conditioned upon compliance in fact (*see* s. ATCP 51.34 (4)). The presumption in sub. (6) may be rebutted by clear and convincing evidence in the record (*see* s. ATCP 51.34 and 51.36).

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ATCP 51.14 Odor and air emissions. (1) ODOR STANDARD. Except as provided in subs. (2) to (4), a livestock facility shall have an odor score of at least 500. The operator shall calculate the odor score according to *Appendix A, worksheet 2*, or by using the equivalent spreadsheet provided on the department's website. An application for local approval shall include *worksheet 2* or the spreadsheet output.

Note: The spreadsheet equivalent of *Appendix A, worksheet 2* is available on the department's website at http://www.datcp.state.wi.us/index.

Odor score is based on *predicted odor generation* (based on size and type of livestock facility), odor practices, and the proximity and density of "affected neighbors." *See Appendix A, worksheet 2.*

An *odor score* is a predictive estimate. The standard in sub. (1) applies only for purposes of local livestock facility siting decisions under this chapter. Failure to comply with the standard in sub. (1) does not constitute evidence of a public or private nuisance, negligence, or a taking of property.

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Odor control practices may also control air pollution emissions. The department will work to coordinate odor and air emissions field research with DNR, the Wisconsin agricultural stewardship initiative (WASI), and the University of Wisconsin. The department will consider research results when it reviews this chapter at least once every 4 years (see s. 93.90 (2) (c), Stats.). As part of its review, the department will consult with an advisory committee that includes representatives of livestock producers, local government and environmental interests. The department will consider amendments to this rule, as appropriate, based on research findings.

(2) EXEMPTIONS. The odor standard in sub. (1) does not apply to any of the following livestock facilities unless the facility operator voluntarily completes and submits *worksheet 2* or the equivalent spreadsheet output with the operator's application for local approval:

(a) A new livestock facility with fewer than 500 animal units.

(b) An expanded livestock facility with fewer than 1,000 animal units.

(c) A livestock facility in which all livestock structures will be located at least 2,500 ft. from the nearest affected neighbor.

Note: "Affected neighbors" (ATCP 51.01 (2)) are residences or "high−use buildings" (ATCP 51.01 (16)) *other than* those owned by the livestock operator or by persons who agree to be excluded from odor score calculations under sub. (1).

(3) CLUSTERS. If all of the livestock structures in a livestock facility are divided among 2 or more clusters, such that no cluster is located closer than 750 feet to any other cluster, an operator may choose to calculate an odor score under sub. (1) for each cluster rather than for the entire livestock facility. Each cluster shall comply with the odor standards in sub. (1).

Note: For example, a dairy operator can take advantage of sub. (3) if a proposed dairy facility includes a milking operation (cluster 1) and a heifer facility (cluster 2) located 800 feet from each other.

(4) LOCAL DISCRETIONARY CREDIT. (a) Notwithstanding sub. (1), a political subdivision may in its discretion approve a livestock facility with an odor score of less than 500, provided that the odor score is not less than 470.

(b) If a political subdivision exercises its discretionary authority under par. (a), its written decision under s. ATCP 51.34 (3) shall state the reason or reasons for that exercise of discretionary authority.

(c) The livestock facility siting review board may not review any of the following under s. 93.90 (5), Stats.:

1. A political subdivision's exercise, or refusal to exercise, discretionary authority under par. (a).

2. The adequacy of the political subdivision's stated reasons under par. (b) for exercising discretionary authority under par. (a).

Note: A political subdivision *must* approve a livestock facility that meets the odor standard under sub. (1), assuming that the facility meets other livestock facility siting standards under this chapter (*see* ATCP 51.34 (1)).

A political subdivision may *not* approve a livestock facility that fails to meet the odor standard under sub. (1), except that the political subdivision may exercise its discretionary authority under sub. (4) (a) in favor of an applicant if it chooses to do so. For example, a political subdivision may exercise its discretionary authority under sub. (4) (a) based on factors such as community tolerance, the applicant's near attainment of a standard, innovative odor control practices, local land use plans, or the applicant's past reputation for good management and community relations.

(5) CREDITS FOR ODOR CONTROL PRACTICES. In the calculation of predicted odor under sub. (1), an operator may claim credit for all of the following:

(a) Odor control practices, identified in *Appendix A, worksheet 2*, which the operator agrees to implement. For each odor control practice, the operator may claim a credit specified in *Appendix A, worksheet 2*.

(b) An odor control practice not identified in *Appendix A, worksheet 2* if the department pre−approves a credit for that practice. The operator shall claim the pre−approved credit according to the procedure specified in *Appendix A, worksheet 2*.

(c) An operator seeking department approval under par. (b) shall submit all of the following to the department in writing:

1. A clear description of the odor control practice for which the operator seeks an approved credit.

2. Scientific evidence to substantiate the efficacy of the odor control practice under relevant conditions.

(d) The department may approve a credit for an odor control practice under par. (b) if, in the department's opinion, there is adequate scientific evidence to show that under relevant conditions the practice will result in odor reduction commensurate with the approved credit. The department shall grant or deny the request within 90 days after the department receives the request.

Note: An odor control practice credit under sub. (5) is expressed, in the odor score calculation in *Appendix A, worksheet 2*, as a multiplier value (the *lower* the multiplier, the greater the benefit to the livestock operator).

(6) FUTURE REFERENCE POINTS. (a) Whenever an operator seeks local approval for the expansion of a livestock facility previously approved under this chapter, the operator may calculate an odor score under sub. (1) by reference to the same affected neighbors referenced in the odor score calculation for the prior local approval. The operator is not required to include, in the new odor score calculation, an affected neighbor that was not referenced in the odor score calculation for the prior local approval.

(b) Paragraph (a) applies regardless of any change in ownership of the livestock facility since the prior local approval, and regardless of the amount of time that has passed since the prior local approval, provided that the prior local approval has not been lawfully withdrawn for good cause under s. ATCP 51.08 (2) or 51.34 (4) (b).

Note: The odor score calculation in *Appendix A, worksheet 2* is partly based on the proximity and density of "affected neighbors" (*see* ATCP 51.01 (2)). An application for local approval documents those "affected neighbor" reference points. Subsection (6) protects an operator against the effects of encroaching development, without regulating that development directly.

A local government must keep a complete record of each local approval for at least 7 years, and must file with DATCP a copy of each approval (including the application on which it was based). The local government must also provide the livestock operator with documentation of the local approval, including the maps on which the approval was based (*see* s. ATCP 51.34 (3) (b)). The approved maps document the "odor score" reference points for purposes of sub. (6).

The livestock operator can record the local approval (including mapped "odor score" reference points) with the local register of deeds, and can convey the documentation to subsequent purchasers. In those ways, an operator can document previously−approved "odor score" reference points for purposes of a subsequent expansion.

(7) PRESUMPTION. For purposes of local approval, a livestock facility is presumed to comply with this section if the application for local approval complies with s. ATCP 51.30.

Note: Under s. ATCP 51.30, an application must be complete, credible and internally consistent. The application must include, among other things, a worksheet (or equivalent spreadsheet output) that shows compliance with this section. *See Appendix A, worksheet 2*. Local approval is conditioned upon compliance in fact (*see* s. ATCP 51.34 (4)). The presumption in sub. (7) may be rebutted by clear and convincing evidence in the record (*see* s. ATCP 51.34 and 51.36).

History: CR 05−014: cr. Register April 2006 No. 604, eff. 5−1−06.

ATCP 51.16 Nutrient management. (1) NUTRIENT MANAGEMENT STANDARD. (a) Except as provided in par. (c):

1. Land applications of waste from a livestock facility approved under this chapter shall comply with NRCS nutrient management technical standard 590 (September, 2005), except for sections V.A.2.b(2), V.D, V.E and VI.

Note: NRCS nutrient management technical standard 590 (September, 2005) is reprinted in *Appendix B*. The following sections of the reprinted standard do *not* apply for purposes of this chapter:

V.A.2.b(2), related to additional requirements imposed by local conservation plans.

V.D, related to additional criteria to minimize N and particulate air emissions.

V.E, related to additional criteria to protect the physical, chemical and biological condition of the soil.

VI, related to discretionary considerations.

2. A nutrient management checklist, shown in *Appendix A, worksheet 3, part C*, shall accompany an application for local approval. A qualified nutrient management planner, other than the livestock operator, shall answer each checklist question. The planner shall have reasonable documentation to substantiate each answer, but neither the planner nor the operator is required to submit that documentation with the checklist.

Note: A livestock operator is *not* required to submit a complete nutrient management plan with an application for local approval. Both the operator and the qualified nutrient management planner must sign the nutrient management checklist. *See Appendix A, worksheet 3, part C.*

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(b) A political subdivision may ask a nutrient management planner to submit the documentation that the planner relied upon to substantiate the planner's answer to one or more questions on the nutrient management checklist under par. (a) 2. The political subdivision may deny local approval if the planner's documentation does not reasonably substantiate the answer.

(c) Paragraph (a) does not apply to a livestock facility with fewer than 500 animal units unless the operator's ratio of acres to animal units, calculated according to *Appendix A, worksheet 3, part B*, is less than 1.5 for dairy and beef cattle, 1.0 for swine, 2.0 for sheep and goats, 2.5 for chickens and ducks, and 5.5 for turkeys.

Note: A waste and nutrient management worksheet (*Appendix A, worksheet 3*) must accompany every application for local approval. Among other things, the *worksheet* shows the operator's ratio of acres to animal units under par. (c).

Paragraph (c) is an exemption, not a requirement, for livestock facilities. If a livestock facility qualifies for exemption under par. (c), the operator is *not* required to submit a *nutrient management checklist* under par. (a). The ratios stated in par. (c) are based on the phosphorus content of manure from the respective livestock species.

(2) PRESUMPTION. For purposes of local approval, an operator is presumed to comply with sub. (1) if the application for local approval complies with s. ATCP 51.30.

Note: Under s. ATCP 51.30, an application must be complete, credible and internally consistent. The application must include, among other things, a *waste and nutrient management worksheet (Appendix A, worksheet 3)*. The completed *worksheet* must include all of the following:

- The types and amounts of manure and other organic waste that the facility will generate when fully populated.
- The types and amounts of waste to be stored, the waste storage facilities and methods to be used, the duration of waste storage, and waste storage capacity.
- The final disposition of waste by landspreading or other means.
- The acreage currently available for landspreading.
- A map showing where waste will be applied to land.
- A *nutrient management checklist* if required under sub. (1).

Local approval is conditioned upon compliance in fact (*see* s. ATCP 51.34 (4)). The presumption in sub. (2) may be rebutted by clear and convincing evidence in the record (*see* ss. ATCP 51.34 and 51.36).

(3) NUTRIENT MANAGEMENT UPDATES. An operator may update nutrient management plans and practices as necessary, consistent with sub. (1) (a) 1.

Note: This subsection does not require an operator to file updates with a political subdivision, but neither does it limit local authority to request updates or monitor compliance with sub. (1) (a) 1. *See* s. ATCP 51.34 (4).

(4) EXEMPTION. This section does not apply if all of the following apply:

(a) The operator holds a WPDES permit for the same proposed livestock facility, and that permit is based on housing for a number of animal units that is equal to or greater than the number for which the operator seeks local approval.

(b) The operator submits a copy of the WPDES permit with the operator's application for local approval.

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ATCP 51.18 Waste storage facilities. (1) DESIGN, CONSTRUCTION AND MAINTENANCE; GENERAL. All waste storage facilities for a livestock facility shall be designed, constructed and maintained to minimize the risk of structural failure, and to minimize the potential for waste discharge to surface water or groundwater. A waste storage facility may not lack structural integrity or have significant leakage. An unlined earthen waste storage facility may not be located on a site that is susceptible to groundwater contamination.

Note: A "site that is susceptible to groundwater contamination" is defined in s. ATCP 51.01 (39).

(2) EXISTING FACILITIES. For purposes of local approval, an existing waste storage facility is presumed to comply with sub. (1) if a registered professional engineer or certified agricultural engineering practitioner certifies one of the following in the application for local approval:

(a) The facility is constructed of concrete or steel or both, was constructed within the last 10 years according to then−existing NRCS standards, and shows no apparent signs of structural failure or significant leakage.

(b) The facility was constructed within the last 3 years according to then−existing NRCS standards, and shows no apparent signs of structural failure or significant leakage.

(c) The facility was constructed according to NRCS standards that existed at the time of construction, is in good condition and repair, and shows no apparent signs of structural failure or significant leakage.

(d) The facility is in good condition and repair, shows no apparent signs of structural failure or significant leakage, and is located on a site at which the soils and separation distances to groundwater comply with *NRCS technical guide manure storage facility standard 313, table 1 (November, 2004)*.

(e) The facility is in good condition and repair, shows no apparent signs of structural failure or significant leakage, is located entirely above ground, and is located on a site at which the soils comply with *NRCS technical guide manure storage facility standard 313, table 5 (November, 2004)*.

Note: According to s. ATCP 51.30, an application for local approval must include a certification under sub. (2) for each existing waste storage facility. *See Appendix A, worksheet 4 (waste storage facilities)*.

(3) NEW OR SUBSTANTIALLY ALTERED FACILITIES. For purposes of local approval, a new or substantially altered waste storage facility is presumed to comply with sub. (1) if all of the following apply:

(a) The application for local approval includes design specifications for the facility.

(b) A registered professional engineer or certified agricultural engineering practitioner certifies that the design specifications comply with all of the following:

1. NRCS technical guide manure storage facility standard 313 (November, 2004).

2. NRCS technical guide manure transfer standard 634 (November, 2004).

Note: According to s. ATCP 51.30, an application for local approval must include the design specifications and certification to which sub. (3) refers. *See Appendix A, worksheet 4 (waste storage facilities)*.

(4) CLOSED FACILITIES. If a waste storage facility is closed as part of the construction or expansion of a livestock facility, the closure shall comply with *NRCS technical guide closure of waste impoundments standard 360 (December, 2002)*. A closure is presumed to comply with this subsection, for purposes of local approval, if the application for local approval includes the closure plan and certification required under s. ATCP 51.30.

Note: According to s. ATCP 51.30, an application for local approval must identify any waste storage facilities to be closed. The application must include a closure plan for each identified facility. A registered professional engineer or certified agricultural engineering practitioner must certify that the closure plan complies with *NRCS technical guide closure of waste impoundments standard 360 (December 2002). See Appendix A, worksheet 4 (waste storage facilities)*.

Under s. NR 151.05 (3) and (4), an operator must normally close a manure storage facility if the facility has not been used for 24 months, or poses an imminent threat to public health, aquatic life or groundwater.

If a waste storage facility is abandoned or not properly closed, a political subdivision may seek redress under s. 66.0627 or 254.59, Stats., as appropriate.

(5) STORAGE CAPACITY. (a) The waste storage capacity of a livestock facility, not counting any excess storage capacity required for open waste storage facilities under par. (b), shall be adequate for reasonably foreseeable storage needs based on the operator's waste and nutrient management strategy under s. ATCP 51.16.

Note: Section ATCP 51.20 (5) prohibits overflow of waste storage facilities. *See* also ss. NR 151.08 (2) and ATCP 50.04 (1).

(b) An operator shall at all times maintain, in every open waste storage facility, unused storage capacity equal to the greater of the following volumes:

1. One foot multiplied by the top area of the storage facility.

2. The volume of rain that would accumulate in the manure storage facility from a 25−year 24−hour storm.

Note: The required excess storage capacity in par. (b), often called "freeboard storage," provides a safety factor to prevent manure storage overflow in the event of a major rain event.

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(c) The waste storage capacity of a livestock facility is presumed to comply with this subsection, for purposes of a local approval, if the application for local approval complies with s. ATCP 51.30.

Note: Under s. ATCP 51.30, an application must be complete, credible and internally consistent. An application must include a *waste and nutrient management worksheet (worksheet 3,* signed by the operator and a qualified nutrient management planner) and a *waste storage facility worksheet (worksheet 4,* signed by a registered professional engineer or certified agricultural engineering practitioner). *Worksheet 3* must identify waste storage needs, based on the operator's landspreading and waste disposal strategy. *Worksheet 3* must also show waste storage *capacity,* consistent with *worksheet 4.* Capacity must be adequate for reasonably foreseeable needs.

(6) DEVIATION FROM DESIGN SPECIFICATIONS. Local approval of a livestock facility does not authorize an operator to populate that approved livestock facility if the construction, alteration or closure of a waste storage facility deviates materially, and without express authorization from the political subdivision, from the design specifications or closure plan included in the application for local approval.

Note: A political subdivision may inspect waste storage facilities to verify that they are constructed according to specifications included in the application for local approval. This section *does not require or prohibit* local inspection. A deviation under sub. (6) does not invalidate a local approval, but does prevent the livestock operator from populating the approved livestock facility until the deviation is rectified or approved.

This chapter does not limit the application of local waste storage ordinances, except in connection with the approval of a new or expanded livestock facility. For example, if a livestock operator constructs a new waste storage structure without adding "animal units" for which local approval is required, the construction must comply with the local waste storage ordinance if any.

But if a livestock operator proposes to add "animal units" *and* construct a new waste storage structure, to create an "expanded livestock facility" for which local approval is required, the waste storage standards in this chapter are controlling. A political subdivision may not disapprove the expansion, except for reasons provided under this chapter.

(7) EXEMPTION. This section does not apply if all of the following apply:

(a) The operator holds a WPDES permit for the same proposed livestock facility, and that permit is based on housing for a number of animal units that is equal to or greater than the number for which the operator seeks local approval.

(b) The operator includes a copy of the WPDES permit with the operator's application for local approval.

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ATCP 51.20 Runoff management. (1) NEW OR SUBSTANTIALLY ALTERED ANIMAL LOTS. New or substantially altered animal lots shall comply with *NRCS technical guide wastewater treatment strip standard 635 (January, 2002).*

(2) EXISTING ANIMAL LOTS. (a) The predicted average annual phosphorus runoff from each existing animal lot to the end of the runoff treatment area, as determined by the *BARNY* model, shall be less than the following applicable amount:

1. Fifteen pounds if no part of the animal lot is located within 1,000 feet of a navigable lake or 300 feet of a navigable stream.

2. Five pounds if any part of the animal lot is located within 1,000 feet of a navigable lake or 300 feet of a navigable stream.

Note: The *BARNY* model is a computer model that predicts nutrient runoff from animal lots. Copies of the *BARNY* model are on file with the department and the legislative reference bureau. An Excel spreadsheet version may be obtained from the NRCS Wisconsin website (engineering directory).

(b) Runoff from an animal lot may not discharge to any direct conduit to groundwater.

Note: See ss. NR 151.08 (4) and ATCP 50.04 (1). A direct conduit to groundwater may include, for example, a sinkhole.

(3) FEED STORAGE. (a) Feed storage shall be managed to prevent any significant discharge of leachate or polluted runoff from stored feed to waters of the state.

(b) If an existing paved area may be used, without substantial alteration, to store or handle feed with a 70% or higher moisture content:

1. Surface water runoff shall be diverted from entering the paved area.

2. Surface discharge of leachate from stored feed shall be collected before it leaves the paved area, if the paved area covers more than one acre. Collected leachate shall be stored and disposed of in a manner that prevents discharge to waters of the state.

Note: Feed leachate is a potentially serious water pollutant. Paved areas include paved feed storage bunkers and handling areas. Collected leachate may, for example, be transferred to waste storage and applied to land at agronomic rates.

(c) A new or substantially altered feed storage structure, including any building, bunker, silo or paved area used for feed storage or handling, shall be designed, constructed and maintained to the following standards if it may used to store or handle feed with a 70% or higher moisture content:

1. Surface water runoff shall be diverted from entering the feed storage structure.

2. Surface discharge of leachate shall be collected before it leaves the feed storage structure.

3. The top of the feed storage structure floor shall be at least 3 vertical feet from groundwater and bedrock.

4. If the feed storage structure covers more than 10,000 square feet, it shall have an effective subsurface system to collect leachate that may leak through the structure floor. The system shall consist of drainfill material, a tile drainage network, and an effective sub−liner as specified in *Appendix A, worksheet 5, section II.C.*

5. Collected leachate shall be stored and disposed of in a manner that prevents discharge to surface water or groundwater.

Note: Collected leachate may, for example, be transferred to waste storage and applied to land at agronomic rates.

(4) CLEAN WATER DIVERSION. Runoff from a livestock facility shall be diverted from contact with animal lots, waste storage facilities, paved feed storage areas and manure piles within 1,000 feet of a navigable lake or 300 feet of a navigable stream.

Note: See ss. NR 151.06 and ATCP 50.04 (1). Runoff may be diverted by means of earthen diversions, curbs, gutters, waterways, drains or other practices, as appropriate.

(5) OVERFLOW OF WASTE STORAGE FACILITIES. A livestock facility shall be designed, constructed and maintained to prevent overflow of waste storage facilities.

Note: Under s. ATCP 51.18 (5), waste storage capacity must be adequate to meet reasonably foreseeable storage needs, based on the operator's waste and nutrient management strategy under s. ATCP 51.16. See also ss. NR 151.08 (2) and ATCP 50.04 (1).

(6) UNCONFINED MANURE PILES. A livestock facility may not have any unconfined manure piles within 1,000 feet of a navigable lake or 300 feet of a navigable stream.

Note: See ss. NR 151.08 (3) and ATCP 50.04 (1).

(7) LIVESTOCK ACCESS TO SURFACE WATERS OF THE STATE. A livestock facility shall be designed, constructed and maintained to prevent unrestricted livestock access to surface waters of the state, if that access will prevent adequate vegetative cover on banks adjoining the water. This subsection does not prohibit a properly designed, installed and maintained livestock crossing or machinery crossing.

Note: See ss. NR 151.08 (5) and ATCP 50.04 (1).

(8) PRESUMPTION. For purposes of local approval, a livestock facility is presumed to comply with this section if the application for local approval complies with s. ATCP 51.30.

Note: Under s. ATCP 51.30, an application must be complete, credible and internally consistent. An applicant must submit a *runoff management* worksheet signed by the applicant and a registered professional engineer or certified agricultural engineering practitioner (*see Appendix A, worksheet 5).* The *worksheet* shows presumptive compliance with this section. Local approval is conditioned upon compliance in fact (*see* sub. (9) and s. ATCP 51.34 (4)). The presumption of compliance may be rebutted by clear and convincing evidence in the record (*see* ss. ATCP 51.34 and 51.36).

(9) DEVIATION FROM DESIGN SPECIFICATIONS. Local approval of a livestock facility does not authorize an operator to populate that approved livestock facility if the construction or alteration of an animal lot or feed storage structure deviates materially, and without express authorization from the political subdivision, from design specifications included in the application for local approval.

Note: A political subdivision may inspect animal lots or feed storage structures to verify that they are constructed according to specifications included in the application for local approval. This section *does not require or prohibit* local inspection.

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A deviation under sub. (9) does not invalidate a local approval, but does prevent the livestock operator from populating the approved livestock facility until the deviation is rectified or approved.

(10) EXEMPTION. This section does not apply if all of the following apply:

(a) The operator holds a WPDES permit for the same proposed livestock facility, and that permit is based on housing for a number of animal units that is equal to or greater than the number for which the operator seeks local approval.

(b) The operator includes a copy of the WPDES permit with the operator's application for local approval.

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Subchapter III — Application and Approval

ATCP 51.30 Application. (1) GENERAL. If local approval is required for a new or expanded livestock facility, a person seeking local approval shall complete and file with the political subdivision the application form shown in *Appendix A*. The application shall include all of the information required by *Appendix A* and attached *worksheets*, including any authorized modifications made by the political subdivision under sub. (2). The information contained in the application shall be credible and internally consistent.

(2) LOCAL MODIFICATIONS. A political subdivision may not alter the application form shown in *Appendix A* and attached worksheets, or require any additional information, except that a political subdivision may require information needed to determine compliance with local ordinance standards authorized under s. ATCP 51.10 (3) or 51.12 (1).

(3) ADDITIONAL COPIES. A political subdivision may require an applicant to submit up to 4 duplicate copies of the original application under sub. (1). Each duplicate copy shall include all of the worksheets, maps and other attachments included in the application, except that it is not required to include engineering design specifications.

Note: A political subdivision must file one duplicate copy of the final application and attachments with the department, within 30 days after the political subdivision grants or denies that application. *See* s. ATCP 51.34 (5). If the political subdivision approves the application, the political subdivision must give the applicant a copy of the approved application, marked "approved." *See* s. ATCP 51.34 (3) (b). The applicant may wish to record this documentation with the register of deeds, and convey the documentation to any subsequent purchaser of the livestock facility. Among other things, documentation establishes "odor score" reference points for future expansions. *See* s. ATCP 51.14 (6).

(4) LOCAL FEES. (a) A political subdivision may charge an application fee established by local ordinance, not to exceed $1,000, to offset the political subdivision's costs to review and process an application under sub. (1).

Note: Under s. 66.0628, Stats., any fee imposed by a political subdivision must bear a reasonable relationship to the service for which the fee is imposed.

(b) A political subdivision may not require an applicant to pay any fee, or post any bond or security with the political subdivision, except as provided in par. (a).

Note: If a waste storage facility is abandoned or not properly closed, a political subdivision may seek redress under s. 66.0627 or 254.59, Stats., and other law as appropriate. However, a political subdivision may not require an applicant for local approval to post any bond or security with the application.

(5) COMPLETE APPLICATION. Within 45 days after a political subdivision receives an application under sub. (1), the political subdivision shall notify the applicant whether the application contains everything required under subs. (1) to (4). If the application is not complete, the notice shall specifically describe what else is needed. Within 14 days after the applicant has provided everything required under subs. (1) to (4), the political subdivision shall notify the applicant that the application is complete. A notice of completeness does not constitute an approval of the proposed livestock facility.

Note: See s. 93.90 (4) (a), Stats.

(6) NOTICE TO ADJACENT PROPERTY OWNERS. Within 14 days after a political subdivision issues a notice under sub. (5), the political subdivision shall mail a completed written copy of the notice in *Appendix C* to the recorded owner of each parcel of land that is adjacent to the proposed livestock facility. The political subdivision shall mail the notice by first class mail. A political subdivision may recover from the livestock facility operator, under sub. (4) (a), its reasonable cost to prepare and mail notices under this subsection. The sum of the costs charged to the livestock operator under this subsection and sub. (4) (a) may not exceed the maximum amount specified in sub. (4) (a). Failure to comply with the notice requirement under this subsection does not invalidate a political subdivision's approval of a proposed livestock facility, or create a cause of action by a property owner against the political subdivision.

History: CR 05−014: cr. Register April 2006 No. 604, eff. 5−1−06.

ATCP 51.32 Timely action on application. (1) GENERAL. Except as provided in sub. (2), a political subdivision shall grant or deny an application under s. ATCP 51.30 (1) within 90 days after the political subdivision gives notice under s. ATCP 51.30 (5) that the application is complete.

(2) TIME EXTENSION. (a) A political subdivision may extend the time limit in sub. (1) for good cause, including any of the following:

1. The political subdivision needs additional information to act on the application.

2. The applicant materially modifies the application or agrees to an extension.

(b) A political subdivision shall give an applicant written notice of any extension under par. (a). The notice shall state the reason for the extension, and shall specify the extended deadline date by which the political subdivision will act on the application.

Note: See s. 93.90(4) (d) and (e), Stats.

History: CR 05−014: cr. Register April 2006 No. 604, eff. 5−1−06.

ATCP 51.34 Granting or denying an application. (1) GRANTING AN APPLICATION. Except as provided in sub. (2), a political subdivision shall grant an application under s. ATCP 51.30 (1) if all of the following apply:

(a) The application complies with s. ATCP 51.30.

(b) The application contains sufficient credible information to show, in the absence of clear and convincing information to the contrary, that the proposed livestock facility meets or is exempt from the standards in subch. II. To the extent that a standard under subch. II vests discretion in a political subdivision, the political subdivision may exercise that discretion.

Note: See s. 93.90 (4) (d), Stats.

(2) DENYING AN APPLICATION. A political subdivision may deny an application under s. ATCP 51.30 if any of the following apply:

(a) The application fails to meet the standard for approval under sub. (1).

(b) The political subdivision finds, based on other clear and convincing information in the record under s. ATCP 51.36, that the proposed livestock facility fails to comply with an applicable standard under subch. II.

(3) WRITTEN DECISION. (a) A political subdivision shall issue its decision under sub. (1) or (2) in writing. The decision shall be based on written findings of fact included in the decision. The findings of fact shall be supported by evidence in the record under s. ATCP 51.36. Findings may be based on presumptions created by this chapter.

Note: The Wisconsin Livestock Facility Siting Law, s. 93.90, Stats., provides a new option for "aggrieved persons" to appeal a local livestock facility siting decision. The law does not limit any existing right that any person may have to challenge a local decision in court.

Under the Livestock Facility Siting Law, an "aggrieved person" may appeal a local decision to the state Livestock Facility Siting Review Board ("Board"). An "aggrieved person" means an applicant for local approval, or a person who resides or owns land within 2 miles of the proposed livestock facility.

An "aggrieved person" may appeal a political subdivision's decision within 30 days after the political subdivision issues the decision (or, if the "aggrieved person" pursues a local administrative appeal process, within 30 days after that process is

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complete). The "aggrieved person" may challenge the local decision on the grounds that it incorrectly applied livestock facility siting standards under this chapter, or violated the Livestock Facility Siting Law.

When an appeal is filed, the Board must notify the political subdivision. Within 30 days after the political subdivision receives this notice, it must file a certified copy of its decision making record under s. ATCP 51.36 with the Board. The Board must review the local decision based on the evidence in the local record (the Board will not hold a new hearing or accept new evidence). The Board must make its decision within 60 days after it receives the certified local record (it may extend the deadline for good cause).

If the Board determines that the challenge is valid, it must reverse the decision of the political subdivision. The Board's decision is binding on the political subdivision (once any court appeal of the decision is completed, or the appeal time lapses). If the political subdivision fails to comply with the Board's decision, an "aggrieved person" may bring a court action to enforce the Board's decision.

An "aggrieved person" *or the political subdivision* may appeal the Board's decision to circuit court. The circuit court must review the Board's decision based on the evidence in the local record.

(b) If a political subdivision grants an application for local approval, the political subdivision shall issue the local approval to the applicant in writing. The local approval shall include a duplicate copy of the approved application, marked "approved." The duplicate copy shall include all of the worksheets, maps and other attachments included in the application, except that it is not required to include engineering design specifications.

Note: A successful applicant may wish to record the approval documentation under par. (b) with the register of deeds, and convey the documentation to any subsequent purchaser of the livestock facility. Among other things, the documentation establishes "odor score" reference points for future expansions. *See* s. ATCP 51.14 (6).

(4) TERMS OF APPROVAL. An approval under sub. (1) is conditioned on the operator's compliance with subch. II and representations made in the application for approval. This chapter does not limit a political subdivision's authority to do any of the following:

(a) Monitor compliance.

(b) Withdraw an approval, or seek other redress provided by law, if any of the following apply:

1. The operator materially misrepresented relevant information in the application for local approval.

2. The operator, without authorization from the political subdivision, fails to honor relevant commitments made in the application for local approval. A political subdivision may not withhold authorization, under this subdivision, for reasonable changes that maintain compliance with the standards in subch. II.

3. The livestock facility fails to comply with applicable standards in subch. II.

Note: A political subdivision should exercise sound judgment in deciding whether to take compliance action under sub. (4) (b). The political subdivision may consider extenuating circumstances, such as adverse weather conditions, that may affect an operator's ability to comply. A political subdivision may also consider the nature and seriousness of the violation, whether the violation was intentional or accidental, the operator's compliance history, consistency of enforcement, and whether the problem can be resolved without formal enforcement. Before taking compliance action, a political subdivision should give the operator notice and a reasonable opportunity to demonstrate compliance.

(5) NOTICE TO DEPARTMENT. (a) Within 30 days after a political subdivision grants or denies an application under this section, or withdraws an approval under sub. (4) (b) or s. ATCP 51.08 (2), the political subdivision shall do all of the following:

1. Give the department written notice of its action.

2. File with the department a copy of the final application granted or denied, if the political subdivision has granted or denied an application under this section. The copy shall include all of the worksheets, maps and other attachments included in the application, except that it is not required to include engineering design specifications.

3. File with the department a copy of the political subdivision's final notice or order withdrawing a local approval under sub. (4) (b) or s. ATCP 51.08 (2), if the political subdivision has withdrawn a local approval.

(b) A political subdivision shall submit the information required under pars. (a) and (b), by mail or fax, to the following address:

Wisconsin Department of Agriculture, Trade
and Consumer Protection
Agricultural Resource Management Division
Bureau of Land and Water Resources
P.O. Box 8911
Madison, WI 53708−8911
Fax (608) 224−4615

(c) Failure to comply with par. (a) or (b) does not invalidate a political subdivision's decision to grant or deny an application for local approval, or to withdraw a local approval.

History: CR 05−014: cr. Register April 2006 No. 604, eff. 5−1−06.

ATCP 51.36 Record of decision−making. A political subdivision shall keep a complete written record of its decision−making related to an application under s. ATCP 51.30. The political subdivision shall keep the record for at least 7 years following its decision. The record shall include all of the following:

(1) The application under s. ATCP 51.30 (1), and all subsequent additions or amendments to the application.

(2) A copy of any notice under s. ATCP 51.30 (5), and copies of any other notices or correspondence that the political subdivision issues in relation to the application.

(3) A record of any public hearing related to the application. The record may be in the form of an electronic recording, a transcript prepared from an electronic recording, or a direct transcript prepared by a court reporter or stenographer. The record shall also include any documents or evidence submitted by hearing participants.

Note: Municipal law normally determines whether a hearing is required. *See*, generally, ch. 68, Stats.

(4) Copies of any correspondence or evidentiary material that the political subdivision considered in relation to the application.

(5) Minutes of any board or committee meeting held to consider or act on the application.

(6) The written decision required under s. ATCP 51.34 (3).

(7) Other documents that the political subdivision prepared to document its decision or decision−making process.

(8) A copy of any local ordinance cited in the decision.

History: CR 05−014: cr. Register April 2006 No. 604, eff. 5−1−06.

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Chapter ATCP 51

APPENDIX A

APPLICATION FORM AND WORKSHEETS

Application for Local Approval
New or Expanded Livestock Facility

Wisconsin Department of Agriculture, Trade and Consumer Protection
2811 Agriculture Drive
P.O. Box 8911
Madison, WI 53708−8911
(608) 224−4622
(608) 224−4500

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Introduction

Use this application form to obtain local approval for a *new* or *expanded* livestock facility (cattle, swine, poultry, sheep or goats) that will exceed 500 "animal units" (or a lower threshold established by local zoning ordinance prior to July 19, 2003).

Some local governments require local approval, but others do not. Check with your local government (county and town or municipality) to see if local approval is required in your area.

In some cases, you may need local approval from more than one local government (for example, the county and the town, or 2 towns if your livestock facility straddles the town line). But the application and approval process should be the same.

The construction of a new or altered *livestock structure* does not, by itself, constitute an "expansion" (unless there will also be an increase in *animal units*). If you already have a permit or local approval, you may not need another approval unless your planned expansion exceeds the number of animals previously authorized by your local government.

Local approval, if required, is governed by statewide uniform standards in Wisconsin Statutes s. 93.90 and Wisconsin Administrative Code chapter *ATCP 51*. This application documents compliance with those standards.

The Livestock Facility

A livestock facility includes livestock, livestock structures, the land on which they are located (it does not include pastures or winter grazing areas). *Related livestock facilities* (see definition below) are treated as a single livestock facility, for purposes of local approval. However:

- *A separate species facility* (see definition below) may be treated as a separate livestock facility, even if it is owned by the same person and located on the same land parcel as another livestock facility.
- A mere acquisition of a neighboring livestock facility does not constitute an *expansion* unless more *animal units* are added to the combined facilities.

Completing the Application

If local approval is required, complete this entire application form (including the worksheets). Follow the instructions in the application form. Attach all of the supplementary documentation required. Your application must be complete, credible and internally consistent.

The application form and worksheets ask for information to show compliance with Wisconsin livestock facility siting standards. A local government has *very limited* authority to modify the standards by local ordinance (modifications, if any, must be reflected in the local version of this application form).

As part of your application, you must specify the number of *animal units* that you will keep at a new or expanded livestock facility. If the local government approves your requested number, this will be the maximum number that you may keep for 90 days or more in any 12−month period.

A local government may require you to submit up to 4 duplicate copies of the complete application, worksheets, maps and other attachments. But you are not required to submit duplicate copies of engineering design specifications.

Worksheets

This application includes the following worksheets:

- *Animal units* (worksheet 1)
- Odor management (worksheet 2)
- Waste and nutrient management (worksheet 3)
- Waste storage facilities (worksheet 4)
- Runoff management (worksheet 5)

Complete the worksheets following all instructions (including those on each worksheet). You may use a convenient automated spreadsheet in place of Tables A and B of worksheet 2 if you prefer (results are identical). The spreadsheet is available at http://www.datcp.state.wi.us.

If the Wisconsin Department of Natural Resources (*DNR*) has issued a Wisconsin Pollutant Discharge Elimination System (*WPDES*) permit for your proposed livestock facility, you can check a box on worksheets 3, 4 and 5, and submit a copy of that permit with the worksheets. A *WPDES* permit does not affect the requirements for completing worksheets 1 and 2.

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Fees

A local government may require a fee to offset its reasonable costs to review and process this application. The fee, if any, must be established by local ordinance and may not exceed $1,000. A local government may NOT charge any other fee, or require you to post any bond or security.

Local Approval Process

If you complete the application properly, the local government MUST APPROVE the proposed livestock facility unless it finds, based on clear and convincing evidence in the local record, that the facility fails to meet the state standards.

Within 45 days after you submit your application, the local government must notify you whether your application is complete. If you failed to complete part of the application, you must submit the missing information. The local government must grant or deny the application within 90 days after it declares the application complete, and issue its decision in writing. The approval must include a duplicate copy of the approved application, marked "approved." The duplicate copy shall include all the worksheets, maps, and other attachments included in the application, with the exception of the engineering design specifications. The local government must make a record of its decision making process, and the evidence supporting its decision. The record must include your application.

Appeal of Local Decision

If you disagree with the local government's decision on your application, you may appeal that decision to the Wisconsin Livestock Facility Siting Review Board ("Board"). Other "aggrieved persons" may also appeal to the Board. An "aggrieved person" includes any person who resides or owns land within 2 miles of your proposed livestock facility.

You must file your appeal within 30 days after the local government issues its decision (or, if you pursue a local administrative appeal process first, within 30 days after that appeal process is complete). The Board will review the local decision based on the evidence in the local record (it will not hold a new hearing or accept new testimony or evidence). You must file your appeal in writing at the following address:

Wisconsin Livestock Facility Siting Review Board
c/o Secretary, Department of Agriculture, Trade and Consumer Protection
P.O. Box 8911
Madison, WI 53708−8911

Terms Used in this Application Form

In this application form, you will see a number of ***italicized*** terms. Those terms are defined below (for more specific definitions, see *ATCP 51*):

"Adjacent" – Located on land parcels that touch each other, or on land parcels that are separated only by a river, stream, or transportation or utility right−of−way.

"Affected Neighbors" – Residences or *high−use buildings* within 2500 feet of any livestock structure at the proposed facility, other than those owned by the applicant or by persons who have agreed to exclude them from the applicant's odor score calculation. The total odor score for a *livestock facility* depends, in part, on the proximity and density of "affected neighbors."

"Animal housing area" – That portion of an animal housing structure to which animals have access, and in which manure may accumulate. "Animal housing area" includes free−stalls and travel lanes. It does NOT include holding areas, feed alleys, storage areas or milking parlors.

"Animal lot" − A feedlot, barnyard or other outdoor facility where livestock are concentrated for feeding or other purposes. Pastures and winter grazing areas are NOT "animal lots." Treat multiple "animal lots" as a single "animal lot" if runoff from the "animal lots" drains to the same treatment area or if runoff from the "animal lot" treatment areas converges or reaches the same surface water within 200 feet of any of those treatment areas.

"Animal units" – Equivalent units of *livestock*. The number of animals constituting an "animal unit" varies by species. For example, one milking dairy cow equals 1.4 "animal units." A beef animal over 600 lbs. equals 1.0 "animal units." A pig over 55 lbs. equals 0.4 "animal units." A laying chicken equals 0.01 "animal unit." The number of "animal units" kept at a *livestock facility* means the largest number of "animal units" that will be at the *livestock facility* on at least 90 days in any 12−month period. Calculate "animal units" according to worksheet 1.

"BARNY runoff model" – The Wisconsin version of a model that is commonly used to predict nutrient runoff from *animal lots*. An Excel computer spreadsheet version is available on the DATCP website (engineering directory).

"Certified agricultural engineering practitioner" – A practitioner who is properly qualified under *ATCP 50.46*.

"Cluster" – Any group of one or more *livestock structures* within a *livestock facility*. If you wish to do so, you may calculate separate odor scores for "clusters" that are separated by more than 750 feet.

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"Complete application for local approval" – An application that contains everything required under ss. ATCP 51.30(1) to (4).

"DATCP" – Wisconsin Department of Agriculture, Trade and Consumer Protection. The application form cites DATCP rules including Wis. Adm. Code chs. *ATCP 51* (livestock facility siting), *ATCP 50* (soil and water resource management) and *ATCP 17* (livestock premises registration).

"DNR" – Wisconsin Department of Natural Resources. The application form cites DNR rules including Wis. Adm. Code chs. *NR 243* (*WPDES* permits), *NR 811* (community wells) and *NR 812* (private wells).

"Expanded livestock facility" − The entire *livestock facility* created by an *expansion*, including new, existing and altered *livestock structures* (existing structures are subject to less rigorous standards). Your application must indicate the maximum number of *animal units* that you will keep at the "expanded livestock facility."

"Expansion" – An increase in the largest number of *animal units* kept at a *livestock facility* on at least 90 days in any 12−month period. The acquisition of an existing livestock facility, by the operator of an *adjacent* facility, is not an "expansion" unless the operator increases the largest number of *animal units* kept at the combined livestock facilities on at least 90 days in any 12−month period.

"High−use building" – A residential building that has at least 6 distinct dwelling units; a restaurant, hotel, motel, or tourist rooming house; a school building; a hospital or licensed care facility; or a non−farm business or workplace that is open at least 40 hours a week. The odor score for your *livestock facility* depends, in part, on the proximity and density of neighboring "high−use buildings."

"Karst features" – Sinkholes, fractured bedrock or like features that may result in direct pollution runoff to groundwater.

"Livestock" – Cattle, swine, poultry, sheep or goats.

"Livestock facility" – A feedlot, dairy farm, or other operation where *livestock* are or will be fed, confined, maintained, or stabled for a total of 45 days or more in any 12−month period. A "livestock facility" includes all of the tax parcels on which the facility is located, but it does NOT include a parcel used only for *pasture* or as a *winter grazing area*. *Related livestock facilities* are considered a single "livestock facility," except a livestock operator may elect to treat a *separate species facilities* as a separate livestock facility.

"Livestock structure" – A building or structure such as a barn, milking parlor, feed storage facility, feeding facility, *animal lot* or *waste storage structure*. *Pastures*, *winter grazing areas* and machine sheds are NOT "livestock structures."

"Local approval" – A license, permit, special zoning exception, conditional use permit, or other local authorization for a *new or expanded livestock facility*. This application form applies, regardless of the form of local approval. However, this application form does NOT cover any of the following permits (for which separate requirements may apply):

- Building, electrical or plumbing permits (if local standards are consistent with state code).
- Manure storage system permits (*see ATCP 50.56*), UNLESS construction is part of a *new or expanded livestock facility*.
- Permits required by certain local ordinances related to shoreland zoning, floodplain zoning, construction site erosion control or stormwater management.

"New livestock facility" – A *livestock facility* used for the first time, or for the first time in at least 5 years.

"NRCS" – The Natural Resource Conservation Service of the United States Department of Agriculture. Wisconsin livestock siting standards refer to NRCS Technical Guide standards.

"Pasture" – Land on which livestock graze or otherwise seek feed in a manner that maintains the vegetative cover over all of the grazing or feeding area.

"Premises ID" – The unique ID number assigned to your *livestock facility* under the Wisconsin Livestock Premises Registration Program (*ATCP 17*). Go to http://www.datcp.state.wi.us for more information. To register your *livestock facility*, go to http://www.wiid.org/.

"Qualified nutrient management planner" − A person, other than the applicant, who is qualified under *ATCP 50.48.*

"Related livestock facilities" – Two or more *livestock facilities* that are owned or managed by the same person and meet any of the following criteria:

- They are located on the same tax parcel or *adjacent* tax parcels.
- They use any of the same *livestock structures* to collect or store manure.
- They generate manure that is applied to the same parcel of land.

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"Separate Species Facility" − A distinct part of *a livestock facility* that meets all of the following criteria:

- It has only one of the following types of livestock, and that type is not found in any other part of the *livestock facility*:
  - Cattle
  - Swine
  - Poultry
  - Sheep
  - Goats
- It has no more than 500 *animal units*.
- Its animal housing and manure storage structures, if any, are located at least 750 feet from *livestock structures* that are used by other parts of the *livestock facility*.

"Substantially altered" livestock structure – A *livestock structure* that undergoes a material change in construction or use such as:

- An increase in the capacity of a *waste storage facility.*
- The addition of a liner to a *waste storage facility.*
- An increase of more than 20% in the area or capacity of a *livestock structure* used to house, feed, or confine *livestock* or to store livestock feed.
- An increase of more than 20% in the number of *animal units* that will be kept in a *livestock structure* on at least 90 days in any 12− month period.

"Waste storage structure" – An embankment structure, excavated pit, dugout or fabricated structure that is used to store manure, milking center waste or other organic waste generated by a *livestock facility.* For the purposes of waste storage structure setback (application form, A−2) and worksheet 2, a "waste storage structure" does not include a structure used to collect and store waste under an animal housing facility, or a manure digester consisting of a sealed structure in which manure is subjected to managed biological decomposition.

"Waste storage facility" −− A *waste storage structure* and any attached piping or equipment used to load or unload the structure.

"Winter grazing area" – Cropland or *pasture* where *livestock* feed on dormant vegetation or crop residue, with or without supplementary feed, during the period October 1 to April 30. "Winter grazing area" does *not* include any of the following:

- An area, other than a *pasture*, where *livestock* are kept during the period from May 1 to September 30.
- An area which at any time has an average of more than 4 *animal units* per acre.
- An area from which *livestock* have unrestricted access to navigable waters of the state.
- An area in which manure deposited by *livestock* causes nutrient levels to exceed standards in *ATCP 51.16*.

"WPDES permit" – Wisconsin Pollutant Discharge Elimination System permit issued by DNR for a concentrated animal feeding operation over 1000 *animal units,* or for operations of any size that discharge pollutants directly to waters of the state.

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arm−lwr− 11/04 January, 2006

Wisconsin Department of Agriculture, Trade and Consumer Protection
2811 Agriculture Drive, PO Box 8911, Madison WI 53708−8911
Phone: (608) 224−4622 or (608) 224−4500

Application for Local Approval

New or Expanded Livestock Facility

Wis. Statutes s. 93.90
Wis. Adm. Code ch. ATCP 51

1. Legal Name of Applicant (Business Entity):

2. Type of Business Entity: check one

☐ Individual	☐ Corporation	☐ Partnership	☐ Cooperative	☐ LLC
☐ Trust	☐ Other	Describe:		

3. Other names, if any, under which applicant does business (list all):

4. Contact Individual:	Name:
Phone:	E−mail:

5. Business Address:	Street Address:		
City/Village/Town:	County:	State:	Zip:

6. Principal Owners or Officers (list if applicant is an entity other than an individual):

Name:	Title:	Phone:	
Address:	City:	State:	Zip:
Name:	Title:	Phone:	
Address:	City:	State:	Zip:
Name:	Title:	Phone:	
Address:	City:	State:	Zip:

7. Description of Proposed *Livestock Facility*

Check one: ☐ New *Livestock Facility*	☐ *Expanded Livestock Facility*		Premises ID:
Address of Proposed *Livestock Facility*:			
City/Village/Town:	County:	State:	Zip:
Town #	Range # (E or W)	Section #	¼ Section #

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Application (continued)

8. Total *Animal Units*

Enter total *animal units* from **worksheet 1:**

Total *Animal Units*: _____. This is the maximum *livestock facility* size for which the applicant requests approval at this time.

9. Area Map of *Livestock Facility*

Attach a scale map or aerial photo of the proposed *livestock facility* and surrounding area. The map or photo must be appropriately sized and marked, so that it clearly and legibly shows all of the following:

- All existing and proposed *livestock structures*. Label each *livestock structure* to show structure type, and whether existing or proposed.
- The area lying within 2 miles of any of the *livestock structures*. Show all existing buildings, property lines, roadways, and navigable waters lying within that area.
- All residences and *high use buildings* within 2500 ft. of any *livestock structure*. Show which (if any) of those buildings are owned by the applicant, or by persons who have agreed to exclude the buildings from the applicant's odor worksheet calculations.
- Topographic lines at 10 ft. elevation intervals.
- Map scale and north direction indicator.

10. Site Map of *Livestock Facility*

Attach a scale map or aerial photo of the proposed *livestock facility* site. The map or photo shall be appropriately sized and marked, so that it clearly and legibly shows all of the following:

- All existing and proposed *livestock structures*. Label each *livestock structure* to show structure type, and whether existing or proposed.
- The area lying within 1,000 ft. of any of the *livestock structures*. Show all existing buildings, property lines, roadways, navigable waters, and known *karst features* within that area.
- Topographic lines, at 2 ft. elevation intervals, for the area within 300 feet of the *livestock structures*.
- Map scale and north direction indicator.

11. Location of *Livestock Structures*

The applicant certifies that:

- All *livestock structures* comply with applicable local property line and road setbacks (see *ATCP 51.12).*
- All *waste storage structures* comply with setbacks in *ATCP 51.12(2).*
- All *livestock structures* comply with applicable local shoreland, wetland, and floodplain zoning ordinances (copies available from local government).
- Wells comply with the Wisconsin well code (*NR 811* and *812*). *New or substantially altered livestock structures* are separated from existing wells (including neighbors' wells) by setback distances required in *NR 811* and *812*.

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Application (continued)

12. Employee Training Plan

Attach an Employee Training Plan for employees who will work at the *livestock facility.* Applicant determines plan contents, as long as the plan identifies all of the following:

- Training topics including, at a minimum, nutrient management, odor management, runoff management, manure and waste handling, employee safety, and environmental incident response.
- The number and job categories of employees to be trained.
- The form and frequency of training, which at a minimum must include a plan for at least one training per year.
- Training presenters (these may include *livestock facility* managers, consultants or professional educators).
- A system for taking and recording attendance.

13. Environmental Incident Response Plan

Attach an Environmental Incident Response Plan for the *livestock facility.* Applicant determines plans contents, as long as the plan identifies all of the following:

- Types of environmental incidents covered. These must include, at a minimum, overflows and spills from waste storage facilities, catastrophic system failures, manure spills during transport and application, movement of manure during or after application, catastrophic mortality disposal emergency, and odor complaints.
- The name and business telephone number of at least one individual who will handle public questions and concerns related to environmental incidents.
- The names and telephone numbers of first responders (e.g. DNR, fire departments, excavation contractors).
- Incident response procedures, including emergency response, recordkeeping and reporting procedures.

14. Odor Management Plan (*Optional*)

An applicant required to complete the odor management worksheet may attach an *optional* odor management plan. The applicant determines plan contents, as long as the plan addresses all of the following: activities to reduce community conflict; practices used to reduce dust; practices used to reduce odor from feed storage leachate; practices used to conserve water; and practices used to reduce odor from dead animals.

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Application (continued)

15. Other Laws

The following laws, among others, may apply to the operation of a *livestock facility*. Local approval of a *livestock facility* siting application is NOT based on these laws, except as specifically provided in *ATCP 51*. However, violations may have other legal consequences:

- Soil conservation and nonpoint pollution laws (contact your county land conservation department). Livestock facilities that have 1,000 or more animal units, or that discharge pollutants directly to waters of the state, must also obtain a *WPDES permit* from *DNR*.
- Pesticide and agricultural chemical laws administered by *DATCP*.
- Animal disease control laws administered by *DATCP*.
- Animal mortality laws administered by *DATCP*.
- Vehicle weight limits and state prohibitions against spilling waste on roads.
- Food safety and animal health licenses administered by *DATCP*. All livestock operations must register, and some (such as dairy farms) must hold a state license.
- Air pollution control regulations administered by *DNR*.
- Building, electrical, plumbing and sanitation codes administered by the Wisconsin Department of Commerce. A local authority may disapprove a proposed *livestock facility* that violates a conforming local code.
- Construction site erosion control laws administered by *DNR*.
- Local erosion control and stormwater management ordinances.
- Petroleum storage laws administered by the Wisconsin Department of Commerce.
- High capacity well regulations administered by *DNR*.

16. Worksheets

Complete worksheets as required (follow instructions on each worksheet) and attach to application.

Worksheet 1 – **Animal Units**.

Worksheet 2 – **Odor Management**.

Worksheet 3 – **Waste and Nutrient Management**. If you hold a *WPDES permit* from *DNR* for the same proposed *livestock facility* (for an equal or greater number of *animal units*), check the appropriate box on this worksheet, and submit a copy of the permit with this application.

Worksheet 4 – **Waste Storage Facilities**. If you hold a *WPDES permit* from *DNR* for the same proposed *livestock facility* (for an equal or greater number of *animal units*), check the appropriate box on this worksheet, and submit a copy of the permit with this application.

Worksheet 5 – **Runoff Management**. If you hold a *WPDES permit* from *DNR* for the same proposed *livestock facility* (for an equal or greater number of *animal units*), check the appropriate box on this worksheet, and submit a copy of the permit with this application.

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Application (continued)

Authorized Signature:

I certify that the information contained in this application (including worksheets and all attachments) is complete and accurate to the best of my knowledge.

_____ _____
Signature of Applicant or Authorized Representative Date

_____ _____
Print Name Title

For Office Use Only:	
Application #:	
Date Application Received:	
Date Completeness Determined:	**Date Notice Sent to Applicant:**
Date Notice Sent to Adjacent Landowners:	
Decision Date:	
Approved or Disapproved:	
Date Appeal Filed (if any):	

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arm−lwr− 11/04 January 2006

Wisconsin Department of Agriculture, Trade and Consumer Protection
2811 Agriculture Drive, PO Box 8911, Madison WI 53708−8911
Phone: (608) 224−4622 or (608) 224−4500

Worksheet 1 − *Animal Units*

Instructions: Use this worksheet to determine the number of *animal units* for which you request approval. You may request approval for a number that is large enough to accommodate current and potential future expansions. If the local government approves the requested number of *animal units*, that is the maximum number that you may keep for 90 days or more in any 12−month period. You may not exceed that number without additional approval.

To complete this worksheet:

1. Identify each type of *livestock* that you might keep at the proposed facility. Enter the maximum number of animals of each type that you might keep for at least 90 days in any 12−month period.
2. Multiply the number of animals of each type by the relevant Animal Unit Factor to obtain *animal units* of each type.
3. Sum the *animal units* for all *livestock* types to obtain the Total *Animal Units* for which you request approval.

	***Livestock* Type**	**Animal Unit Factor**	***Animal Units* For Proposed Facility**
Example – Milking & Dry Cows			*1.4 x 800 = 1120 AU*
Dairy Cattle	Milking and Dry Cows	**1.4**	1.4 x =
	Heifers (800 lbs. to 1200 lbs.)	**1.1**	1.1 x =
	Heifers (400 lbs. to 800 lbs.)	**0.6**	0.6 x =
	Calves (up to 400 lbs.)	**0.2**	0.2 x =
Beef	Steers or Cows (600 lbs. to market)	**1.0**	1.0 x =
	Calves (under 600 lbs.)	**0.5**	0.5 x =
	Bulls (each)	**1.4**	1.4 x =
Swine	Pigs (55 lbs. to market)	**0.4**	0.4 x =
	Pigs (up to 55 lbs.)	**0.1**	0.1 x =
	Sows (each)	**0.4**	0.4 x =
	Boars (each)	**0.5**	0.5 x =
Poultry	Layers (each)	**0.01**	0.01 x =
	Broilers (each)	**0.005**	0.005 x =
	Broilers – continuous overflow watering	**0.01**	0.01 x =
	Layers or Broilers − liquid manure system	**0.033**	0.033 x =
	Ducks – wet lot (each)	**0.2**	0.2 x =
	Ducks − dry lot (each)	**0.01**	0.01 x =
	Turkeys (each)	**0.018**	0.018 x =
Sheep (each)		**0.1**	0.1 x =
Goats (each)		**0.1**	0.1 x =
Total *Animal Units* for Which Applicant Requests Approval =			

Signature of Applicant or Authorized Representative

Date

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Application (continued)

12. Employee Training Plan

Attach an Employee Training Plan for employees who will work at the *livestock facility.* Applicant determines plan contents, as long as the plan identifies all of the following:

- Training topics including, at a minimum, nutrient management, odor management, runoff management, manure and waste handling, employee safety, and environmental incident response.
- The number and job categories of employees to be trained.
- The form and frequency of training, which at a minimum must include a plan for at least one training per year.
- Training presenters (these may include *livestock facility* managers, consultants or professional educators).
- A system for taking and recording attendance.

13. Environmental Incident Response Plan

Attach an Environmental Incident Response Plan for the *livestock facility.* Applicant determines plans contents, as long as the plan identifies all of the following:

- Types of environmental incidents covered. These must include, at a minimum, overflows and spills from waste storage facilities, catastrophic system failures, manure spills during transport and application, movement of manure during or after application, catastrophic mortality disposal emergency, and odor complaints.
- The name and business telephone number of at least one individual who will handle public questions and concerns related to environmental incidents.
- The names and telephone numbers of first responders (e.g. DNR, fire departments, excavation contractors).
- Incident response procedures, including emergency response, recordkeeping and reporting procedures.

14. Odor Management Plan (*Optional*)

An applicant required to complete the odor management worksheet may attach an *optional* odor management plan. The applicant determines plan contents, as long as the plan addresses all of the following: activities to reduce community conflict; practices used to reduce dust; practices used to reduce odor from feed storage leachate; practices used to conserve water; and practices used to reduce odor from dead animals.

Management Plans (Required)

The following management plans are required to be submitted with the livestock facility siting application. An application must include the required plans in order to be considered complete.

Employee Training Plan

You must develop an employee training plan for employees who work at the livestock facility. The employee training plan is to ensure that facility employees are familiar with the practices that must be adhered to as part of the permit. The training plan will also ensure that employees are prepared to respond in case of an emergency. You can determine the plan contents, as long as the following minimum content is included:

Training topics (all employees may not need to be trained in all topics):
Topics must include, at a minimum:

- nutrient management,
- odor management,
- runoff management,
- manure and waste handling,
- employee safety; and
- environmental incident response.

Employees to be trained: Identify the job categories of employees to be trained (e.g. milker, feed manager, manure handler) and the number of employees in each job category to be trained.

Note: If contract employees are used for tasks such as manure hauling and spreading, the facility operator should be sure that they are familiar with the facility's incident response procedures and have adequate training in manure transport, handling, and spreading.

Frequency of training: Describe the frequency of training. At a minimum, there must be at least one training that covers each of the required training topics each year (trainings can cover all topics, or separate trainings can be held for each individual topic).

Form of training: Describe how the training will be delivered (e.g. video, classroom presentation, manual, demonstration, on-line workshop).

Training presenters: Indicate who will present the training. Presenters can include the livestock facility managers, consultants, professional educators, or others.

Recordkeeping: Describe the system that will be used to take and record attendance.

Environmental Incident Response Plan

The purpose of the environmental incident response plan is to have emergency procedures in place in the event of an environmental incident such as a manure spill. The plan should be reviewed and updated regularly to ensure contact information is accurate and response procedures are adequate. Copies of the plan should be kept in easily accessible and known locations for reference in case of an incident. You can determine the plan contents, as long as the following minimum content is included:

Types of environmental incidents covered:

The plan must include, at a minimum,

- Overflows and spills from waste storage facilities
- Catastrophic systems failures
- Manure spills during transport and application
- Movement of manure during or after application
- Catastrophic mortality disposal
- Odor complaints.

Contact names:

Clearly identify:

- The names and business telephone number of at least one individual who will handle public questions and concerns related to the incidents.
- The names and telephone numbers of first responders (DNR, fire departments, contractors).

Incident response procedures:

Clearly identify the livestock facility's emergency response procedures including:

- What the response procedures will be for different types of incidents covered in the plan. The procedures should include the names or job titles of employees and managers to be involved in the response.
- What records are needed, how and where they will be kept, and for how long.
- How and to whom the facility will report the incident.

Resources

The following websites have good examples of emergency response plans

http://www.lpes.org/Lessons/Lesson50/50_11_Spill_Response.pdf

http://www.age.uiuc.edu/bee/Outreach/lwmc/lwm46.htm

Odor Management Plan

Is an odor management plan required?

No. An odor management plan is optional. Applicants that are required or choose to meet the odor standard may write and follow an odor management plan in order to receive credit towards meeting the standard.

What must an odor management plan contain?

An odor management plan must address all of the following:

- Activities to reduce community conflict
- Practices to reduce dust
- Practices to reduce odor from feed storage leachate
- Practices to conserve water
- Practices to reduce odor from dead animals

Can a local government require specific activities in the odor management plan?

No. Applicants determine plan contents, as long as the plan addresses all of the required components. However, applicants may wish to consult with the local government to discuss what activities and practices to include in the plan.

How much credit does an applicant receive for writing and following an odor management plan?

An applicant that writes and agrees to follow an optional odor management plan will receive 20 points credit towards meeting the odor management standard.

What types of activities may help to reduce community conflict?

Many activities can help reduce community conflict over livestock facilities. While this list is not inclusive, some activities operators have successfully used to help reduce community conflict include:

- Providing car wash coupons to neighbors
- Giving neighbors notice before agitating manure pits or spreading manure
- Not spreading manure during holidays, community events and neighbor celebrations
- Cleaning roads if manure or mud is on it
- Hosting a community picnic or open house

For more information contact the livestock siting program manager at 608-224-4613.

ATCP 51.12 Livestock structures; location on property.(1) PROPERTY LINE AND ROAD SETBACKS; GENERAL. Livestock structures shall comply with local ordinance requirements related to setbacks from property lines and public roads, except that no local setback requirement may do any of the following:

(a) Require a livestock structure to be set back more than 100 feet from any property line or public road right−of−way, except as provided in sub. (2), if the livestock facility will have fewer than 1,000 animal units.

(b) Require a livestock structure to be set back more than 200 feet from any property line, or more than 150 feet from any public road right−of−way, except as provided in sub. (2), if the livestock facility will have 1,000 animal units or more.

(c) Prevent the use of a livestock structure that was located within the setback area prior to the effective date of the setback requirement.

(d) Prevent the expansion of a livestock structure that was located within the setback area prior to the effective date of the setback requirement, other than an expansion toward the property line or public road to which the local setback applies.

Note: Many local jurisdictions have established basic property line and road setback requirements by ordinance. Setbacks vary depending on local circumstances, and often reflect years of local experience. Subsection (1) honors local setback requirements, provided that the setbacks do not exceed the limits specified in sub. (1).

(2) MANURE STORAGE STRUCTURE; SETBACK. A waste storage structure may not be located within 350 feet of any property line, or within 350 feet of the nearest point of any public road right−of−way, unless one of the following applies:

(a) The location of the waste storage structure complies with a local ordinance that specifies a shorter setback that is specific to waste storage facilities or waste storage structures.

(b) The waste storage structure existed prior to May 1, 2006. This paragraph does not authorize an expansion, toward a property line or public road right−of−way, of a waste storage structure that is located within 350 feet of that property line or public road right−of−way.

(c) The waste storage structure is a single new waste storage structure constructed no closer to the relevant property line or public road than a waste storage structure that existed on the same tax parcel prior to May 1, 2006, provided that the new structure is no larger than the existing structure and is located within 50 feet of the existing structure.

Note: See definition of "waste storage structure" in s. ATCP 51.01 (44).

(3) NAVIGABLE WATERS AND WETLANDS. A livestock facility shall comply with an applicable shoreland or wetland zoning ordinance that is enacted within the scope of authority granted under s. 59.692, 61.351 or 62.231, Stats.

Note: Essentially all navigable waters are now protected by ordinances that require building setbacks of 75 feet or more (depending on the ordinance). Zoning restrictions, if any, typically apply to *new or enlarged structures*. A zoning ordinance applies for purposes of sub. (3) if it is enacted within the scope of statutory authority under s. 59.692, 61.351 or 62.231, Stats., even if it is also enacted under other authority.

(4) FLOODPLAIN. A livestock facility shall comply with an applicable floodplain zoning ordinance that is enacted within the scope of statutory authority under s. 87.30, Stats.

Note: County or local zoning ordinances currently apply to many, but not all, waterways (not all waterways have mapped floodplains). Zoning restrictions, if any, typically apply to *new or enlarged structures*. A zoning ordinance applies for purposes of sub. (4) if it is enacted within the scope of statutory authority under s. 87.30, Stats., even if it is also enacted under other authority.

(5) WELLS. (a) Wells in a livestock facility shall comply with chs. NR 811 and 812.

(b) Except as provided in par. (c), new or substantially altered livestock structures shall be separated from existing wells by the distances required in chs. NR 811 and 812, regardless of whether the livestock facility operator owns the land on which the wells are located.

(c) Paragraph (b) does not prohibit the alteration of a livestock structure that existed on May 1, 2006, unless that alteration reduces the distance between the livestock structure and an existing well.

Note: DNR rules under chs. NR 811 and 812 spell out well construction and well location standards to protect water supplies. Violation of well setback requirements in ch. NR 811 or 812 may prevent use of a well. DNR may grant appropriate variances, as provided in chs. NR 811 and 812.

(6) PRESUMPTION. For purposes of local approval, a livestock facility is presumed to comply with this section if the application for local approval complies with s. ATCP 51.30.

Note: Under s. ATCP 51.30, an application must be complete, credible and internally consistent. The application must include an area map, a site map, and a certification that the livestock facility complies with this section (*see Appendix A*). A local approval is conditioned upon compliance in fact (*see* s. ATCP 51.34 (4)). The presumption in sub. (6) may be rebutted by clear and convincing evidence in the record (*see* s. ATCP 51.34 and 51.36).

History: CR 05−014: cr. Register April 2006 No. 604, eff. 5−1−06.

ATCP 51.14 Odor and air emissions.

(1) ODOR STANDARD. Except as provided in subs. (2) to (4), a livestock facility shall have an odor score of at least 500. The operator shall calculate the odor score according to *Appendix A, worksheet 2*, or by using the equivalent spreadsheet provided on the department's website. An application for local approval shall include *worksheet 2* or the spreadsheet output.

Note: The spreadsheet equivalent of *Appendix A, worksheet 2* is available on the department's website at http://www.datcp.state.wi.us/index.

Odor score is based on *predicted odor generation* (based on size and type of livestock facility), odor practices, and the proximity and density of "affected neighbors." *See Appendix A, worksheet 2.*

An *odor score* is a predictive estimate. The standard in sub. (1) applies only for purposes of local livestock facility siting decisions under this chapter. Failure to comply with the standard in sub. (1) does not constitute evidence of a public or private nuisance, negligence, or a taking of property.

Odor control practices may also control air pollution emissions. The department will work to coordinate odor and air emissions field research with DNR, the Wisconsin agricultural stewardship initiative (WASI), and the University of Wisconsin. The department will consider research results when it reviews this chapter at least once every 4 years (see s. 93.90 (2) (c), Stats.). As part of its review, the department will consult with an advisory committee that includes representatives of livestock producers, local government and environmental interests. The department will consider amendments to this rule, as appropriate, based on research findings.

(2) EXEMPTIONS. The odor standard in sub. (1) does not apply to any of the following livestock facilities unless the facility operator voluntarily completes and submits *worksheet 2* or the equivalent spreadsheet output with the operator's application for local approval:

(a) A new livestock facility with fewer than 500 animal units.

(b) An expanded livestock facility with fewer than 1,000 animal units.

(c) A livestock facility in which all livestock structures will be located at least 2,500 ft. from the nearest affected neighbor.

Note: "Affected neighbors" (ATCP 51.01 (2)) are residences or "high−use buildings" (ATCP 51.01 (16)) *other than* those owned by the livestock operator or by persons who agree to be excluded from odor score calculations under sub. (1).

(3) CLUSTERS. If all of the livestock structures in a livestock facility are divided among 2 or more clusters, such that no cluster is located closer than 750 feet to any other cluster, an operator may choose to calculate an odor score under sub. (1) for each cluster rather than for the entire livestock facility. Each cluster shall comply with the odor standards in sub. (1).

Note: For example, a dairy operator can take advantage of sub. (3) if a proposed dairy facility includes a milking operation (cluster 1) and a heifer facility (cluster 2) located 800 feet from each other.

(4) LOCAL DISCRETIONARY CREDIT. (a) Notwithstanding sub. (1), a political subdivision may in its discretion approve a livestock facility with an odor score of less than 500, provided that the odor score is not less than 470.

(b) If a political subdivision exercises its discretionary authority under par. (a), its written decision under s. ATCP 51.34 (3) shall state the reason or reasons for that exercise of discretionary authority.

(c) The livestock facility siting review board may not review any of the following under s. 93.90 (5), Stats.: 1. A political subdivision's exercise, or refusal to exercise, discretionary authority under par. (a). 2. The adequacy of the political subdivision's stated reasons under par. (b) for exercising discretionary authority under par. (a).

Note: A political subdivision *must* approve a livestock facility that meets the odor standard under sub. (1), assuming that the facility meets other livestock facility siting standards under this chapter (*see* ATCP 51.34 (1)). A political subdivision may *not* approve a livestock facility that fails to meet the odor standard under sub. (1), except that the political subdivision may exercise its discretionary authority under sub. (4) (a) in favor of an applicant if it chooses to do so. For example, a political subdivision may exercise its discretionary authority under sub. (4) (a) based on factors such as community tolerance, the applicant's near attainment of a standard, innovative odor control practices, local land use plans, or the applicant's past reputation for good management and community relations.

(5) CREDITS FOR ODOR CONTROL PRACTICES. In the calculation of predicted odor under sub. (1), an operator may claim credit for all of the following:

(a) Odor control practices, identified in *Appendix A, worksheet 2*, which the operator agrees to implement. For each odor control practice, the operator may claim a credit specified in *Appendix A, worksheet 2.*

(b) An odor control practice not identified in *Appendix A, worksheet 2* if the department pre−approves a credit for that practice. The operator shall claim the pre−approved credit according to the procedure specified in *Appendix A, worksheet 2.*

(c) An operator seeking department approval under par. (b) shall submit all of the following to the department in writing:

1. A clear description of the odor control practice for which the operator seeks an approved credit.

2. Scientific evidence to substantiate the efficacy of the odor control practice under relevant conditions.

(d) The department may approve a credit for an odor control practice under par. (b) if, in the department's opinion, there is adequate scientific evidence to show that under relevant conditions the practice will result in odor reduction commensurate with the approved credit. The department shall grant or deny the request within 90 days after the department receives the request.

Note: An odor control practice credit under sub. (5) is expressed, in the odor score calculation in *Appendix A, worksheet 2*, as a multiplier value (the *lower* the multiplier, the greater the benefit to the livestock operator).

(6) FUTURE REFERENCE POINTS. (a) Whenever an operator seeks local approval for the expansion of a livestock facility previously approved under this chapter,

the operator may calculate an odor score under sub. (1) by reference to the same affected neighbors referenced in the odor score calculation for the prior local approval. The operator is not required to include, in the new odor score calculation, an affected neighbor that was not referenced in the odor score calculation for the prior local approval.

(b) Paragraph (a) applies regardless of any change in ownership of the livestock facility since the prior local approval, and regardless of the amount of time that has passed since the prior local approval, provided that the prior local approval has not been lawfully withdrawn for good cause under s. ATCP 51.08 (2) or 51.34 (4) (b).

Note: The odor score calculation in *Appendix A, worksheet 2* is partly based on the proximity and density of "affected neighbors" (*see* ATCP 51.01 (2)). An application for local approval documents those "affected neighbor" reference points. Subsection (6) protects an operator against the effects of encroaching development, without regulating that development directly.

A local government must keep a complete record of each local approval for at least 7 years, and must file with DATCP a copy of each approval (including the application on which it was based). The local government must also provide the livestock operator with documentation of the local approval, including the maps on which the approval was based (*see* s. ATCP 51.34 (3) (b)). The approved maps document the "odor score" reference points for purposes of sub. (6).

The livestock operator can record the local approval (including mapped "odor score" reference points) with the local register of deeds, and can convey the documentation to subsequent purchasers. In those ways, an operator can document previously− approved "odor score" reference points for purposes of a subsequent expansion.

(7) PRESUMPTION. For purposes of local approval, a livestock facility is presumed to comply with this section if the application for local approval complies with s. ATCP 51.30.

Note: Under s. ATCP 51.30, an application must be complete, credible and internally consistent. The application must include, among other things, a worksheet (or equivalent spreadsheet output) that shows compliance with this section. *See Appendix A, worksheet 2*. Local approval is conditioned upon compliance in fact (*see* s. ATCP 51.34 (4)). The presumption in sub. (7) may be rebutted by clear and convincing evidence in the record (*see* s. ATCP 51.34 and 51.36).

History: CR 05−014: cr. Register April 2006 No. 604, eff. 5−1−06.

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Arm−lwr− 11/04 January 2006

Wisconsin Department of Agriculture, Trade and Consumer Protection
2811 Agriculture Drive, PO Box 8911, Madison WI 53708−8911
Phone: (608) 224−4622 or (608) 224−4500

Worksheet 2 − Odor Management

Instructions: This worksheet addresses odor from *livestock structures*. You are NOT required to complete this worksheet if any of the following apply (check box if applicable):

☐ I am requesting approval for a *new livestock facility* with fewer than 500 *animal units.*

☐ I am requesting approval for an *expanded livestock facility* with fewer than 1,000 *animal units*.

☐ All *livestock structures* will be at least 2500 ft. from the nearest affected neighbor.

If you checked any of the above boxes, just sign below and submit this page with your application. If you did NOT check any of the above boxes, you must complete this worksheet to calculate the odor score (Box 4) for your proposed *livestock facility.* To meet the odor management standard, you must have a total odor score of 500 or more.

If *livestock structures* are located in *clusters* that are separated by more than 750 feet, you may elect to complete a separate worksheet for each *cluster*. If you choose that option, each *cluster* must meet the odor management standard.

A complete worksheet must include Tables A and B. You may use a convenient automated spreadsheet in place of Tables A and B if you prefer (submit spreadsheet output instead of tables, results will be identical). However, you must still sign and submit this signature page. The spreadsheet is available at the *DATCP* website, http://www.datcp.state.wi.us.

TO COMPLETE THIS WORKSHEET, FOLLOW THESE STEPS:

Step 1: Complete Table A to determine the Predicted Odor from your *livestock structures*. Enter the Predicted Odor in Box 3 below (NOT Box 1).

Step 2: Complete Table B to determine your Separation Score. Enter your Separation Score in Box 1 below. (NOT Box 2).

Step 3: Enter your management credits in Box 2 (maximum 100 points). All applicants may enter 80 points for completing required incident response and employee training plans (described on page A−3). Applicants completing an optional odor management plan (described on page A−3), may add an additional 20 points. Applicants determine plan contents, as long as the plan addresses the required topics.

Step 4: Add Box 1 and Box 2. Subtract Box 3 and enter the total in Box 4. This is your Odor Score.

Box 1	+	Box 2	−	Box 3	=	Box 4
☐		☐		☐		☐
Separation Score (from Step 2)		**Management Score** (from Step 3)		**Predicted Odor** (from Step 1)		**Odor Score**

A local government must approve a *livestock facility* with an odor score of 500 or more (Box 4). You may add odor control practices to increase your odor score to 500 or more. A local government may approve, but is not required to approve, a *livestock facility* with an odor score less than 500 but not less than 470.

Signature of Applicant or Authorized Representative _____ Date _____

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TABLE A: Predicted Odor from *Livestock Structures*

Worksheet 2 (continued)

Instructions: Complete Table A. You must measure all structures to the same affected neighbor. If the nearest neighbor is not the same for all livestock structures, you will need to complete the table once for each close neighbor. Compare the "H" Total of the table for each neighbor. The neighbor that has the lowest weighted distance is considered your nearest affected neighbor, and you should use that table to complete the odor worksheet. Enter the Column F total on page A-6 in **Box 3.** Enter the Column G result on page A-8 in **Table B, Step 1**. Add lines or use additional sheet, if needed, to list all structures.

1. *Animal Housing Areas* – List each

Column A **Manure Management Type** Enter your housing buildings and the related 4-letter code from Chart 2. You may exclude up to 1000 calf hutches and 4 structures less than the sq. footage listed in Chart 2.	**Column B** **Odor Generation Number** From Chart 2	**Column C** **Housing Area** (Ft^2) Use occupied animal area only. Exclude feed alleys, holding areas and milking parlors. Express in 10,000s. (Ex: 15,523 ft^2 = 1.55)	**Column D** **Odor Control Practice Codes** List all that apply to each housing area, from Chart 3	**Column E** **Multiplier for Odor Control Practice** List all that apply to Each from Chart 3. Enter "1" if none.	**Column F** **Predicted Odor** Multiply columns B, C, and E	**Column G** **Distance to Nearest** ***Affected Neighbor(ft)*** Measure from corner of the bldg to corner of the neighbor's bldg. Measure all to the same neighbor.	**Column H** **Weighted Distance (ft.)** Multiply columns F & G
1A.							
1B.							
1C.							
1D.							
1E.							

2. *Waste Storage Facilities* – List each

Column A **Waste Storage Type** Enter 4-letter type code from Chart 2	**Column B** **Odor Generation Number** From Chart 2	**Column C** **Exposed Surface Area** Measure surface area (ft^2) when pit is filled to capacity, excluding freeboard. Enter in 10,000's. (Ex: 75,575 = 7.56)	**Column D** **Odor Control Practice Codes** List all that apply to each facility from Chart 3	**Column E** **Multiplier for Odor Control Practice** List all that apply to each from Chart 3. Enter "1" if none.	**Column F** **Predicted Odor** Multiply columns B, C, and E	**Column G** **Distance to Nearest** ***Affected Neighbor (ft)*** Measure from top inside edge to neighbor's bldg corner. Measure to the same neighbor.	**Column H** **Weighted Distance (ft.)** Multiply columns F & G
2A.							
2B.							
2C.							
2D.							

3. *Animal Lots* – List each

Column A **Animal Lot Type** Enter 4-letter type code from Chart 2	**Column B** **Odor Generation Number** From Chart 2	**Column C** **Animal Lot Area** (ft^2) Enter in 10,000's (Ex: 7438 = .74)	**Column D** **Odor Control Practice Codes** List all that apply to each facility from Chart 3	**Column E** **Multiplier for Odor Control Practice** List all that apply to each from Chart 3. Enter "1" if none.	**Column F** **Predicted Odor** Multiply columns B, C, and E	**Column G** **Distance to Nearest** ***Affected Neighbor(ft)*** Measure from corner to corner. Measure all structures to the same neighbor.	**Column H** **Weighted Distance (ft.)** Multiply columns F & G
3A.							
3B.							
3C.							
					F Total	**G = (H Total) ÷ (F Total)**	**H Total**
					Enter on page A-6, **Box 3**	Enter on page A-8, **Table B, Step 1**	

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Worksheet 2 (continued)

Table B: Separation Score

INSTRUCTIONS	RESULTS
Step 1: Enter, at right, the result from Table A, Column G (page A−7).	**Distance (ft.) to Nearest *Affected Neighbor*:** _____
Step 2: Select multiplier based on the compass direction looking from the *livestock facility* to the nearest *affected neighbor*. Enter at right.	**Multiplier:** _____

Compass Direction	Multiplier
North	1.0
Northeast	1.0
East	1.1
Southeast	1.2
South	1.2
Southwest	1.2
West	1.3
Northwest	1.1

Step 3: Calculate wind−adjusted separation distance (Distance to nearest *affected neighbor* x multiplier). Enter at right.	**Wind−Adjusted Separation Distance (ft.)** _____
Step 4: Determine *affected neighbor* density and enter at right: *Low density* = No more than 5 residences and no *high−use buildings* within 1300 ft of each structure. *High density* = 6 or more residences or at least one *high−use building* within 1300 ft of each structure.	**Low or High Density?** _____
Step 5: Use results above and Chart 1 to find your Separation Score. Enter at right and on Page A−6 in **Box 1**.	**Separation Score**

Chart 1: Separation Score

Wind−Adjusted Separation Distance (ft.)	Low Density	High Density
0−99	505	503
100−149	506	504
150−199	511	507
200−249	516	510
250−299	521	514
300−349	527	518
350−399	534	523
400−449	541	528
450−499	548	533
500−599	560	542
600−699	577	555
700−799	595	569
800−899	615	585
900−999	636	601
1000−1099	658	619
1100−1199	681	637
1200−1299	705	657
1300−1399	730	
1400−1499	756	
1500−1599	783	
1600−1699	810	
1700−1799	839	
1800−1899	868	
1900−1999	899	
2000−2099	930	
2100−2199	962	
2200−2299	994	
2300−2399	1027	
2400−2499	1061	
2500−2749	1123	
2750−2999	1214	
3000−3249	1309	

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Worksheet 2 (continued)

Chart 2: Odor Generation Numbers

Animal Housing Area Type	Housing/ Management Type Code	Manure Management Method	Odor Generation Number	Exempt Buildings Maximum Size (ft^2) *(May exclude up to 4)*
Dairy Stanchion	DSDC	Daily to weekly cleaning	2	7500
Dairy Free Stall and Beef & Dairy Heifers (Forage Ration)	DBSS	Slatted floor (includes floor and pit below)	6	2500
	DBSC	Scrape	4	3500
	DBAF	Alley flush to storage	10	1500
	DBBP	Bedded pack	2	7500
Beef Finishing (High Energy Ration)	BFSF	Slatted floor (includes floor and pit below)	12	1000
	BFSC	Scrape	8	2000
	BFBP	Bedded pack	4	3500
Pork Gestation/ Farrow/Nursery	PGSF	Slatted floor (includes floor and pit below)	46	N/A
	PGPP	Pull plug to storage	22	N/A
Pork Finishing	PFSF	Slatted floor (includes floor and pit below)	34	N/A
	PFPP	Pull plug to storage	20	N/A
	PFSS	Scrape systems to storage	11	1500
	PFDB	Deep bedded	4	3500
Poultry	PBLT	Broiler (litter)	1	15000
	PDLQ	Ducks (liquid)	20	N/A
	PLAY	Layers	20	N/A
	PTDL	Turkey and Ducks (litter)	2	7500

Type Codes	*Waste Storage Facility* Types *Note: Storage under slatted floor is addressed under animal housing.*	Odor Generation Number
WSSS	Solid (stack)	2
WSLT	Long term (6 months or longer as determined in Column E of worksheet 3)	13
WSST	Short term (less than 6 months as determined in Column E of worksheet 3)	28

Animal Lot Codes	*Animal Lot* Types		Odor Generation Number
ALPV	**Paved**		4
UPDB	**Unpaved**	Dairy/Beef/Sheep/Goats	6
UPSW		Swine/Poultry	11

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Worksheet 2 (continued)

Chart 3: Odor Control Practices

Category	Practice Code	Practice Name (Practices must meet specifications on pages A−11 to A−13)	Multiplier*
		Animal Housing Area	
A	A1	Diet manipulation	0.8
B (Choose only 1)	B1	Bio−filter	0.1
	B2	Vegetable oil sprinkling (for swine only)	0.4
	B3	Fresh water flush	0.4
	B4	Treated water flush	0.7
	B5	Air Dam (for swine only)	0.9
C	C1	Windbreak (includes man−made berms)	0.9
D	D1	Frequent cleaning of animal housing area	0.9
		Waste Storage Facilities	
E (Choose only 1)	E1	Anaerobic digestion	0.2
	E2	Chemical or biological additives	0.8
	E3	Compost	0.2
	E4	Solids Separation and Reduction	0.6
	E5	Water Treatment	0.1
F (Choose only 1)	F1	Aeration	0.3
	F2	Bio−cover	0.4
	F3	Geotextile cover	0.5
	F4	Impermeable cover	0.1
	F5	Natural crust	0.3
	F6	Bottom fill	0.9
G	G1	Windbreak (includes man−made berms)	0.9
		Animal Lots	
H (Choose only 1)	H1	Frequent cleaning of *animal lot*	0.4
	H2	Drag *animal lot*	0.5
I	I1	*Animal lot* moisture control	0.8
J	J1	Windbreak (includes man−made berms)	0.9

*Smaller multiplier = more odor controlled (e.g. a multiplier of 0.4 represents a 60% control).

Innovative Odor Control Practices (all odor sources):
You may take credit for odor control practices not listed in Chart 3 if *DATCP* pre−approves a multiplier for each of those practices. Follow the procedure in *ATCP 51.14(5)(c)* to obtain *DATCP* approval. If you obtain *DATCP* approval, you may include the approved practice and multiplier in odor worksheet calculations in the same manner as for odor control practices listed in Chart 3 (attach *DATCP* approval to your application).

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Worksheet 2 (continued)

Odor Control Practice Specifications

Odor control practices identified in Chart 3 must meet the following specifications:

Animal Housing

Diet manipulation (A1) – Limit protein in animal diet by one of the following means:

- Match nutrient supply with animal requirements.
- Formulate low−protein amino acid supplemented diets.
- Add phytase enzyme ingredients.
- Process ingredients in ways that limit protein content of processed feed.
- Use phase feeding.
- Use split sex feeding.
- Minimize feed wastage.

Bio−filter (B1) – Vent air from *animal housing areas* through a bio−filter consisting of compost and wood chips, mixed at a rate of 30:70 to 50:50 (ratio by weight of compost to wood chips). The mixture must be at least 40% moisture by weight. The bio−filter must be 10" to 18" thick, and must have an area of at least 50 to 85 sq. ft. per 1000 cu. ft. per minute (cfm) of airflow.

Vegetable oil sprinkling (B2) – Sprinkle vegetable oil on floors in *animal housing areas* (swine) each day. Apply oil at start−up rate of approximately 40 milliliters per square meter per day (mL/m^2−day) in the first 1−2 days of each production cycle. During the remainder of each production cycle, apply oil at maintenance rate of 5 mL/m^2−day. Avoid oil applications to pens near fans, to areas near heaters, and to areas surrounding feeders.

Fresh water flush (B3) – Use fresh water to flush manure from floors of *animal housing areas* into collection or *waste storage structures*. Flush at least 3 times a day, and more often if necessary, to prevent manure from drying and sticking to floors. Flush must be adequate to remove manure solids effectively.

Treated water flush (B4) – Use treated manure effluent to flush manure from floors of *animal housing areas* into collection or *waste storage structures*. Flush at least 3 times a day, and more often if necessary, to prevent manure from drying and sticking to floors. Flush with waste storage effluent treated by one of the following means:

- *Solids Separation and Reduction (see E4 below).*
- *Aeration (see F1 below).*
- *Anaerobic digestion (see E1 below).*

Air Dam (B5) – Erect and maintain a wall (typically a 10−foot x 10−foot pipe frame and tarpaulin) placed at the end of a swine−finishing building, immediately downwind of the exhaust to deflect air and odor plume. Replace material used for the barriers (tarpaulins on a frame of solid wood, for example) as needed, which may be from a few years to decades, depending on the material.

Windbreak (C1) – Maintain a solid or porous windbreak, 10 to 50 feet from the odor source, which reduces forward momentum of airflow and vertically disperses the odor plume. The length of a windbreak shall be at least half of the perimeter of the animal housing. A windbreak may be constructed of vegetation or other materials. Vegetation windbreaks must contain at least 3 rows of trees and shrubs, of both fast and slow−growing species, that are well suited for the site. Windbreaks must be designed and constructed according to *NRCS* Technical Guide Standard 380 (June, 2002).

Frequent cleaning of animal housing area (D1) – Scrape and remove manure from *animal housing areas* at least 3 times a day.

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Worksheet 2 (continued)

Waste Storage Facilities

Anaerobic digestion (E1) – Subject manure to managed biological decomposition within a sealed oxygen−free container ("digester"). Anaerobic digestion must meet design and operational standards necessary to achieve adequate odor control, including requirements for solids concentration, flow rates, retention time, and minimum temperatures. Systems must meet the following:

- *Plug flow digester.* Treats manure with a total solids concentration of 8 to 14%. Must be kept in the digester for at least 20 days at a temperature of 95° to 104° F. (35° to 40° C). The digester's ratio of flow path width to fluid depth must be between 3.5:1 and 5:1.
- *Complete mix digester.* Treats manure with a total solids concentration of 2.5 to 10%. Must be kept in the digester for at least 17 days at a temperature of 95° to 104° F. (35° to 40° C.). The digester must have appropriate mixing devices to ensure complete mixing.
- *Fixed film digester.* Treats manure with a total solids concentration of not more than 5%. Must be kept in the digester for 1 to 6 days at a temperature of 59° to 99° F (15° to 39° C). Microbial support material must have at least 3−inch openings.
- *Other systems.* Use proprietary design and performance specifications that are commonly accepted and provide adequate odor mitigation.

Chemical or biological additives (E2) – Apply, to stored manure, chemical or biological additives that are scientifically proven to be effective in reducing odor from that manure when applied under applicable conditions and in applicable amounts.

Compost (E3) – Aerobically treat solid or semi−solid manure to create compost. Compost must have a carbon: nitrogen ratio of 25:1 to 40:1, and must consist of at least 40 to 60% moisture by weight. Composted material must be held at a temperature of more than 130° F. (54° C.) for more than 5 days.

Solids Separation and Reduction (E4) – Reduce the solid content of stored manure to an average of less than 2% solids through separation, multi−tiered pits or other means.

Water Treatment (E5) – Install and use a physical, chemical or biological process that removes the majority of contaminants from the waste stream, resulting in a liquid effluent meeting surface water discharge standards. The remaining solid fraction or sludge must be accounted for based on its form, and the management it is subject to.

Aeration (F1) – Use aeration equipment to maintain aerobic activity in stored manure. Aeration must maintain an average of 2 milligrams of dissolved oxygen per liter of manure stored in the upper foot of manure stored in the aerated structure between April and October.

Bio−cover (F2) – Cover the surface of waste storage structure with an 8″ to 12″ thick blanket of dry wheat, barley or good quality straw. The blanket must cover nearly all of the waste surface between the months of April and October. Add to the blanket as necessary (typically every 6 weeks to 4 months) to maintain the required cover.

Geotextile cover (F3) – Cover the surface of waste storage structure with a geotextile membrane that is at least 2.4 mm thick. The membrane must cover nearly all of waste surface between the months of April and October.

Impermeable cover (F4) – Cover the surface of waste storage structure with an impermeable barrier that prevents gas from escaping. Gas must be drawn off, and either treated or burned.

Natural crust (F5) – Maintain a natural crust of dry manure on the surface of stored manure. The natural crust must cover a substantial amount of the surface area of the stored manure, for most of the time between the months of April and October.

Bottom fill (F6) – Add manure to a liquid *manure storage structure* from the bottom so as to limit disturbance to the surface of the stored manure.

Windbreak (G1) – Maintain a solid or porous windbreak, 10 to 50 feet from the odor source, which reduces forward momentum of airflow and vertically disperses the odor plume. The length of a windbreak shall be at least half of the perimeter of the *waste storage facility.* A windbreak may be constructed of vegetation or other materials. Vegetation windbreaks must contain at least 3 rows of trees and shrubs, of both fast and slow−growing species, that are well suited for the site. Windbreaks must be designed and constructed according to *NRCS* Technical Guide Standard 380 (June, 2002).

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Worksheet 2 (continued)

Animal Lots

Frequent cleaning of *animal lot* (H1) – Scrape and remove manure from *animal lot* surfaces at least once every 3 days. You may leave an undisturbed, compacted manure layer (1 to 2 inches thick) on the surface of unpaved *animal lots* to provide good surface sealing.

Drag *animal lot* (H2) – Drag manure in *animal lots* with harrow or disk at least once every 7 days during the months of April though October, to aerate and dry the manure.

***Animal lot* moisture control (I1)** – Prevent runoff water from flowing onto *animal lots* from roofs and other surfaces. Use diversions or roof runoff systems identified in *s. ATCP 50.70 or 50.85*. *Animal lots* must have a grade of at least one percent to promote drainage and drying.

Windbreak (J1) – Maintain a solid or porous windbreak, 10 to 50 feet from the odor source, which reduces forward momentum of airflow and vertically disperses the odor plume. The length of a windbreak shall be at least half of the perimeter of the *animal lot*. A windbreak may be constructed of vegetation or other materials. Vegetation windbreaks must contain at least 3 rows of trees and shrubs, of both fast and slow−growing species, that are well suited for the site. Windbreaks must be designed and constructed according to *NRCS* Technical Guide Standard 380 (June, 2002).

ATCP 51.16 Nutrient management. (1) NUTRIENT MANAGEMENT STANDARD. (a) Except as provided in par. (c):

1. Land applications of waste from a livestock facility approved under this chapter shall comply with NRCS nutrient management technical standard 590 (September, 2005), except for sections V.A.2.b(2), V.D, V.E and VI.

Note: NRCS nutrient management technical standard 590 (September, 2005) is reprinted in *Appendix B.* The following sections of the reprinted standard do *not* apply for purposes of this chapter:

V.A.2.b(2), related to additional requirements imposed by local conservation plans. V.D, related to additional criteria to minimize N and particulate air emissions.

V.E, related to additional criteria to protect the physical, chemical and biological condition of the soil.

VI, related to discretionary considerations.

2. A nutrient management checklist, shown in *Appendix A, worksheet 3, part C*, shall accompany an application for local approval. A qualified nutrient management planner, other than the livestock operator, shall answer each checklist question. The planner shall have reasonable documentation to substantiate each answer, but neither the planner nor the operator is required to submit that documentation with the checklist.

Note: A livestock operator is *not* required to submit a complete nutrient management plan with an application for local approval. Both the operator and the qualified nutrient management planner must sign the nutrient management checklist. *See Appendix A, worksheet 3, part C.*

(b) A political subdivision may ask a nutrient management planner to submit the documentation that the planner relied upon to substantiate the planner's answer to one or more questions on the nutrient management checklist under par. (a) 2. The political subdivision may deny local approval if the planner's documentation does not reasonably substantiate the answer.

(c) Paragraph (a) does not apply to a livestock facility with fewer than 500 animal units unless the operator's ratio of acres to animal units, calculated according to *Appendix A, worksheet 3, part B,* is less than 1.5 for dairy and beef cattle, 1.0 for swine, 2.0 for sheep and goats, 2.5 for chickens and ducks, and 5.5 for turkeys.

Note: A waste and nutrient management worksheet (*Appendix A, worksheet 3*) must accompany every application for local approval. Among other things, the *worksheet* shows the operator's ratio of acres to animal units under par.

(c). Paragraph (c) is an exemption, not a requirement, for livestock facilities. If a livestock facility qualifies for exemption under par. (c), the operator is *not* required to submit a *nutrient management checklist* under par. (a). The ratios stated in par. (c) are based on the phosphorus content of manure from the respective livestock species.

(2) PRESUMPTION. For purposes of local approval, an operator is presumed to comply with sub. (1) if the application for local approval complies with s. ATCP 51.30.

Note: Under s. ATCP 51.30, an application must be complete, credible and internally consistent. The application must include, among other things, a *waste and nutrient management worksheet (Appendix A, worksheet 3).* The completed *worksheet* must include all of the following:

- The types and amounts of manure and other organic waste that the facility will generate when fully populated.

- The types and amounts of waste to be stored, the waste storage facilities and methods to be used, the duration of waste storage, and waste storage capacity. _ The final disposition of waste by landspreading or other means.
- The acreage currently available for landspreading.
- A map showing where waste will be applied to land.
- A *nutrient management checklist* if required under sub. (1).

Local approval is conditioned upon compliance in fact (*see* s. ATCP 51.34 (4)). The presumption in sub. (2) may be rebutted by clear and convincing evidence in the record (*see* ss. ATCP 51.34 and 51.36).

(3) NUTRIENT MANAGEMENT UPDATES. An operator may update nutrient management plans and practices as necessary, consistent with sub. (1) (a) 1. **Note:** This subsection does not require an operator to file updates with a political subdivision, but neither does it limit local authority to request updates or monitor compliance with sub. (1) (a) 1. *See* s. ATCP 51.34 (4).

(4) EXEMPTION. This section does not apply if all of the following apply:

(a) The operator holds a WPDES permit for the same proposed livestock facility, and that permit is based on housing for a number of animal units that is equal to or greater than the number for which the operator seeks local approval.

(b) The operator submits a copy of the WPDES permit with the operator's application for local approval.

History: CR 05−014: cr. Register April 2006 No. 604, eff. 5−1−06.

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Arm−lwr− 11/04 January 2006

Wisconsin Department of Agriculture, Trade and Consumer Protection
2811 Agriculture Drive, PO Box 8911, Madison WI 53708−8911
Phone: (608) 224−4622 or (608) 224−4500

Worksheet 3 − Waste and Nutrient Management

Part A. Waste Generation and Storage Summary

Instructions: You must complete Parts A and B of this worksheet. If your *livestock facility* will have fewer than 500 *animal units* you may be exempt from Part C, depending on results of Part B. If Part C applies, it must be signed by a *qualified nutrient management planner* (you must also sign).

You are NOT required to complete this worksheet if you already hold a *WPDES permit* for the proposed *livestock facility* (for the same or greater number of *animal units*). Simply check the following box, sign at the bottom of this page, and include a copy of the *WPDES permit* with your application.

☐ I enclose a copy of my *WPDES permit* in place of Worksheet 3.

Specify a single livestock type (dairy, beef, swine, etc.). *Use a separate worksheet for each livestock type.*

Livestock Type: _____

Description of Storage	**Column A** **Waste Storage Capacity** (Gallons or Tons)	**Column B** **Source of Waste** (Animal Waste, Wastewater, Leachate, etc.)	**Column C** **Average Annual Volume of Waste Produced from Each Source** (Gallons or Tons)	**Column D** **Total Average Annual Volume Waste Produced** (Gallons or Tons)	**Column E** **Storage Duration in Days** (Column A divided by Column D times 365 days)
Example: Unit 1 − lagoon	*5,000,000 gallons*	*Animal waste*	*4,000,000 gallons*	*7,000,000 gallons*	*260 days*
		Wastewater	*1,000,000 gallons*		
		Leachate	*2,000,000 gallons*		
Unit 1					
Unit 2					
Unit 3					

Applicant affirms that the information provided in Part A is accurate.

Signature of Applicant or Authorized Representative _____ Date _____

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Worksheet 3 (continued)

Arm−lwr− 11/04 January 2006

Part B – Land Base for Applying Nutrients

1. Enter total *animal units* in proposed *livestock facility* (**from worksheet 1**): _____.

2. What percentage of the waste from the *livestock facility* will be:
   a. Applied to land: _____%. Attach map showing where waste will be applied to land.
   b. Processed and sold as commercial fertilizer, under a fertilizer license: _____%.
   c. Disposed of in other ways: _____%. Describe ways: _____

3. Multiply the percent in line 2a by the number of *animal units* in line 1. Result (# of *animal units*): _____

4. Total acres of cropland currently available for land application (owned, rented, or landspreading agreement): _____

5. Divide # of acres in line 4 by # of *animal units* in line 3 to obtain ratio of acres to *animal units*: _____

6. Is the ratio in line 5 equal to or greater than the applicable ratio in Table 1? _____

   If YES, and if the # of *animal units* in line 1 is less than 500, you need NOT complete Part C.
   Otherwise, complete Part C.

Table 1: Acreage per *Animal Unit*

Animal Type	Acres per *Animal Unit**
Dairy	1.5
Beef	1.5
Swine	1.0
Chickens/Ducks	2.5
Turkeys	5.5
Sheep/Goats	2.0

* NOTE: A *livestock facility* is NOT required to attain or exceed this ratio of acres to *animal units*. But IF your *livestock facility* will attain or exceed this ratio and will have fewer than 500 *animal units*, you need NOT complete Part C of this worksheet.

Applicant affirms that the information provided in Part B is accurate.

_____ _____

Signature of Applicant or Authorized Representative Date

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Worksheet 3 (continued)

arm−lwr− 11/04 January 2006

Part C – Nutrient Management Checklist

Instructions: All applicants must submit this checklist unless exempted under Part A or B. The checklist is based on the *NRCS* Technical Guide Nutrient Management Standard 590 (September, 2005).

County Name:	Date Submitted:	Township (T. N., S.) – (R. E., W.)
Cropland Acres: (owned, rented, or with manure spreading agreement)	Name of livestock operator submitting checklist:	

	Yes	NA
1. Are the following field features identified on maps or aerial photos?		
a) Field location, soil survey map unit(s), field boundary, and field identification number.		
b) Areas prohibited from receiving nutrient applications: Surface water, established concentrated flow channels with perennial cover, permanent non−harvested vegetative buffer, non−farmed wetlands, sinkholes, lands where established vegetation is not removed, nonmetallic mines, and fields eroding at a rate exceeding tolerable soil loss (T).		
c) Areas within 50 ft of a potable drinking water well where mechanically−applied manure is prohibited.		
d) Areas prohibited from receiving winter nutrient applications: Slopes > 9% (12% if contour−cropped); Surface Water Quality Management Area (SWQMA) defined as land within 1,000 ft of lakes and ponds or within 300 ft of perennial streams draining to these waters, unless manure is deposited through winter gleaning/pasturing of plant residue and not exceeding the N and P requirements of this standard.		
e) Areas where winter applications are restricted unless effectively incorporated within 72 hours: Land contributing runoff within 200 ft upslope of direct conduits to groundwater such as a well, sinkhole, fractured bedrock at the surface, tile inlet, or nonmetallic mine.		
f) Sites vulnerable to N leaching: Areas within 1,000 ft of a municipal well, and soils listed in Appendix 1 of the Conservation Planning Technical Note WI−1.		
2. Are erosion controls implemented so the crop rotation will not exceed T on fields that receive nutrients according to the conservation plan or WI P Index model?		
3. Check the methods below used to determine field soil nutrient levels:		
a) Soil samples were collected and analyzed within the last 4 years according to UW Publication A2100 recommendations.		
b) For fields not meeting (a.) above, soil test phosphorus levels are assumed to be greater than 100 ppm soil test P. *		
c) For fields not meeting (a.) above, preliminary estimates of soil nutrients were determined using limited soil sampling (> 5 acre per sample) but analyzed by a DATCP certified laboratory. *		
*For fields with soil nutrient levels determined under (b) or (c), the applicant must collect and analyze soil samples meeting the requirements of A2100 within 12 months of siting approval, and revise the nutrient management plan accordingly.		
4. Using the field's predominant soil series and realistic yield goals, are planned nutrient application rates, timing, and methods of all forms of N, P, and K listed in the plan and consistent with UW Publication A2809, *Soil Test Recommendations for Field, Vegetable and Fruit Crops,* and the 590 standard?		
5. Do manure production and collection estimates correspond to the acreage needed in the plan? Are manure application rates realistic for the calibrated equipment used?		
6. Is a single phosphorus (P) assessment of either the P Index or soil test P management strategy uniformly applied to all fields within a tract?		
7. Are areas of concentrated flow, resulting in reoccurring gullies, planned to be protected with perennial vegetative cover?		
8. Will nutrient applications on non−frozen soil within the SWQMA comply with the following?		
a) Unincorporated liquid manure on unsaturated soils will be applied according to Table 1 of the 590 standard to minimize runoff.		
b) One or more of the following practices will be used: 1) Install/maintain permanent vegetative buffers, or 2) Maintain greater than 30% crop residue or vegetative coverage on the surface after nutrient application, or 3) Incorporate nutrients leaving adequate residue to meet tolerable soil loss, or 4) Establish fall cover crops promptly following application.		
9. Is a narrative included which describes proposed manure collection, transportation, and application methods?		

I certify that the documentation supporting this checklist is complete and accurate:

Signature of *Qualified Nutrient Management Planner*, other than applicant: _____

(qualified by 1. NAICC−CPCC, 2. ASA−CCA, 3. ASA−Professional Agronomist, 4. SSSA−Soil Scientist)

Signature of Applicant or Authorized Representative: _____

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Chapter ATCP 51

APPENDIX B

NRCS 590

Nutrient Management
(Acre)

Code 590

Natural Resources Conservation Service
Conservation Practice Standard

I. Definition

Managing the amount, source, placement, form, and timing of the application of nutrients and soil amendments.

II. Purposes

This standard establishes the acceptable criteria and documentation requirements for a plan that addresses the application and *budgeting*[1] of nutrients for plant production. All nutrient sources, including soil reserves, commercial fertilizer, manure, organic byproducts, legume crops, and crop residues shall be accounted for and properly utilized. These criteria are intended to minimize nutrient entry into surface water, groundwater, and atmospheric resources while maintaining and improving the physical, chemical, and biological condition of the soil.

III. Conditions Where Practice Applies

This standard applies to all *fields* where plant nutrient sources and soil amendments are applied during the course of a *rotation*.

IV. Federal, State, and Local Laws

Users of this standard are responsible for compliance with applicable federal, state, and local laws, rules, or regulations governing nutrient management systems. This standard does not contain the text of federal, state, or local laws. Implementation of this standard may not eliminate nutrient losses that could result in a violation of law.

V. Criteria

This section establishes requirements for planning, design parameters, acceptable management processes, and performance requirements for nutrient management plan development and implementation. Nutrient management plans shall be prepared according to all of Criteria A., B., C., D., and E.

All of the information contained in this section is required. Wisconsin Conservation Planning Technical Note WI−1 is the companion document to this standard and includes criteria that are required where referenced within this section.

A. Criteria for Surface and Groundwater Resources

1. Nutrient Criteria for All Sites

   a. Develop and implement an annual field−specific nutrient application plan. Account for the source, rate, timing, form, and method of application for all *major nutrients* consistent with this standard and soil fertility recommendations found in University of Wisconsin−Extension (UWEX) Publication A2809, “Soil Test Recommendations for Field, Vegetable and Fruit Crops,” unless use of one the following options are appropriate:

      - For crops not listed in A2809, use other appropriate Land Grant University recommendations.
      - For nutrient application decisions based on plant tissue analysis, the sampling and testing of plants and the resulting nutrient recommendations shall be done in accordance with University of Wisconsin recommendations. See V.A.1.L.

      Annual plan updates shall document the crops, tillage, nutrient application rates, and methods actually implemented.

   b. The plan shall be based on yield goals that are attainable under average growing conditions and established using soil productivity, local climate information, multi−year *documented yields*, and/or local research on yields for similar soils and crop management systems. Yield goals should not be higher than 15% above the previous 3−5 year average.

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c. Soils shall be tested a minimum of once every four years by a DATCP−certified laboratory for pH, phosphorus (P), potassium (K), and organic matter. A laboratory list is provided in Appendix 2 of the Wisconsin Conservation Planning Technical Note WI−1. Soil sampling shall be consistent with UWEX Publication A2100, "Sampling Soils for Testing." For perennial fruit crops, use of soil test recommendations from UWEX Publication A2809 is only required as the basis for fertilizer applications prior to establishment of new plantings. Subsequent nutrient recommendations should be based on plant tissue analysis results. See V.A.1.L.

d. Annual P and K nutrient recommendations may be combined into a single application that does not exceed the total nutrient recommendation for the rotation. This combined annual application is not allowed on frozen or snow covered soil. Commercial P fertilizers shall not be applied to soils with P tests in the non−responsive range for the crop being grown with the exception of not more than 20 pounds per acre P_2O_5 as starter for corn or recommended rates of starter P_2O_5 for potatoes and other vegetable crops as identified in UWEX Publication A3422, "Commercial Vegetable Production in Wisconsin." All the P and K starter fertilizer shall be credited against crop needs. When grouping fields for nutrient application purposes, N, P, and K application rates shall match individual field recommendations as closely as possible.

e. Where practical, adjust soil pH to the specific range of the crop(s) grown to optimize nutrient utilization.

f. Available nitrogen from all sources shall not exceed the annual N requirement of non−legume crops consistent with UWEX Publication A2809, or the annual N uptake by legume crops. Because of variability in N mineralization and manure applications, it is acceptable for available N to be up to 20% more than the recommended N rate when legumes, manures, and organic byproducts are used to meet the entire N requirement of the crop to be grown.

   Starter N fertilizers are to be credited against crop needs as follows: all N beyond 20 pounds per acres for corn and 40 pounds per acre for potatoes.

g. First year available N in manure applied to fields prior to legume crop establishment shall not exceed the first year's annual N removal by legumes and companion crop. See Wisconsin Conservation Planning Technical Note WI−1, Part II B.4.

h. First and second−year legume credits shall be applied as identified in UWEX Publication A2809, Table 25, or through soil nitrate testing as identified in UWEX Publication A3624, "Soil Nitrate Tests for Wisconsin Cropping Systems."

i. Estimates of first−year available nutrient credits for manure shall be established in accordance with one of the following methods:

   (1) A manure analysis from a laboratory participating in the Manure Analysis Proficiency (MAP) testing program and interpreted according to Part III, Table 3 of the Wisconsin Conservation Planning Technical Note WI−1, or

   (2) Estimates of first−year available nutrients from manure. See Part III, Table 4 of the Wisconsin Conservation Planning Technical Note WI−1.

   Note: It is strongly recommended that second−year nutrient credits, especially for areas receiving consecutive manure applications, be included in the nutrient management plan using values in Part III, Table 4 of Wisconsin Conservation Planning Technical Note WI−1 or soil nitrate testing.

j. Organic byproducts other than manure (i.e., industrial wastes, municipal sludge, and septage) applied to fields shall be analyzed for nutrient content and applied in accordance with applicable regulations including restrictions on heavy metal content and land application rates.

k. Manures, organic byproducts, and fertilizers shall not run off the field site during or immediately after application. If ponding, runoff, or drainage to subsurface tiles of the applied materials occurs, implement the following activities as appropriate:

   (1) Stop application.

   (2) Take corrective action to prevent offsite movement.

   (3) Modify the application (rate, method, depth of injection, timing) to eliminate runoff or drainage to subsurface tiles.

   (4) Notify the Wisconsin Department of Natural Resources (WDNR) in the event that a spill or accidental release of any material or substance when required by the Agricultural Spill Law (s.289.11, Wis. Stats.) or the terms of a WPDES permit. Refer to the Wisconsin Conservation Planning Technical Note WI−1, Part IV, for contact information and "Agricultural Spills and How to Handle Them," Pub−RR−687−2002, August 2002.

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L. Where nutrient application decisions are based on plant tissue analysis, the sampling and testing of plants and the resulting nutrient recommendations shall be done in accordance with University of Wisconsin recommendations in the references section of this standard. Nutrient recommendations for cranberries may be based on plant analysis as defined by appropriate publications in the references section of this standard.

m. Where *gleaning/pasturing* occurs, verify through computations that the nutrients deposited as manure within a field, do not exceed the N and P requirements of this standard.

2. Nutrient Application Prohibitions

a. Nutrients shall not be spread on the following features.

(1) Surface water, established *concentrated flow channels,* or non−harvested *permanent vegetative buffers.*

(2) A non−farmed wetland, sinkhole, nonmetallic mine, or well.

(3) The area within 50 feet of a potable drinking water well shall not receive mechanical applications of manure.

(4) Areas contributing runoff within 200 feet upslope of *direct conduits to groundwater* such as a well, sinkhole, fractured bedrock at the surface, *tile inlet,* or nonmetallic mine unless the nutrients are *effectively incorporated* within 72 hours.

(5) Land where vegetation is not removed mechanically or by grazing, except to provide nutrients for establishment and maintenance, unless necessary in an emergency situation.

(6) Fields exceeding *tolerable soil loss (T).* Erosion controls shall be implemented so that *tolerable soil loss* (T) over the crop rotation will not be exceeded on fields that receive nutrients.

b. When frozen or snow−covered soils prevent effective incorporation at the time of application and the nutrient application is allowed, implement the following:

(1) Do not apply nutrients within the *Surface Water Quality Management Area (SWQMA)* except for manure deposited through winter gleaning/pasturing of plant residue.

(2) Do not apply nutrients to locally identified areas delineated in a *conservation plan* as contributing nutrients to *direct conduits to groundwater* or surface water as a result of runoff.

(3) Do not exceed the P removal of the following growing season's crop when applying manure. Liquid manure applications are limited to 7,000 gallons per acre. The balance of the crop nutrient requirement may be applied the following spring or summer. Winter applications shall be conducted according to Section VII.B.

(4) Do not apply nutrients on slopes greater than 9%, except for manure on slopes up to 12% where cropland is contoured or contour strip cropped.

(5) Do not apply N and P in the form of commercial fertilizer. An exception is allowed for grass pastures and on winter grains that do not fall within a prohibition area defined by V.A.2.

3. Nutrient Application Restrictions

a. When unincorporated liquid manure applications (less than 12% solids) occur on non−frozen soils within a SWQMA, use Table 1 to determine maximum acceptable rates. No applications are allowed on *saturated soils*.

Sequential applications may be made to meet the desired nutrient additions consistent with this standard. Prior to subsequent applications soils shall be evaluated using Table 1 or wait a minimum of 7 days.

Surface Texture Class[1]	**Max Application Rate** *gal/acre*		**Allowable Soil Moisture Description for Applications**
	< 30%*	***> = 30%****	
Fine	3000	5000	Easily ribbons out between fingers, has a slick feel.
Medium	5000	7500	Forms a ball, is very pliable, slicks readily with clay.
Coarse	7000	10000	Forms a weak ball, breaks easily.

[1] Fine – clay, silty clay, silty clay loam, clay loam
Medium – sandy clay, sandy clay loam, loam, silt loam, silt
Coarse – loamy sand, sandy loam, sand. This category also includes peat and muck based on their infiltration capacity.
*Crop residue or vegetative cover on the soil surface after manure application.

b. For all nutrient applications on non−frozen soil within a SWQMA use one or more of the following practices as appropriate to address water quality concerns for the site:

(1) Install/maintain permanent vegetative buffers (harvesting is allowed unless restricted by other laws or programs). Refer to NRCS Field Office Technical Guide (FOTG), Section IV, Standard 393, Filter Strip, or ATCP 48 for land in drainage districts.

(2) Maintain greater than 30% crop residue or vegetative cover on the soil surface after nutrient application.

(3) Incorporate nutrients within 72 hours leaving adequate residue to meet tolerable soil losses.

(4) Establish cover crops promptly following application.

B. Criteria to Minimize Entry of Nutrients to Groundwater

To minimize N leaching to groundwater on *high permeability soils*, or soils with less than 20 inches to bedrock, or soils with less than 12 inches to *apparent water table,* or within 1000 feet of a municipal well, apply the following applicable management practices:

Note: A list of soils with a high potential for N leaching to groundwater is provided in Appendix 1 of the Wisconsin Conservation Planning Technical Note WI−1.

1. Where sources of N are applied:

a. No fall commercial N applications except for establishment of fall−seeded crops. Commercial N application rates, where allowed, shall not exceed 30 pounds of available N per acre.

b. On irrigated fields, including irrigated manure, apply one of the following management strategies:

(1) A split or delayed N application to apply a majority of crop N requirement after crop establishment.

(2) Utilize a nitrification inhibitor with ammonium forms of N.

2. When manure is applied in late summer or fall to meet the fertility needs of next year's crop and soil temperatures are greater than 50°F, apply one of the following options:

a. Use a nitrification inhibitor with liquid manure and limit N rate to 120 pounds available N per acre.

b. Delay applications until after September 15 and limit available N rate to 90 pounds per acre.

c. Apply to fields with perennial crops or fall−seeded crops. N application shall not exceed 120 pounds available N per acre or the crop N requirement, whichever is less.

3. When manure is applied in the fall and soil temperatures are 50°F or less, limit available N from manure application to 120 pounds per acre or the crop N requirement, whichever is less.

Note: The restrictions in B. 2. and 3. do not apply to spring manure applications prior to planting. The balance of the crop N requirements may be applied the following spring or summer.

4. Where P enrichment of groundwater is identified as a conservation planning concern, implement practices to reduce delivery of P to groundwater.

C. Additional Criteria to Minimize Entry of Nutrients to Surface Water

1. Where manure, organic byproducts, or fertilizers are applied:

a. Avoid building soil test P values when possible beyond the non−responsive soil test range for the most demanding crop in the rotation. For most agronomic crops in Wisconsin, the non−responsive soil test range is 30 to 50 parts per million (ppm) Bray P−1 soil test.

b. Establish perennial vegetative cover in all areas of concentrated flow resulting in reoccurring gullies.

2. Develop a P management strategy when manure or organic by−products are applied during the crop rotation to minimize surface water quality impacts. Use either the *Phosphorus Index (PI)* in section a., or Soil Test Phosphorus Management Strategy found in section b. The single strategy chosen, either a. or b., shall be applied uniformly to all fields within a farm or tract.

Note: First year available N in manure applied to fields prior to legume crop establishment shall not exceed the first year's annual N removal by legumes and companion crop. See Wisconsin Conservation Planning Technical Note WI−1, Part II B.4. Available N applied cannot exceed the N need or legume crop N removal of the next crop to be grown.

a. PI Strategy – The planned average PI values for up to an 8−year rotation in each field shall be 6 or lower. P applications on fields with an average PI greater than 6 may be made only if additional P is needed

according to UWEX soil fertility recommendations. Strategies for reducing the PI, algorithms, and software for calculating the Wisconsin PI can be found at http://wpindex.soils.wisc.edu/.

b. Soil Test Phosphorus Strategy − Management strategies based on soil test phosphorus may be used. Operations using this strategy shall have a conservation plan addressing all soil erosion consistent with the current crops and management or use the erosion assessment tools included with the Phosphorus Index model. In crop fields where ephemeral erosion is an identified problem, a minimum of one of the following runoff−reducing practices shall be implemented:

- Install/maintain contour strips and/or contour buffer strips. Refer to NRCS FOTG, Section IV, Standard 585, Strip Cropping, and/or Standard 332, Contour Buffer Strip.
- Install/maintain filter strips (NRCS FOTG, Section IV, Standard 393, Filter Strip) along surface waters and concentrated flow channels that empty into surface waters that are within or adjoin areas where manure will be applied.
- Maintain greater than 30% crop residue or vegetative cover on the soil surface after planting.
- Establish fall cover crops.

Available phosphorus applications from all sources shall be based on the following soil test P values (Bray P−1).

(1) Less than 50 ppm soil test P: nutrient application rates allowed up to the N needs of the following crop or the N removal for the following legume crop.

(2) 50−100 ppm soil test P: P application shall not exceed the total crop P removal for crops to be grown over a maximum rotation length of 8 years.

(3) Greater than 100 ppm soil test P: eliminate P applications, if possible, unless required by the highest P demanding crop in the rotation. If applications are necessary, applications shall be 25% less than the cumulative annual crop removal over a maximum rotation length of 8 years.

(4) For land with potatoes in the rotation, total P applications shall not exceed crop removal over a maximum rotation length of 8 years if soil tests are in the optimum, high, or excessively high range for potatoes.

D. Additional Criteria to Minimize N and Particulate Air Emissions

Where air quality is identified in a conservation plan as a resource concern, apply a management strategy that minimizes nutrient volatilization and particulate losses while maintaining tolerable soil erosion levels for wind and water.

E. Additional Criteria to Protect the Physical, Chemical, and Biological Condition of the Soil

1. Nutrients shall be applied in such a manner as not to permanently degrade the soil's structure, chemical properties, or biological condition.
2. To the extent practical, nutrients shall not be applied to flooded or saturated soil when the potential for soil compaction and/or the creation of ruts is high.

VI. Considerations

The following are optional management considerations and are not required practices.

A. Promote seeding and stabilization of concentrated flow channels, installation and maintenance of vegetative filter strips, riparian buffers and other buffer strips adjacent to surface water and wetlands in conjunction with other conservation practices in order to reduce the amounts of sediment and nutrients that reach surface water and/or groundwater.

B. Corn nitrogen recommendations in A2809 can be adjusted for the effects of current corn and nitrogen fertilizer prices using the N rate calculator available at http://www.uwex.edu/ces/crops/NComparison.htm. Additional management practices that can be utilized to improve N use efficiency can be found in the Wisconsin Conservation Planning Technical Note WI−1, Part II.

C. Apply nutrients not specifically addressed by this standard (i.e., secondary and micro nutrients) based on recommendations found in UWEX Publication A2809.

Since specific environmental concerns have not been identified for potassium (K), K additions in manure or bio−solids will be determined by rate limits for the N or P in those materials. Commercial fertilizer K applications equal to crop removal will avoid building soil test K levels. K may be applied equal to crop removal at any soil test K level. Dairy producers should monitor K levels in forages and take additional steps to reduce soil K levels if consumption of forage with high K levels becomes an animal health problem.

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D. To minimize N leaching on medium and fine−textured soils, avoid fall commercial N applications for crops to be seeded the following spring. When commercial N is applied in the fall, use ammonium forms of N and delay N application until soil temperatures drop below 50°F. Use of a nitrification inhibitor with fall−applied N is recommended.

E. Irrigated fields should use irrigation scheduling strategies with the intent of minimizing leaching losses and improving water use efficiency and not exceeding intake/infiltration capacity of the soil.

F. Consider the use of animal feeding strategies based on published nutrition research findings (National Research Council, etc.) to reduce excess P in rations when manure applications are made to cropland.

G. Consider delaying surface applications of manure or other organic byproducts if precipitation capable of producing runoff is forecast within 24 hours of the time of planned application.

H. Consider modifications to the crop rotation to provide crop fields for the application of manure during the summer crop growing season.

I. Manure top−dressed on existing forages should not exceed the nutrient equivalent of 35 pounds N – 25 pounds P_2O_5 – 80 pounds K_2O (first year availability per acre) or no more than 10 tons of solid manure per acre per harvest. Additional management considerations can be found in “Applying Manure to Alfalfa,” North Central Regional Research Report 346.

J. For fields directly adjacent to, or with areas of concentrated or channelized flow that drain directly to, Outstanding, Exceptional or nutrient impaired surface waters, avoid raising soil test P levels to the maximum extent practicable. In addition, implement conservation practices that reduce delivery of nutrients to these waters. For operations using the P−Index in high environmental risk areas, the P−Index values should be reduced to the maximum extent practicable by applying additional conservation practices.

K. Where residual nitrate carryover is probable, the preplant soil nitrate test is recommended to adjust N application rates.

VII. Plans and Specifications

A. The minimum requirements for a nutrient management plan are specified in the previous sections of this standard and expanded in Part I of the Wisconsin Conservation Planning Technical Note WI−1. Include in a nutrient management plan:

- a soil map and aerial photograph of the site;
- current and planned crops and crop yields; realistic yield goals;
- results of soil, plant, manure, or organic byproduct sample analysis;
- recommended nutrient application rates;
- documentation of actual nutrient applications including the rate, form, timing, and method. Revise the plan to reflect any changes in crops, yields, tillage, management, and soil or manure analyses;
- the location of sensitive areas and the resulting nutrient application restrictions;
- guidance for implementation, maintaining records;
- each field’s tolerable and actual soil losses;
- soil test P−ppm; P balance, or P Index level where applicable;
- other management activities required by regulation, program requirements, or producer goals;
- a narrative to explain other implementation clarifications.

B. Winter Spreading Plan – The plan shall identify those areas of fields that meet the restrictions for frozen or snow−covered ground identified in this standard. If necessary, land application of manure on frozen and snow−covered ground shall occur on those fields accessible at the time of application that represent the lowest risk of runoff and deliverability to areas of concentrated and channelized flow and surface waters. Low−risk fields shall be identified using either the P−Index or an approved conservation plan. In general, fields most suitable for land application during frozen and snow−covered ground conditions include those fields:

- with low slope,
- with low erosion,
- with high levels of surface roughness,
- with the greatest distance to surface waters and areas of concentrated flow,

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- with no drainage to Outstanding/ Exceptional/nutrient impaired water bodies,
- with low delivery potential during active snowmelt.

Refer to section VIII.E for storage/infield stacking of manure during periods of active snowmelt.

C. Persons who review or approve plans for nutrient management shall be certified through any certification program acceptable to the NRCS (NRCS General Manual, Title 180, Part 409.9, NRCS TechReg) or other appropriate agencies within the state.

D. Industrial wastes and byproducts and municipal sludge are regulated by the Wisconsin Department of Natural Resources (WDNR). They must be spread in accordance with a Wisconsin Pollution Discharge Elimination System (WPDES) permit as obtained from the WDNR.

E. Plans for nutrient management shall be developed in accordance with policy requirements of the NRCS General Manual Title 450, Part 401.03 and Title 190, Part 402, the contents of this standard, the procedures contained in the National Planning Procedures Handbook, and NRCS National Agronomy Manual, Section 503.

F. Plans for Nutrient Management that are elements of a more comprehensive conservation plan shall recognize other requirements of the conservation plan and be compatible with the other requirements. A Comprehensive Nutrient Management Plan (CNMP) is a conservation system unique to animal feeding operations (AFO). The CNMP will be developed to address the environmental risks identified during the resource inventory of an AFO. A CNMP will require use of all the applicable criteria in this technical standard along with the additional criteria located in NRCS National Planning Procedures Handbook, Subpart B, Part 600.54.

VIII. Operation and Maintenance

A. Document the actual nutrient application including the rate, form, timing, and method of the application. Revise the plan to reflect any changes in crops, tillage or management, soils, and manure tests.

B. Evaluate the need to modify field operations to reduce the risk of large nutrient losses during a single runoff event based on current field conditions or forecasted weather events.

C. Minimize operator exposure to potentially toxic gases associated with manure, organic wastes, and chemical fertilizers, particularly in enclosed areas. Wear protective clothing appropriate to the material being handled.

D. Protect commercial fertilizer from the weather, and agricultural waste storage facilities from accidental leakage or spillage. See Wisconsin administrative rules and county or local ordinances concerning regulations on siting, design, operation, and maintenance of these facilities.

E. During periods when land application is not suitable, manure shall be stored in a manure storage facility designed in accordance with the criteria contained in NRCS FOTG Standard 313, Waste Storage Facility. Temporary management of manure shall be in accordance with the criteria for temporary unconfined stacks of manure contained in Table 7 of Standard 313.

F. When cleaning equipment after nutrient application, remove and save fertilizers or wastes in an appropriate manner. If the application equipment system is flushed, use the rinse water in the following batch of nutrient mixture where possible or dispose of according to state and local regulations. Always avoid cleaning equipment near high runoff areas, ponds, lakes, streams, and other water bodies. Extreme care must be exercised to avoid contaminating potable drinking water wells.

G. The application equipment shall be calibrated to achieve the desired application rate.

IX. References

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University of Wisconsin−Extension (UWEX) Publication A3769, Recommended Methods of Manure Analysis, 2003.

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Wisconsin Administrative Code, Department of Agriculture, Trade and Consumer Protection, Chapter 48, Drainage Districts.

Wisconsin Phosphorus Index: http://wpindex.soils.wisc.edu/.

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X. Definitions

Apparent Water Table (V.B) − Continuous saturated zone in the soil to a depth of at least 6 feet without an unsaturated zone below it.

Budgeting (II) − Document present and prior year's crop, estimated nutrient removal by these crops and known nutrient credits. When nutrients are applied for future crop needs in the rotation, implement a tracking process to allow adjustment of subsequent nutrient applications so that the total amount of nutrients applied to the farm or tract complies with this standard and is documented in the plan. Required as a component for all nutrient management plans (VII.A.; Wisconsin Conservation Planning Technical Note WI−1 Part 1 B.d. (1), (2); C.6.).

Concentrated Flow Channel (V.A.2.a.(1)) − A natural channel or constructed channel that has been shaped or graded to required dimensions and established in perennial vegetation for the stable conveyance of runoff. This definition may include non−vegetated channels caused by ephemeral erosion. These channels include perennial and intermittent streams, drainage ditches, and drainage ends identified on the NRCS soil survey and not already classified as SWQMAs. Concentrated flow channels are also identifiable as contiguous up−gradient deflections of contour lines on the USGS 1:24,000 scale topographic map. The path of flow to surface water or direct conduits to groundwater must be documented. For construction, refer to NRCS FOTG Standard 412, Grassed Waterway, for more information.

Conservation Plan (V.A.2.b.(2)) − A plan developed and field verified by a conservation planner to document crop management and the conservation practices used to control sheet and rill erosion to tolerable levels (T) and to provide treatment of ephemeral soil erosion. A conservation plan must be signed by the land operator and approved by the county land conservation committee or their representative. A conservation plan will be needed for designating winter spreading restrictions other than those specifically listed in this standard, and when implementing the soil test P management strategy where the soil erosion assessment is not calculated with the Wisconsin Phosphorus Index model. A conservation planner must develop conservation plans using the minimum criteria found in the USDA, NRCS National Planning Procedures Handbook and the Wisconsin Field Office Technical Guide and be qualified by one of the following:

1. Meeting the minimum criteria in the NRCS General Manual, Title 180, Part 409.9(c), NRCS Certified Conservation Planner Designation.

2. Meeting criteria established by the county land conservation committee.

3. Meeting the NRCS TechReg Certified Conservation Planner Option 1, 2, 3.

Direct Conduits to Groundwater (V.A.2.a.(4)) − Wells, sinkholes, swallets (a sinkhole or rock hole that intercepts a stream, diverting all or a portion of it to the groundwater), fractured bedrock at the surface, mine shafts, non−metallic mines, tile inlets discharging to groundwater quarries, or depressional groundwater recharge areas over shallow fractured bedrock. For the purpose of nutrient management planning, these features will be identified on the NRCS soil survey and/or USGS 1:24,000 scale topographic map, or otherwise determined through on−site evaluation and documented in a conservation plan.

Documented yields (V.A.1.b.) − Crop production yield−records documented by field for at least two consecutive years that are used to determine phosphorus and potassium fertility recommendations. Yield record documentation may include measurements of harvested crop weight, volume, or the use of calibrated yield−monitors.

Effectively Incorporated (V.A.2.a.(4)) − Means the mixing with the topsoil or residue or subsurface placement of nutrients with topsoil by such means as injector, disc, sweep, mold−board plow, chisel plow, or other tillage/infiltration methods. Nutrients will not run off the field or drain to subsurface tiles during application.

Fields (III) − A group or single nutrient management unit with the following conditions: similar soil type, similar cropping history, same place in rotation (i.e., second year corn fields, established alfalfa), similar nutrient requirements, and close proximity. Examples include: alternate strips in a contour strip system, pasture, variable rate nutrient application management units, and other management units where grouping facilitates implementation of the nutrient management plan.

Gleaning / Pasturing (V.A.1.m.) − An area of land where animals graze or otherwise seek feed in a manner that maintains the vegetative cover over all the area and where the vegetative cover is the primary food source for the animals. Livestock shall be managed to avoid the routine concentration of animals within the same area of the field. Manure deposited near a well by grazing of livestock does not require incorporation.

High Permeability Soils (V.B) − Equivalent to drained hydrologic group A that meet both of the following criteria:

1. Permeability = 6 inches/hour or more in all parts of the upper 20 inches and

2. Permeability = 0.6 inches/hour or more in all parts of the upper 40 inches.

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Use the lowest permeability listed for each layer when evaluating a soil. For a multi−component map unit (complex), evaluate each component separately. If the high permeability components meet the criteria and cannot be separated, the entire map unit should be considered as high permeability.

Major Nutrients (V.A.1.a.) − Nitrogen (N), phosphorus (P), and potassium (K).

Note (V.A.1.i.) − Any section labeled as a 'note' is to be considered a recommendation rather than a requirement. The note is included in the criteria section to ensure subject continuity.

Permanent Vegetative Buffer (V.A.2.a.(1)) − A strip or area of perennial herbaceous vegetation situated between cropland, grazing land, or disturbed land (including forest land) and environmentally sensitive areas (as defined in NRCS Technical Standard 393, Filter Strip).

Phosphorus Index (PI) (V.C.2) − The Wisconsin Phosphorus Index (PI) is an assessment of the potential for a given field to deliver P to surface water. The PI assessment takes into account factors that contribute to P losses in runoff from a field and subsequent transport to a water body, including:

- Soil erosion as calculated using the current approved NRCS soil erosion prediction technology located in Section I of the NRCS FOTG.
- Estimated annual field rainfall and snowmelt runoff volume.
- Soil P concentrations as measured by routine soil test P (Bray P−1).
- Rate and management of P applications in the form of fertilizer, manure, or other organic material.
- Characteristics of the runoff flow pathway from the field to surface water.

The algorithms and software for calculating the Wisconsin PI can be found at http://wpindex.soils.wisc.edu/.

Rotation (III) − The sequence of crops to be grown for up to an 8−year period as specified by the conservation plan or as part of the soil erosion assessment calculated with the Wisconsin Phosphorus Index model.

Saturated Soils (V.A.3.a.) − Soils where all pore spaces are occupied by water and where any additional inputs of water or liquid wastes cannot infiltrate into the soil.

Surface Water Quality Management Areas (SWQMA) (V.A.2.b.(1)) − For the purposes of nutrient management planning, Surface Water Quality Management Areas are defined as follows:

1. The area within 1,000 feet from the ordinary high−water mark of navigable waters that consist of a lake, pond or flowage, except that, for a navigable water that is a glacial pothole lake, "surface water quality management area" means the area within 1,000 feet from the high−water mark of the lake.
2. The area within 300 feet from the ordinary high−water mark of navigable waters that consists of a river or stream that is defined as:
   - Perennial streams (continuous flow) identified on the NRCS soil survey and/or USGS 1:24,000 scale topographic map as solid lines,
   - Otherwise determined through an onsite evaluation and documented in an approved conservation plan.

Areas within the SWQMA that do not drain to the water body are excluded from this definition.

Tile Inlet (V.A.2.a.(4)) − The interception of surface runoff within a concentrated flow channel or field depression, by a constructed device designed to direct runoff into an underground tile for conveyance to surface or groundwater.

Tolerable Soil Loss (T) − For sheet and rill erosion (V.A.2.a.(6)) − T−value means the maximum rate of soil erosion established for each soil type that will permit crop productivity to be sustained economically and indefinitely. Erosion calculations shall be based on current approved erosion prediction technology found in NRCS FOTG Section I or the soil loss assessment calculated using the Phosphorous Index Model. Tolerable soil erosion rates shall be determined using the RUSLE2 Related Attributes Report located in Section 2, e−FOTG, Soil Report.

ATCP 51.18 Waste storage facilities. (1) DESIGN, CONSTRUCTION AND MAINTENANCE; GENERAL. All waste storage facilities for a livestock facility shall be designed, constructed and maintained to minimize the risk of structural failure, and to minimize the potential for waste discharge to surface water or groundwater. A waste storage facility may not lack structural integrity or have significant leakage. An unlined earthen waste storage facility may not be located on a site that is susceptible to groundwater contamination.

Note: A "site that is susceptible to groundwater contamination" is defined in s. ATCP 51.01 (39).

(2) EXISTING FACILITIES. For purposes of local approval, an existing waste storage facility is presumed to comply with sub. (1) if a registered professional engineer or certified agricultural engineering practitioner certifies one of the following in the application for local approval:

(a) The facility is constructed of concrete or steel or both, was constructed within the last 10 years according to then−existing NRCS standards, and shows no apparent signs of structural failure or significant leakage.

(b) The facility was constructed within the last 3 years according to then−existing NRCS standards, and shows no apparent signs of structural failure or significant leakage.

(c) The facility was constructed according to NRCS standards that existed at the time of construction, is in good condition and repair, and shows no apparent signs of structural failure or significant leakage.

(d) The facility is in good condition and repair, shows no apparent signs of structural failure or significant leakage, and is located on a site at which the soils and separation distances to groundwater comply with *NRCS technical guide manure storage facility standard 313, table 1 (November, 2004).*

(e) The facility is in good condition and repair, shows no apparent signs of structural failure or significant leakage, is located entirely above ground, and is located on a site at which the soils comply with *NRCS technical guide manure storage facility standard 313, table 5 (November, 2004).*

Note: According to s. ATCP 51.30, an application for local approval must include a certification under sub. (2) for each existing waste storage facility. *See Appendix A, worksheet 4 (waste storage facilities).*

(3) NEW OR SUBSTANTIALLY ALTERED FACILITIES. For purposes of local approval, a new or substantially altered waste storage facility is presumed to comply with sub. (1) if all of the following apply:

(a) The application for local approval includes design specifications for the facility.

(b) A registered professional engineer or certified agricultural engineering practitioner certifies that the design specifications comply with all of the following:

1. NRCS technical guide manure storage facility standard 313 (November, 2004).
2. NRCS technical guide manure transfer standard 634 (November, 2004).

Note: According to s. ATCP 51.30, an application for local approval must include the design specifications and certification to which sub. (3) refers. *See Appendix A, worksheet 4 (waste storage facilities).*

(4) CLOSED FACILITIES. If a waste storage facility is closed as part of the construction or expansion of a livestock facility, the closure shall comply with *NRCS technical guide closure of waste impoundments standard 360 (December, 2002).* A closure is presumed to comply with this subsection, for purposes of local approval, if the application for local approval includes the closure plan and certification required under s. ATCP 51.30.

Note: According to s. ATCP 51.30, an application for local approval must identify any waste storage facilities to be closed. The application must include a closure plan for each identified facility. A registered professional engineer or certified agricultural engineering practitioner must certify that the closure plan complies with *NRCS technical guide closure of waste impoundments standard 360 (December 2002). See Appendix A, worksheet 4 (waste storage facilities).*

Under s. NR 151.05 (3) and (4), an operator must normally close a manure storage facility if the facility has not been used for 24 months, or poses an imminent threat to public health, aquatic life or groundwater.

If a waste storage facility is abandoned or not properly closed, a political subdivision may seek redress under s. 66.0627 or 254.59, Stats., as appropriate.

(5) STORAGE CAPACITY. (a) The waste storage capacity of a livestock facility, not counting any excess storage capacity required for open waste storage facilities under par. (b), shall be adequate for reasonably foreseeable storage needs based on the operator's waste and nutrient management strategy under s. ATCP 51.16.

Note: Section ATCP 51.20 (5) prohibits overflow of waste storage facilities. *See* also ss. NR 151.08 (2) and ATCP 50.04 (1).

(b) An operator shall at all times maintain, in every open waste storage facility, unused storage capacity equal to the greater of the following volumes:

1. One foot multiplied by the top area of the storage facility.

2. The volume of rain that would accumulate in the manure storage facility from a 25−year 24−hour storm.

Note: The required excess storage capacity in par. (b), often called "freeboard storage," provides a safety factor to prevent manure storage overflow in the event of a major rain event.

(c) The waste storage capacity of a livestock facility is presumed to comply with this subsection, for purposes of a local approval, if the application for local approval complies with s. ATCP 51.30.

Note: Under s. ATCP 51.30, an application must be complete, credible and internally consistent. An application must include a *waste and nutrient management worksheet (worksheet 3*, signed by the operator and a qualified nutrient management planner) and a *waste storage facility worksheet (worksheet 4*, signed by a registered professional engineer or certified agricultural engineering practitioner). *Worksheet 3* must identify waste storage needs, based on the operator's landspreading and waste disposal

strategy. *Worksheet 3* must also show waste storage *capacity*, consistent with *worksheet 4*. Capacity must be adequate for reasonably foreseeable needs.

(6) DEVIATION FROM DESIGN SPECIFICATIONS. Local approval of a livestock facility does not authorize an operator to populate that approved livestock facility if the construction, alteration or closure of a waste storage facility deviates materially, and without express authorization from the political subdivision, from the design specifications or closure plan included in the application for local approval.

Note: A political subdivision may inspect waste storage facilities to verify that they are constructed according to specifications included in the application for local approval. This section *does not require or prohibit* local inspection. A deviation under sub. (6) does not invalidate a local approval, but does prevent the livestock operator from populating the approved livestock facility until the deviation is rectified or approved.

This chapter does not limit the application of local waste storage ordinances, except in connection with the approval of a new or expanded livestock facility. For example, if a livestock operator constructs a new waste storage structure without adding "animal units" for which local approval is required, the construction must comply with the local waste storage ordinance if any.

But if a livestock operator proposes to add "animal units" *and* construct a new waste storage structure, to create an "expanded livestock facility" for which local approval is required, the waste storage standards in this chapter are controlling. A political subdivision may not disapprove the expansion, except for reasons provided under this chapter.

(7) EXEMPTION. This section does not apply if all of the following apply:

(a) The operator holds a WPDES permit for the same proposed livestock facility, and that permit is based on housing for a number of animal units that is equal to or greater than the number for which the operator seeks local approval.

(b) The operator includes a copy of the WPDES permit with the operator's application for local approval.

History: CR 05−014: cr. Register April 2006 No. 604, eff. 5−1−06.

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Arm−lwr− 11/04 January 2006

Wisconsin Department of Agriculture, Trade and Consumer Protection
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Worksheet 4 − *Waste Storage Facilities*

Instructions: This worksheet must be signed by a registered professional engineer or *certified agricultural engineering practitioner*. This worksheet must identify every *waste storage facility* in the proposed *livestock facility* (including storage structures and transfer systems).

You are NOT required to complete this worksheet if you already hold a *WPDES permit* for the proposed *livestock facility* (for the same or greater number of *animal units*). Simply check the following box, sign at the bottom of this page, and include a copy of the *WPDES permit* with your application.

☐ I enclose a copy of my *WPDES permit* in place of Worksheet 4.

***New* or *Substantially Altered* Facilities**: Design specifications for the following *new* or *substantially altered waste storage facilities* comply with *NRCS* Technical Guide Standards 313 (November, 2004) and 634 (November, 2004). [Identify each facility and attach design specifications for each facility.]

Existing Facilities Retained: The following *waste storage facilities* will continue in use without being *substantially altered*. Each facility meets one of the following:

☐ The facility (list each facility _____) was constructed of concrete or steel or both, was constructed within the last 10 years according to then−existing *NRCS* technical standards, and shows no apparent signs of structural failure or significant leakage.

☐ The facility (list each facility _____) was constructed within the last 3 years according to then−existing *NRCS* technical standards, and shows no apparent signs of structural failure or significant leakage.

☐ The facility (list each facility_____) was constructed to *NRCS* technical standards that existed at the time of construction, is in good condition and repair and shows no apparent signs of structural failure or significant leakage.

☐ The facility (list each facility_____) is in good condition and repair, shows no apparent signs of structural failure or significant leakage, and is located on a site at which the soils and separation distances to groundwater comply with *NRCS* Technical Guide Manure Storage Facility Standard 313, Table 1 (November, 2004).

☐ The facility (list each facility _____) is in good condition and repair, shows no apparent signs of structural failure or significant leakage, is located entirely above ground, and is located on a site at which the soils comply with *NRCS* Technical Guide Manure Storage Facility Standard 313, Table 5 (November, 2004).

Facilities To Be Abandoned: The following *waste storage facilities* will be closed according to a closure plan that complies with *NRCS* Technical Guide Standard 360 (June, 2001). [Attach closure plan for each facility.]

Total Storage Capacity: The *waste storage facilities* in the proposed *livestock facility* have a combined useable storage capacity of _____ gallons or tons (cannot include required "freeboard" in useable capacity).

Professional Engineer's Embossed Seal

_____
Print Name of Engineer (include WI License No.) or *Certified Agricultural Engineering Practitioner*

_____ _____
Signature of Engineer or Practitioner Date

_____
Name of Firm and Address

WASTE STORAGE FACILITY

(No.)
Code 313

Natural Resources Conservation Service
Conservation Practice Standard

I. Definition

A waste storage *impoundment*[1] made by constructing an embankment and/or excavating a pit or dugout, or by fabricating a *structure*.

II. Purpose

To temporarily store wastes such as manure, *manure processing derivatives*, *leachate, wastewater*, and *contaminated runoff* in a manner which safeguards the environment.

III. Conditions Where Practice Applies

This standard applies to:

- construction of a storage facility in areas where the soils, geography, and topography are suitable and where the construction, operation, and maintenance will protect the soil and water resources,
- areas that are part of a planned agriculture waste management system intended to reduce contaminated runoff and meet the facility management goals, regulatory requirements, or *nutrient management plans* by providing storage of waste,
- waste storage facilities utilizing embankments with a maximum *effective height* of 25 feet and where damage resulting from failure would be limited,
- temporary unconfined stacks of manure and derivatives outside the *animal production area*, and
- storage of milking center wastewater generated at the animal production area.

This standard does not apply to:

- facilities in which greater than 10% of the design storage volume or greater than 25,000 gallons is occupied by any combination of domestic waste, industrial wastewater generated offsite, or sludge. These types of facilities are defined and regulated under various codes administered by the Wisconsin Department of Natural Resources (WDNR).
- closure of waste storage facilities. For information related to closures refer to the criteria contained in Wisconsin NRCS Field Office Technical Guide (FOTG) Section IV, Standard 360, Closure of Waste Impoundments.

IV. Federal, State and Local Laws

Waste storage facilities shall comply with all federal, state, and local laws, rules or regulations. The operator is responsible for securing required permits. This standard does not contain the text of the federal, state, or local laws governing waste storage facilities.

V. Criteria

The following criteria establishes **minimum** allowable limits for design parameters, acceptable installation processes, or performance requirements.

A. General Criteria

The following general criteria apply to this practice.

1. Management Assessment

A management assessment shall be conducted, documented, and incorporated into the design. The assessment shall be performed with the owner/operator to explore options and to determine the purpose of storage components, available resources, manure disposal schemes, and waste characteristics.

When the intent of the owner/operator is to process and/or treat the various waste streams within the animal production area, the designer shall provide a narrative describing the system. The description will include the intent and purpose of the treatment or processing strategies relative to landspreading or waste distribution strategies, stabilization of organic by-products, reducing pollutant loads, nutrient

[1]Words in the standard that are shown in italics are described in VIII. Definitions. The words are italicized the first time they are used in the text.

concentration, waste consistencies, odor control, energy production, and volume reduction.

The management assessment shall address the following:

a. Waste Characterization.

(1) Sources, volumes and consistency of manure, contaminated runoff, manure processing derivatives, leachate, wastewater, and other inputs to the waste storage facility.

(2) Animal types.

(3) Bedding types and quantity.

b. Land base available for utilization of waste.

c. Planned storage period.

d. Waste handling and transfer methods.

e. Facility waste removal methods.

f. Storage liner possibilities and preferences.

g. Access needs and limitations.

h. Safety needs.

i. Labor and equipment needs.

j. Odor production concerns and control strategies – identify sources of odors and potential public contact.

k. Aesthetics and animal health.

l. Provisions for facility expansion.

2. Site Assessment

A site assessment shall be conducted, documented, and incorporated into the design. The assessment shall be performed to determine physical site characteristics that will influence the placement, construction, maintenance, and environmental integrity of a proposed waste storage facility, unconfined manure stacks, and transfer components. The assessment shall include input from the owner/operator. The site assessment shall include:

a. Locations and elevations of buildings, roads, lanes, soil test pits, property lines, setbacks, easements, wells, floodplains, surface waters, surface drains, drain tile, utilities, overhead lines, cultural resources, and wetlands.

b. Test pit or soil boring logs, soil test results, and a soil survey photo, if available. Test pit soil or boring criteria include:

(1) The number and distribution needed to characterize the subsurface (soils, saturation, and *bedrock*). Test pits or borings shall be added if there is inconsistency within or between test pits or borings.

(2) Based on the facility *footprint* there shall be a minimum of one test pit or boring per 15,000 square feet of footprint, with a minimum of two per facility. Test pits and borings used to meet this criteria shall be located in the footprint or no more than 100 feet from the footprint.

(3) For manure transfer systems, the number of test pits or soil borings shall be in accordance with NRCS FOTG Section IV, Standard 634, Manure Transfer.

(4) Soil layers shall be described with respect to texture using the Unified Soil Classification System (USCS).

(5) A minimum depth to ensure separation distances in Tables 1-6 and 9 of this standard and Table 1 in NRCS FOTG Section IV, Standard 634, Manure Transfer.

(6) The elevation of bedrock and bedrock type, if encountered, such as sandstone, limestone, dolomite, or granite.

(7) Saturation indicators, if encountered, such as seepage from sand and gravel lenses, lens thickness, estimated volume of flow, and elevation. Ground water maps and well construction logs shall be included when available and applicable.

c. Locations, dimensions and elevations of *sinkholes* and other *karst* features within 1,000 feet of the facility.

d. Locations, dimensions and elevations, soil volumes, soil samples, and reclamation plans of any borrow areas. Characterize borrow areas according to Section V.A.2.b.(1).

e. Identification of potential impacts from failure of the embankments, liners, or structures.

3. Floodplain

Waste storage facilities located in *flood prone areas* shall be protected from inundation, structural damage, and instability. These facilities shall be designed to accommodate any additional loading resulting from static water levels or saturated soils. The lowest point at which floodwater could enter the waste storage facility shall be 2 feet above the maximum elevation of flow resulting from a 100-year, 24-hour rainfall event.

4. Location

Waste storage facilities shall be located so the potential impacts from breach of embankment, accidental release, and liner failure are minimized. Consideration VI.N. contains information related to reducing the impacts.

5. Design Storage Volume

Design storage volumes shall be calculated with the procedures and default values found in the Wisconsin supplement to Chapter 10 of the NRCS Agricultural Waste Management Field Handbook (AWMFH) or estimates and measurements documented in the plan. The design storage duration and volume shall be consistent with the nutrient management plan and emptying schedule. Design volume shall include the sum of the following during the storage period:

a. Manure, bedding and other wastes.

b. The volume of wastewater from all sources that is anticipated to enter the storage facility. The wastewater volume shall be based on default values or estimates and measurements documented in the plan.

c. Normal precipitation less evaporation on the surface of the facility.

d. Runoff volumes from the drainage area for design storage duration.

e. 25-year, 24-hour precipitation on the surface of the facility.

f. 25-year, 24-hour runoff volume from the drainage area.

6. Maximum Operating Level

The maximum operating level for waste storage facilities shall be the storage level that provides for the design storage volume listed in Section V.A.5 less the volume of precipitation and runoff from the 25-year, 24-hour storm event. See Figure 1.

A permanent marker or indicator that does not compromise the integrity of the liner shall be installed at the maximum operating level. The stored waste shall be managed such that it remains below the maximum operating level during normal operating conditions.

A contingency plan shall be implemented when the maximum operating level is reached. See Section V.A.14.c for specific contents of the contingency plan.

7. Extra Depth for Safety

A minimum of one foot of depth shall be added to the design storage volume to reduce the risk of overtopping. This depth is not intended to add storage capacity. See Figure 1.

8. Remaining Waste and Sumps

An additional depth shall be added to the facility to accommodate the waste that cannot be routinely removed during emptying. A minimum of two feet shall be added to storage depth for facilities with side slopes and one foot for vertical walled facilities. The additional storage depth can be reduced if a sump is installed or other provisions to empty the facility have been made.

9. Embankment Requirements

a. The foundation area shall be stripped to remove vegetation and unsuitable materials.

b. A core trench shall be required whenever the settled embankment fill height at the centerline is ≥ 10 feet. Minimum

dimensions of the core trench shall be 8-foot bottom width, 2-foot depth, and 1:1 or flatter side slopes.

c. After settlement, the top of the embankment shall be ≥ 1 foot above the surrounding grade. Any diversion along the embankment shall have capacity for 25-year, 24-hour flow plus 0.5 feet of freeboard.

d. Additional fill for settlement shall be a minimum of 5% of the fill height measured at the centerline.

e. The minimum top width shall be according to the table below.

Settled Embankment Fill Height (feet)	Top Width (feet)
0 - 10	≥ 8
10.1 - 15	≥ 10
15.1 - 20	≥ 15
20.1 - 25	≥ 20

f. The sum of interior and exterior side slopes shall be ≥ 5:1 with no slope steeper than 2:1. Tables 1, 3, 4, and 5 contain specific embankment requirements.

g. Compaction shall be according to NRCS FOTG Section IV, Wisconsin Construction Specification 204, Earthfill for Waste Storage Facilities.

10. Separation from Saturation or Bedrock

The separation is determined to be the closest distance from any point on the inside surface (bottom and sides) of the storage facility to the feature from which separation is required.

a. The following criteria apply to saturation:

(1) *Regional High Water Table* - The regional high water table shall not be lowered to achieve the required separation.

(2) *Confined Lenses and Perched Water* may be drained. All *drainage systems* shall have a free outlet. The effect of temporary tailwater on the structure or liner and the effects of outletting to perennial and intermittent waterways shall be evaluated. At a minimum, drain tile and/or drain fill material shall be located outside the facility footprint.

b. The following criteria apply to bedrock. Excavation of bedrock is permitted to achieve the required separation distance as specified in the tables. Consolidated bedrock shall not be removed by blasting. The entire width of the surface of any excavated, consolidated rock material shall have a positive grade away from the storage facility with no ponding on the excavated surface. If bedrock is excavated, the material placed between the liner and the bedrock shall have a minimum of 20% fines.

11. Safety Design

Safety design shall identify and minimize the hazards to animals and people. At a minimum, safety design shall include the following.

a. Warning signs, fences, ladders, ropes, bars, rails, and other devices shall be provided, as appropriate, to ensure the safety of humans and livestock. Fences a minimum of 4 feet tall, that do not allow passage of animals or people, shall be installed to restrict access.

b. Ventilation for covered waste-holding structures to prevent the inhalation of poisonous gases, asphyxiation, or explosion.

c. Safety stops, gates, or both installed at push-off ramps and load-out areas of impoundments and structures to prevent accidental entry of machinery.

d. Equipment access ramps and embankment slopes shall be compatible with the equipment intended to be used.

12. Seeding and Mulching

Disturbed areas and embankments shall be seeded and mulched in accordance with NRCS FOTG Section IV, Standard 342, Critical Area Planting.

13. Plans and Specifications

Plans and specifications shall be prepared in accordance with the criteria of this standard and shall describe the requirements for applying the

practice to achieve its intended use. A construction plan and inspection plan are required.

a. The plans, specifications, and documentation for the installation of waste storage impoundments and structures shall include:

- Management assessment,
- Site assessment,
- Safety design features,
- Operation and maintenance plan,
- Construction plan,
- Construction inspection plan, and
- Construction site erosion control plan (see NR 216).

b. Documentation for siting unconfined stacks of manure and derivatives in cropland outside the waste production area shall include:

- Management assessment,
- Site assessment, and
- Location maps, soils maps, and USGS quadrangle maps.

14. Operation and Maintenance

An operation and maintenance plan shall be developed that is consistent with the purposes of this practice, intended life of the components, safety requirements, and the criteria for the design. At a minimum, the plan shall include:

a. Operational requirements for emptying the storage facility. This shall require that waste be removed and utilized at locations, times, rates, and volumes detailed in a plan in accordance with NRCS FOTG Section IV, Standard 590, Nutrient Management.

b. Requirements for location and methods of waste removal in order to maintain liner integrity.

c. A contingency plan which shall be implemented when the maximum operating level is reached. The contingency plan shall include how to handle unexpected volumes of wastewater and/or runoff that could cause the system to overflow before scheduled emptying can occur. The contingency plan shall provide for the safe disposition of waste.

d. An emergency response plan to deal with spills or overflows at the animal production area.

e. Requirements for inspecting and maintaining the facility as well as monitoring the waste level relative to the permanent maximum operating level marker or indicator.

f. Safety issues and procedures/requirements connected with waste storage facilities.

B. Specific Criteria for Waste Storage Impoundments and Structures

Waste Storage impoundments and structures shall be designed to contain all wastes until emptied and utilized in accordance with the Operation and Maintenance Plan. This includes impoundments (Section 1, and Tables 1 through 5) and structures (Section 2, Table 6). The storage facilities may be used alone or in combination to contain the various waste streams. There shall be no gravity outlets from the waste storage facility.

The following specific criteria apply to this practice:

1. Impoundment Design Criteria

Table 1 contains the criteria for constructing waste impoundments into existing soils with no additional liner. Tables 2 through 5 contain the criteria for impoundments with liners. The portions of the waste storage facilities that do not meet Table 1 criteria shall be lined. A combination of liners is acceptable. The liners shall be joined so as to preserve the performance and integrity of all liner types. Concrete walls used in impoundments shall maintain the integrity of any liner. Any penetration and overfall/outfalls of the liner shall be constructed to maintain the performance and integrity of the liner used. Liners shall be designed to withstand all anticipated internal and external loads, hydrostatic uplift pressure, and agitation scouring. Soil criteria in Tables 1 through 5 refers to mineral soils. Construction shall not occur on or with organic soils.

Table 1 - *In-Place Earth* Criteria for Impoundments 20 Feet Deep or Less[Note 1]

1. Size - Design Storage Volume - Waste Produced at Farm per year	≤ 300,000 cu. ft. ≤ 300,000 cu. ft.	> 300,000 cu. ft.[Note 2] > 300,000 cu. ft.	> 300,000 cu. ft.[Note 2] > 300,000 cu. ft.
2. Waste Characteristics - % Solids in Stored Waste	≥ 4	≥ 2[Note 3]	≥ 2[Note 3]
3. Soils - *% Fines* - Thickness, (measured perpendicular to storage surface) - *Plasticity Index (PI)*[Note 4]	≥ 50% ≥ 5 ft. —	≥ 50% ≥ 3 ft. (impoundment < 16 ft. deep)[Note 1] ≥ 4 ft. (impoundment ≥ 16 ft. deep) ≥ 7	≥ 40% ≥ 3 ft. (impoundment <16 ft. deep)[Note 1] ≥ 4 ft. (impoundment ≥ 16 ft. deep) ≥ 12
4. Separation Distances - Well Distance[Note 5] - Sinkholes - Saturation - Bedrock	≥ 250 ft. ≥ 800 ft. ≥ 5 ft. ≥ 5 ft.	≥ 250 ft. ≥ 400 ft. ≥ 3 ft. (impoundment < 16 ft. deep) ≥ 4 ft. (impoundment ≥ 16 ft. deep) ≥ 5 ft.	≥ 250 ft. ≥ 400 ft. ≥ 3 ft. (impoundment < 16 ft. deep) ≥ 4 ft. (impoundment ≥ 16 ft. deep) ≥ 5 ft.
5. Embankment	Shall be constructed with material meeting criteria in Table 1 from the inside surface to the embankment centerline. If this material has a PI less than 7, then the sum of the embankment slopes shall be 6 or greater and the constructed embankment height shall be less than 10 feet.		
6. Other - Scour Protection • Agitation and Pump Access • Scraping and Other Mechanical Means of Removing Solids and Sand - Bottom Modification	Not required if actual soil thickness is 3 feet greater than the minimum required in the table. 20 ft. x 20 ft. x 4 in. thick concrete pad or sump in bottom and 20 ft. wide ramp or a 16 ft. wide ramp with 12 in. high curbs to top of facility. Protect with hard surfacing designed for the expected conditions and loads, a minimum of 4 in. thick. If the bottom of the impoundment is less than three feet below the native soil surface, the bottom soil shall be reworked to a minimum depth of 6 in. and compacted in accordance with WI Spec 204[Note 6].		

Note 1 The depth is measured from the bottom of the impoundment to the maximum operating level.

Note 2 These two columns show the minimum criteria for larger storage facilities and farms, but can also be used for smaller facilities and farms.

Note 3 In Place Impoundments are not allowed if the waste has less than 2% solids.

Note 4 PI shall be determined by ASTM D-4318, Atterberg Limits.

Note 5 Community water system wells may require larger separation distances (see NR 812).

Note 6 NRCS FOTG Section IV, Wisconsin Construction Specification 204, Earthfill for Waste Storage Facilities.

Table 2 - Clay Liner Criteria for Impoundments

1. Size - Design Storage Volume - Waste Produced at Farm Per Year	≤ 300,000 cu ft. ≤ 300,000 cu ft.	> 300,000 cu ft.[Note 1] > 300,000 cu ft.	> 300,000 cu ft.[Note 1] > 300,000 cu ft.
2. Waste Characteristics - % Solids in Stored Waste	—	≥ 2	< 2
3. Clay Liner Material Requirements - Thickness, Bottom - Thickness, Sides - % Fines - Plasticity Index (PI)[Note 2] - *Permeability*, cm/sec.[Note 3]	≥ 3 ft. ≥ 5 ft. ≥ 50% ≥ 12 —	≥ 3 ft. ≥ 5 ft. ≥ 50% ≥ 12 $\leq 1x10^{-6}$	As specified in Table 2A ≥ 5 ft. ≥ 50% ≥ 12 $\leq 1x10^{-7}$
4. Clay Liner Compaction Specification	WI Spec 204[Note 4]	WI Spec 300[Note 5]	WI Spec 300[Note 5]
5. Separation Distances - Wells[Note 6] - Sinkholes - Saturation - Bedrock	≥ 250 ft. ≥ 400 ft. ≥ 4 ft. ≥ 3 ft.	≥ 250 ft. ≥ 400 ft. ≥ 4 ft. ≥ 3 ft.	≥ 250 ft. ≥ 400 ft. As specified in Table 2A Same as liner thickness
6. Other - Liner Protection Required	1. If sand bedding is used 2. If facility bottom is to be mechanically cleaned 3. At all agitation and pumping locations[Note 7]		

Note 1 These two columns show the minimum criteria for larger storage facilities and farms, but can also be used for smaller facilities and farms.

Note 2 PI shall be determined by ASTM D-4318, Atterberg Limits.

Note 3 Permeability shall be determined by ASTM D-5084 using a Shelby tube sample.

Note 4 NRCS FOTG Section IV, Wisconsin Construction Specification 204, Earthfill for Waste Storage Facilities.

Note 5 NRCS FOTG Section IV, Wisconsin Construction Specification 300, Clay Liner.

Note 6 Community water system wells may require larger separation distances (see NR 812).

Note 7 Minimum concrete agitation pad or sump to be 20 ft. x 20 ft. with a 20 ft. wide concrete ramp or 16 ft. wide concrete ramp with 12 in. high curbs in accordance with Table 5 criteria.

Table 2A – Clay Liner Thickness (Bottom) and Separation to Saturation[Note 1]

Impoundment Depth[Note 2] (feet)	Liner Thickness (feet)	Separation to Saturation (feet)
0 – 13	≥ 3.0	≥ 4.0
13.1 – 14	≥ 3.2	≥ 4.2
14.1 – 16	≥ 3.6	≥ 4.6
16.1 – 18	≥ 4.1	≥ 5.1
18.1 – 20	≥ 4.5	≥ 5.5

Note 1 Thickness is calculated based on a maximum permeability of $1x10^{-7}$ cm/sec and a specific discharge limit of 500 gallons/acre/day using Darcy's Law.

Note 2 Depth is the distance from the bottom of the impoundment up to the maximum operating level (M.O.L.).

Table 3 - *Geomembrane* Liner Criteria for Impoundments

1. Liner Material	60 mil High Density Polyethlene (HDPE) or 60 mil Linear Low Density Polyethylene (LLDPE). The geomembrane shall be installed with *intimate contact* to the soil below[Note 1]	
2. Soils (Directly Below Liner)[Note 2] - % Fines - Plasticity Index (PI) - Thickness - Compaction of Placed Material	 ≥ 20% ≥ 7 ≥ 1.5 ft. WI Spec 202	 ≥ 20% — ≥ 3 ft. WI Spec 202
3. Separation Distances - Well Distance[Note 3] - Sinkholes - Saturation - Bedrock	 ≥ 250 ft. ≥ 400 ft. ≥ 3 ft. ≥ 3 ft.	 ≥ 250 ft. ≥ 400 ft. ≥ 4 ft. ≥ 3 ft.
4. Waste Characteristics	No limitations	
5. Embankment Requirements - Inside Slope	 2.5:1 or flatter.	
6. Other - Liner Protection Required - Gas release system	 1. If sand bedding is used 2. If facility bottom is to be mechanically cleaned 3. At all agitation and pumping locations[Note 4] Required if geomembrane is installed over an abandoned waste storage pond or over soils with high organic content.[Note 1]	

Note 1 Intimate contact does not exclude the use of gravel trenches for gas venting or monitoring systems.

Note 2 The liner is in intimate contact with the soil, and the two work together to reduce seepage losses.

Note 3 Community water system wells may require larger separation distances (see NR 812).

Note 4 Minimum dimension of 20 ft. x 20 ft. concrete pad or sump in bottom and 20 ft. wide ramp with 12 in. curb to top of facility with provisions for liner integrity. Concrete shall meet requirements of Table 5, Note 2.

Table 4 - *Geosynthetic Clay Liner (GCL)* Criteria for Impoundments

1a. Soils (Directly Below Liner)[Note 1] - % Fines - Plasticity Index (PI) - Thickness (from bottom and sides) - Compaction of placed material	 ≥ 20% ≥ 7 ≥ 1.5 ft. WI Spec 203	 ≥ 20% — ≥ 3 ft. WI Spec 203
1b. Liner Cover Material Thickness - Bottom - Side Slopes - Compaction of Placed Materials	 ≥ 1 ft. ≥ 2 ft. WI Spec 203	 ≥ 1 ft. ≥ 2 ft. WI Spec 203
2. Separation Distances - Well Distance[Note 2] - Sinkholes - Saturation - Bedrock	 ≥ 250 ft. ≥ 400 ft. ≥ 4 ft. ≥ 3 ft.	 ≥ 250 ft. ≥ 400 ft. ≥ 5 ft. ≥ 4 ft.
3. Waste Characteristics	No limitations	
4. Embankment Requirements - Inside Slope[Note 3]	 3:1 or flatter	
5. Other - Required Liner Protection - Scraping and Other Mechanical Means of Removing Solids and Sand - GCL Material[Note 5]	 1. If sand bedding is used 2. If facility bottom is to be mechanically cleaned 3. At all agitation and pumping locations[Note 4] Protect with hard surfacing designed for the expected conditions and loads, a minimum of 4 in. thick. Non-woven needle punched.	

Note 1 The liner is in intimate contact with the soil, and the two work together to reduce seepage losses.

Note 2 Community water system wells may require larger separation distances (see NR 812).

Note 3 The GCL and soil cover shall be stable at the designed side slope.

Note 4 Minimum dimension of 20 ft. x 20 ft. x 4 in. thick concrete pad or sump in bottom and 20 ft. wide ramp or a 16 ft. wide ramp with 12 in. high curb to top of facility. GCL continues under pad or sump.

Note 5 The liner shall be installed according to manufacturer's specifications and NRCS FOTG Section IV, Wisconsin Construction Specification 203, Geosynthetic Clay Liner.

Table 5 - Concrete Liner Criteria for Impoundments[Note 1]

	Concrete[Note 2]	Concrete - Soil Composite[Note 3]	
1. Soils (Directly Below Liner)[Note 3]			
- % Fines	—	≥ 20%	≥ 20%
- Plasticity Index (PI)	—	≥ 7	—
- Thickness (bottom and sides)	—	≥ 1.5 ft.	≥ 3 ft.
- Compaction of Placed Material	—	WI Spec 204	WI Spec 204
2. Separation Distances			
- Sinkholes	≥ 400 ft.	≥ 400 ft.	≥ 400 ft.
- Well Distance[Note 4]	≥ 100 ft.	≥ 100 ft.	≥ 100 ft.
- Saturation (1 ft. sep. for sump)	≥ 2 ft.	≥ 3 ft.	≥ 4 ft.
- Bedrock (1 ft. sep. for sump)	≥ 2 ft.	≥ 3 ft.	≥ 3 ft.
3. Waste Characteristics	No limitations		
4. Embankment Requirements - Side Slopes	In accordance with WI Spec 4		

Note 1 Slabs for uses other than liners such as protection, scraping, and access shall be a minimum of 4 inches thick with steel as required for anticipated loads and usage.

Note 2 The concrete liner thickness shall be a minimum of 5 in., contain distributed reinforcing steel, and all *contraction* or *expansion joints* shall have imbedded non-metallic waterstops in accordance with NRCS FOTG Section IV, Wisconsin Construction Specification 4, Concrete. The required size and spacing of reinforcing steel and spacing of liquid tight expansion or contraction joints shall be based on subgrade drag theory as discussed in industry guidelines such as American Concrete Institute, ACI 360, "Design of Slabs-on-Grade," or the WI Supplement to Chapter 10 of the NRCS AWMFH. Steel shall be continuous through all *construction joints.*

Note 3 The concrete is in intimate contact with the soil, and the two work together to reduce seepage losses. The concrete liner thickness shall be a minimum of 5 inches and continuous reinforcement of #3 steel bars spaced at 18 inches on center each way. No contraction or expansion joints are required. The concrete shall be placed in intimate contact with the foundation soils. If construction joints are required, steel shall be continuous through all construction joints and no waterstop is required. If the soil material below the floor meets Table 1 criteria, intimate contact is not required.

Note 4 Community water system wells may require larger separation distances (see NR 812).

2. Structure Design Criteria

The structure design shall include all items that will influence the performance of the structure, including loading assumptions, material properties, construction quality, waterstops, pipe penetrations, anchor plates, or other attachments to walls such as fence posts. Design assumptions and construction requirements shall be indicated on the construction plans. Waste storage structure separation criteria shall be as shown in Table 6. Any penetration of the structure shall be constructed to maintain the performance and integrity of the structure.

Table 6 - Waste Storage Structure Separation Distances

Well Distance[Note 1]	≥ 100 ft.
Sinkholes	
Storage floor above ground	≥ 200 ft.
Storage floor below ground	≥ 400 ft.
Saturation (1 ft. sep. for sump)	≥ 2 ft.
Bedrock (1 ft. sep. for sump)	≥ 2 ft.

Note 1 Community water system wells may require larger separation distances (see NR 812).

Tanks may be designed with or without covers. Covers, beams, or braces that are integral to structural performance shall be designed accordingly and indicated on the construction drawings. The openings in covered tanks shall be designed to accommodate equipment for loading, agitating, and emptying. These openings shall be equipped with grills or secure covers for safety, and for odor and vector control.

a. Fabricated Structures - Fabricated structures shall be designed according to the following criteria:

(1) Steel. "Manual of Steel Construction," American Institute of Steel Construction.

(2) Timber. "National Design Specifications for Wood Construction," American Forest and Paper Association.

(3) Concrete. "Building Code Requirements for Reinforced Concrete, ACI 318," American Concrete Institute. Concrete shall have a minimum compressive strength of 3500 psi.

b. Foundations - The foundations of fabricated waste storage structures shall be proportioned to safely support all superimposed loads without excessive movement or settlement.

Where a non-uniform foundation cannot be avoided or applied loads may create highly variable foundation loads, settlement shall be calculated from site specific soil test data. Index tests of site soil may allow correlation with similar soils for which test data is available. If no test data is available, presumptive bearing strength values for assessing actual bearing pressures may be obtained from Table 7 or another nationally recognized building code. In using presumptive bearing values, adequate detailing and articulation shall be provided to avoid distressing movements in the structure.

Table 7 - Presumptive Allowable Bearing Stress Values[Note 1]

Foundation Description	Allowable Stress
- Crystalline Bedrock	12,000 psf
- Sedimentary Rock	6,000 psf
- Sandy Gravel or Gravel	5,000 psf
- Sand, Silt Sand, Clayey Sand, Silty Gravel, Clayey Gravel	3,000 psf
- Clay, Sandy Clay, Silty Clay, Clayey Silt	2,000 psf

Note 1 Basic Building Code, 12th Edition, 1993, Building Officials and Code Administrators, Inc. (BOCA)

c. Structural Loading - Waste storage structures shall be designed to withstand all anticipated loads including internal and external loads, hydrostatic uplift pressure, concentrated surface and impact loads, water pressure due to seasonal high water table, frost or ice pressure, and load combinations in compliance with this standard and applicable local building codes.

The lateral earth pressures should be calculated from soil strength values determined from the results of appropriate soil tests. Lateral earth pressures can be calculated using the procedures in NRCS Technical Release - 74, Lateral Earth

Pressures. If soil strength tests are not available, the presumptive lateral earth pressure values indicated in Table 8 shall be used.

Lateral earth pressures based upon equivalent fluid assumptions shall be assigned according to the following conditions:

(1) Rigid frame or restrained wall. Use the values shown in Table 8 under the column "Frame Tanks," which gives pressures comparable to the at-rest condition.

(2) Flexible or yielding wall. Use the values shown in Table 8 under the column "Free Standing Wall," which gives pressures comparable to the active condition. Walls in this category are designed on the basis of gravity for stability or are designed as a cantilever having a base wall thickness to height of backfill ratio not more than 0.085.

Internal lateral pressure used for design shall be 65 psf.

If heavy equipment will be operated near the wall, an additional surcharge equivalent to two feet of soil shall be applied in the wall analysis.

Tank covers shall be designed to withstand both dead and live loads. The live load values for covers contained in ASAE EP378.3, Floor and Suspended Loads on Agricultural Structure Due to Use, and in ASAE EP393.2, Manure Storage, shall be the minimum used. The actual axle load for tank wagons having more than a 2,000 gallon capacity shall be used.

If the facility is to have a roof, snow and wind loads shall be as specified in ASCE SEI/ASCE 7-02, Minimum Design Loads for Buildings and Other Structures. If the facility is to serve as part of a foundation or support for a building, the total load shall be considered in the structural design. The minimum loading used for Wisconsin shall be: Wind load, basic velocity pressure = 16 psf and Snow load = 24 psf.

Table 8 - Lateral Earth Pressure Values[Note 1]

Soil		Equivalent Fluid Pressure (lbs./sq. ft./per ft. of depth)			
		Above Regional High Water Table		Below Regional High Water Table[Note 3]	
Description	Unified Classification[Note 2]	Free Standing Wall	Frame Tanks	Free Standing Wall	Frame Tanks
- Clean gravel, sand or sand-gravel mixtures (maximum 5% fines)[Note 4]	GP, GW, SP, SW	30	50	80	90
- Gravel, sand, silt and clay mixtures (< 50% fines) - Coarse sands with silt and/or clay (<50% fines)	All gravel/sand dual symbol classifications and GM, GC, SC, SM, SC-SM	35	60	80	100
- Low-plasticity silts and clays with some sand and/or gravel (≥ 50% fines - Fine sands with silt and/or clay (< 50% fines)	CL, ML, CL-ML, SC, SM, SC-SM	45	75	90	105
- Low to medium plasticity silts and clays with little sand and/or gravel (≥ 50% fines)	CL, ML, CL-ML	65	85	95	110
- High plasticity silts and clays (liquid limit more than 50)[Note 5]	CH, MH	–	–	–	–

Note 1 For lightly compacted soils (85% to 95% maximum standard density). Includes compaction by use of typical farm equipment.

Note 2 All definitions and procedures in accordance with ASTM D-2488 and D-653.

Note 3 Includes hydrostatic pressure.

Note 4 Generally, only washed materials are in this category.

Note 5 Not recommended. Requires special design if used, see the companion documents in Chapter 10 AWMFH.

d. Floors - Concrete floors shall be designed according to one of the following options.

(1) The concrete floor thickness shall be a minimum of 5 inches for uniform foundations, contain distributed reinforcing steel, and all contraction or expansion joints shall have imbedded non-metallic waterstops in accordance with NRCS FOTG Section IV, Wisconsin Construction Specification 4 - Concrete. The required area of reinforcing steel and spacing of liquid tight contraction or expansion joints shall be based on subgrade drag theory as discussed in industry guidelines such as American Concrete Institute, ACI 360, "Design of Slabs-on-Grade," or the WI Supplement to Chapter 10 of the NRCS AWMFH. The steel shall be continuous through all construction joints.

(2) If the soil material below the floor slab has 20% minimum fines and is at least 3 feet thick or has a minimum of 20% fines, is at least 1.5 feet thick, and has a PI of > 7, the reinforcing may be #3 bars spaced at 18 inches on center each way. No contraction or expansion joints are required. The concrete shall be placed in intimate contact with the foundation soil. The reinforcing steel shall be continuous through all construction joints. If the soil material below the floor

meets Table 1 criteria, intimate contact is not required. Drain tile and/or drain fill material shall be kept outside of the soil component of the composite liner. Refer to the companion documents contained in Chapter 10 of the AWMFH for further guidance.

e. Wall Joints - Waterstop joints for cast-in-place walls shall be located at the floor waterstop joint locations and shall be continuous with the floor waterstop. Waterstops shall be imbedded non-metallic in accordance with NRCS FOTG Section IV, Wisconsin Construction Specification 4, Concrete. Joints for pre-cast walls shall demonstrate evidence of equivalent performance to waterstop joints as determined by the NRCS State Conservation Engineer.

C. Specific Criteria For Temporary, Unconfined Stacks of Manure and Derivatives Outside the Animal Production Area

This includes solid type manure and derivatives that are deposited for subsequent loading and spreading. Waste material having less than 16% solids shall not be stacked in the field. Storage of these materials shall be in facilities meeting the criteria in section V.B.1 and 2. Criteria for unconfined waste stacks are shown in Table 9.

Table 9 – Temporary, Unconfined Stacks of Manure and Derivatives Outside the Animal Production Area

1. Waste Consistencies[Note 1]	> 32% Solids	16% to 32% Solids [2]
2. Size & Stacking Period		
- Stacking Period	8 months	8 months
- Maximum Volume/Stack	≤ 40,000 cu ft	≤ 15,000 cu ft
- Frequency of Stacking Site Use	1 year out of 2	1 year out of 3
- Conservation BMPs above and below site[Note 3]	Yes	Yes
3. *Hydrologic Soil Groups*	B or C	B or C
4. Subsurface Separation Distance		
- Saturation	≥ 3 ft.	≥ 3 ft.
- Bedrock	≥ 3 ft.	≥ 5 ft.
5. Surface Separation Distance		
- Wells[Note 4]	≥ 250 ft.	≥ 250 ft.
- Lakes	≥ 1,000 ft.	≥ 1,000 ft.
- Sinkholes, or other Karst Features	≥ 1,000 ft.	≥ 1,000 ft.
- Quarries	≥ 1,000 ft.	≥ 1,000 ft.
- Streams	≥ 300 ft.	≥ 500 ft.
- Wetlands and Surface Inlets	≥ 300 ft.	≥ 500 ft.
- Other Concentrated Flow	≥ 100 ft.	≥ 300 ft.
- Land Slope	≤ 6%	≤ 3%
- Floodplain	≥ 100 ft.	≥ 300 ft.

Note 1 Refer to AWMFH, Figure 9-1 for consistency values and Chapter 4 for % solids, for specific livestock types.

Note 2 16% to 32% solids represents waste at near saturation conditions where additions of free water from runoff, rain, or snowmelt can result in liquid flow conditions.

Note 3 Stacking sites shall employ conservation BMPs to divert overland flow, and provide buffering to downstream channels and lakes.

Note 4 Community water system wells may require larger separation distances (see NR 812).

VI. Considerations

Additional recommendations relating to design which may enhance the use of, or avoid problems with, this practice, but are not required to ensure its basic conservation function are as follows:

A. Consider using the companion documents located in Chapter 10 of the NRCS, Agriculture Waste Management Field Handbook (AWMFH).

B. Consider using the Waste Storage Design spreadsheet located in Chapter 10 of the NRCS AWMFH for design storage volume, liner thicknesses, and other calculations described in this standard.

C. Implementing erosion control methods on the top half of the inside slopes of earthen impoundments may reduce erosion.

D. Adding an emergency spillway, additional embankment height, or both may be needed to help protect the embankment, particularly for systems that store runoff. Factors such as downstream hazards and receiving waters should be evaluated in this consideration.

E. Non-polluted runoff should be excluded except where its storage is advantageous.

F. Separating solids from waste entering waste storage facilities may minimize the frequency of accumulated solid removal and benefit the pumping and application of the stored waste, however this may increase odors.

G. Consider outletting drainage systems to locations that will not directly enter surface water.

H. Adding or including steel reinforcement in slabs that will be scraped may prevent vertical displacement at crack locations.

I. Consider placing a permanent marker at the level one-foot below the top of the storage facility and a marker to designate the empty level. This consideration is particularly important for operations considering future herd expansion to WPDES permit size.

J. Monitoring and leakage collection systems should be considered for larger waste storage facilities, especially where the site assessment indicates the area is sensitive for groundwater impacts. This is particularly important for operations considering future expansion to WPDES permit size.

Components of a designed system may include secondary containment (soil or synthetic), leachate collection, leachate recirculation, monitoring sumps, and/or monitoring wells. See NR 141 for regulations concerning monitoring wells.

K. Composting should be done in accordance with guidance from books such as "On-Farm Composting Handbook," NRAES-54, or equivalent.

L. Avoid locating facilities in areas where negative impacts to water resources may occur, particularly near streams or in floodplains.

M. Consider incorporating the following practices into the waste management system to reduce emissions of greenhouse gases, ammonia, volatile organic compounds, and odor:

- National Handbook of Conservation Practices (NHCP), Standards 366, Anaerobic Digestion-Controlled Temperature; 367, Waste Storage Cover; and 317, Composting Facility,
- Siting of livestock housing or feedlots, manure storage, and land application,
- Biofilters,
- Feed ration additives and adjustments,
- Manure additives, disinfectants, or aeration,
- Incorporation of manure when land-applied,
- Moisture and dust control within livestock housing areas, and
- Dead animal disposal plans.

For additional information on odor abatement see: ASAE EP379.2 Feb. 2003 Control of Manure Odors.

N. The following should be considered either singly or in combination to minimize the potential of or the consequences of sudden breach of embankments:

- An auxiliary (emergency) spillway,
- Additional freeboard,
- Storage for wet-year rather than normal-year precipitation,
- Reinforced embankment, such as additional top width, flattened and/or armored downstream side slopes, and
- Secondary containment.

O. When designing impoundment embankments, consider using flatter slopes on the outside embankment slope. This would provide better

operation access and easier maintenance of the impoundment (i.e., pumping equipment access, mowing, and removal of woody vegetation.)

VII. References

USDA, NRCS, Agricultural Waste Management Field Handbook, Part 651, 1992.

USDA, NRCS Wisconsin Field Office Technical Guide (FOTG), Section IV, Practice Standards and Specifications.

Wisconsin Administrative Code, Department of Natural Resources, Chapters NR 141 and NR 812.

American Society of Testing Materials (ASTM) D-4318, D-5084, D-2488, and D-653.

American Concrete Institute (ACI) 318, 360, and 3630.

Manual of Steel Construction, American Institute of Steel Construction.

National Design Specifications for Wood Construction, American Forest and Paper Association.

Building Officials and Code Administrators, Inc. (BOCA), Basic Building Code, 12th Edition, 1993.

USDA, NRCS, Technical Release 74, Lateral Earth Pressures.

American Society of Agricultural Engineers (ASAE), EP378.3, EP393.2, and EP379.2.

American Society of Civil Engineers (ASCE), Minimum Design Loads for Buildings and Other Structures, SEI/ASCE 7-02.

Northeast Regional Agricultural Engineering Service, NRAES-54, On-Farm Composting Handbook, June 1992.

USDA, NRCS, National Handbook of Conservation Practices.

VIII. Definitions

% Fines (Table 1) – Percentage of given sample of soil which passes through a #200 sieve.

Animal Production Area (III) – Means any part of the livestock operation that is used for the feeding and housing of livestock. This includes the entire animal confinement and feeding area, and any adjacent manure storage areas, raw materials storage areas, and waste containment areas. This does not include pasture and cropland.

Bedrock (V.A.2.b.(1)) – Consolidated rock material and weathered in-place material with > 50%, by volume, larger than 2 mm in size.

Confined Lenses and Perched Water (V.A.10.a.(2)) – Confined lenses are water bearing deposits of stratified lacustrine material or material laid down by glaciers between deposits of less permeable till. Perched water is saturation found above and separated from the regional high water table.

Construction Joint (Table 5, Note 2) – These joints are used where a fresh pour of concrete abuts an existing recent pour. Construction joints where the steel is continuous through the joint are considered to be monolithic and liquid tight, if constructed properly.

Contaminated Runoff (II) – Runoff that has come through or across a barnyard or animal lot or feed storage area. It generally includes the runoff and any manure, sediment, feed, or other material carried in the runoff. It contains lower concentrations of contaminants than leachate from feed or manure.

Contraction Joints (Table 5, Note 2) – Contraction joints, often called control joints, are used to control the location of cracks caused by concrete shrinkage during setting and thermal changes.

Drainage System (V.A.10.a.(2)) – Water conveyance measures of specified capacity, location, and material that insure the removal of water to a free outlet.

Effective Height (III) – Height from the settled top of the embankment to the lowest point of the existing ground surface, measured at the centerline.

Expansion Joints – (Table 5, Note 2) – These joints are used to prevent crushing of abutting concrete or other structural units due to compressive forces developed during expansion caused by high temperature.

Footprint (V.A.2.b.(2)) – This is the area defined by the outside edge of the top surface of the waste when the facility is completely full. This is the top edge of the waste in a pond or the inside wall surface of a vertical walled structure.

Flood Prone Areas (V.A.3) – These include areas delineated as floodplains on Federal Emergency Management Agency (FEMA) maps, or local floodplain maps as well as areas along perennial streams (blue lines) shown on the United States

Geologic Survey quadrangle sheets that may be subject to out of bank flows.

Geosynthetic Clay Liner, GCL (Table 4) – A manufactured hydraulic barrier consisting of clay bonded to a layer or layers of geosynthetic materials.

Geomembrane (Table 3) – Very low permeability synthetic membrane liner or barrier used with any geotechnical engineering related material so as to control fluid migration in a man-made project, structure or system. (ASTM D 4439)

Hydrologic Soil Groups (Table 9) – Hydrologic Groups (HSG) are assigned for all soils mapped by USDA soil scientists. The hydrologic soil group, designated A, B, C, or D, indicates, in general, the amount of runoff to be expected from the soil after prolonged wetting. Soils in Group A yield very little runoff because they are rapidly permeable. Soils in Hydrologic Group D take water very slowly and yield large amounts of runoff. See Section II of the NRCS Wisconsin Field Office Technical Guide for HSG designations.

Impoundment (I) – A waste storage facility constructed of earthen embankments and/or excavations for the purpose of storing waste. An impoundment may be lined or unlined.

In-Place Earth (Table 1) – The entire surface of the bottom of the impoundment is excavated a minimum depth of one foot into the native soil.

Intimate Contact (Table 3) – Direct contact between liner materials (concrete, GCL, and geomembrane) and soil.

Karst (V.A.2.c.) – Refers to areas of land underlain by carbonate bedrock (limestone or dolomite). Typical land features in karst areas include sinkholes, disappearing streams, closed depressions, blind valleys, caves, and springs. See the companion document in Chapter 10 of the AWMFH for additional discussion of karst features.

Leachate (II) – Concentrated liquid waste which has percolated through or drained by gravity from a pile of manure, manure processing derivative, or animal feed. It contains much higher concentrations of contaminants than Contaminated Runoff.

Manure Processing Derivatives (II) – The by-products and waste components that are produced as a result of treatment and processing practices. These include, but are not limited to, the following waste components: separated sand, separated manure solids, precipitated manure sludges, supernatants, digested liquids, composted biosolids, process waters.

Nutrient Management Plans (III) – A planning document that outlines the requirements for managing the amount, form, placement, and timing of applications of plant nutrients to cropland.

Permeability (Table 2) – The coefficient of permeability (K) is a measure of the ability of soil to transmit liquids. It is used to compute the flow rate of liquid through a soil liner for specific conditions of soil thickness and fluid head.

Plasticity Index, PI (Table 1) – A soil property indicating moldability. Measured by ASTM D-4318.

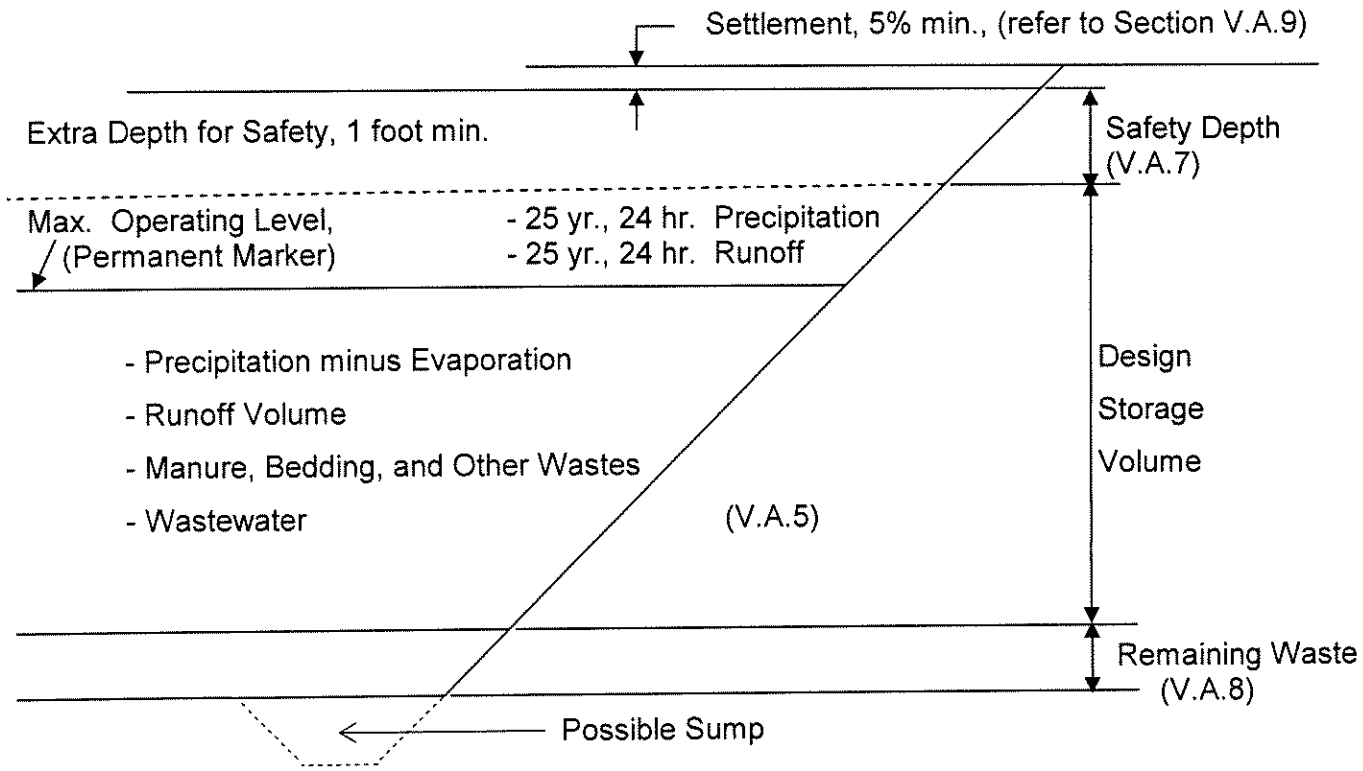
Regional High Water Table (V.A.10.a(1)) – The seasonal high free water surface of a large body of groundwater covering a region. All soil below the regional water table is saturated. Soil mottling (redoximorphic features) is not necessarily an indicator of the regional high water table, but is an indication of soil saturation.

Sinkholes (V.A.2.c) – Closed, usually circular depressions which form in karst areas. Sinkholes are formed by the downward migration of unconsolidated deposits into solutionally enlarged openings in the top of bedrock.

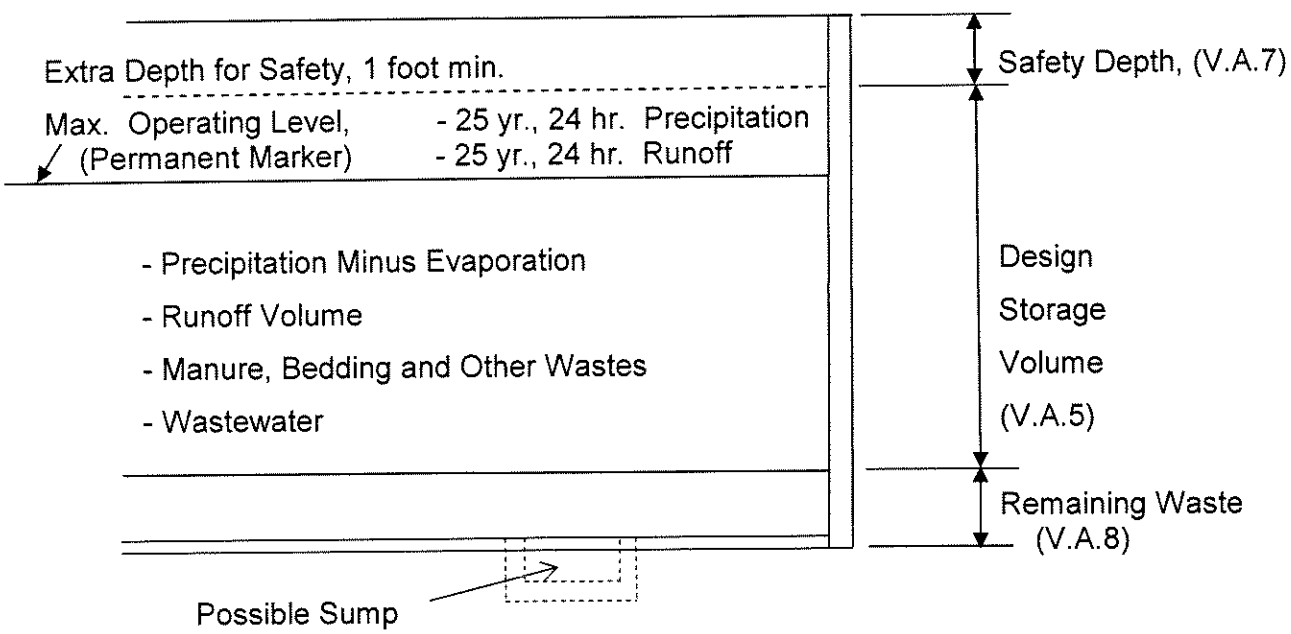
Structure (I) – A waste storage facility consisting of constructed surfaces, tanks, or walls for the purpose of storing waste above or below the ground surface. Structures may be constructed of concrete, steel, wood or other construction materials.

Wastewater (II) – Milking center waste, flush water, leachate from feed holding areas, and similar waste materials generated at the animal production area.

Figure 1 Design Storage Volume



IMPOUNDMENT



STRUCTURE

MANURE TRANSFER

(No.)
Code 634

Natural Resources Conservation Service
Conservation Practice Standard

I. Definition

A manure conveyance system using structures, conduits, or equipment.

II. Purposes

To transfer animal manure (bedding material, spilled feed, process and wash water, *wastewater*[1], *contaminated runoff, leachate* and other fluids and residues associated with animal production may be included) in a manner which safeguards the environment. It includes transfer through a hopper, reception structure or tank, a pump, *channel,* or conduit to:

- A manure storage/treatment facility,
- A wastewater treatment strip,
- A loading area,
- Cropland or satellite storage facilities using permanent conduits or pipelines.

III. Conditions Where Practice Applies

The manure transfer component is part of a planned agricultural waste management or comprehensive nutrient management system.

This standard applies where manure and other waste is generated by livestock production or processing, and a conveyance system is necessary to transfer material from the source to a storage facility, treatment facility, loading area, cropland, or satellite storage facilities using permanent conduits or pipelines.

This standard does not apply to conveyance systems using equipment or mechanisms such as barn cleaners, alley scrapers, or belts for moving manure in the housing facility to the manure transfer system (reception structure, pump, channel, or conduit).

This standard does not apply to transfer by vehicles or temporary surface pipelines from the storage facility, treatment facility, or loading area to the field or another storage facility.

IV. Federal, State and Local Laws

Users of this standard should be aware of potentially applicable federal, state and local laws, rules or regulations or permit requirements governing manure transfer. This standard does not contain the text of the federal, state or local laws.

V. Criteria

The following **minimum** criteria shall apply to all transfer designs.

A. General Criteria

1. Management Assessment

A management assessment shall be conducted, documented, and incorporated into the design. The assessment shall be performed with the owner/operator to explore options and to determine the purpose of transfer components, available resources, manure handling practices, and waste characterizations. Pertinent items in the Management Assessment criteria in V. A. 1. of Wisconsin NRCS Field Office Technical Guide (FOTG) Section IV, Standard 313, Waste Storage Facility, shall be followed.

2. Site Assessment

A site assessment shall be conducted, documented, and incorporated into the design. The assessment shall be performed to determine physical site characteristics that will influence the placement, construction, maintenance, and environmental integrity of a proposed manure transfer system. Pertinent items in the Site Assessment criteria in V. A. 2. of NRCS FOTG Section IV, Standard 313, Waste Storage Facility, shall be followed.

The minimum number of test pits for reception structures or tanks shall be one per tank length of 40 feet or less and one more for each additional 80 feet of tank. Test pits used to meet this criteria shall be located no more than 100 feet from the *footprint.*

3. Structures

All structures shall be designed to withstand the anticipated static and dynamic loading.

[1] Words in the standard that are shown in italics are described in IX. Definitions. The words are italicized the first time they are used in the text.

Structures shall be designed to withstand earth and hydrostatic loading in accordance with NRCS FOTG Section IV, Standard 313, Waste Storage Facility. Covers, when needed, shall be designed to support the anticipated dead and live loads.

4. Safety

The system design shall identify and minimize the hazards to animals and people during construction and operation. At a minimum, safety design shall include the following.

a. Open structures shall be provided with covers or barriers such as gates, fences, etc., to restrict access of animals or people. Include warning signs as necessary.

b. Barriers shall be placed on push-off ramps to prevent tractors or other equipment from slipping into reception structures or tanks.

c. Ventilation and warning signs shall be provided for manure transfer systems as necessary to warn of the danger of entry and to reduce the risk of explosion, poisoning, or asphyxiation.

d. Pipelines from enclosed buildings shall be provided with a water-sealed trap and vent or similar devices where necessary to control gas entry into buildings.

e. A minimum of one in-line manual valve in the transfer pipe where the *maximum operating level* of the storage facility is higher than the top of the transfer structure.

5. Operation and Maintenance

An operation and maintenance plan shall be developed that is consistent with the purpose of this practice, intended life of the components, safety requirements, criteria for design, and the Operation and Maintenance plan in NRCS FOTG Section IV, Standard 313, Waste Storage Facility.

B. Specific Criteria

1. Reception Structures or Tanks, Pumps, and Channels

Reception structures or tanks, pumps, and channels shall meet the following criteria.

a. They shall be liquid tight.

b. They shall meet the separation distance criteria in Table 1 of this standard.

c. Concrete reception structures or tanks, and channels shall be designed according to the structural and soil criteria in NRCS FOTG Section IV, Standard 313, Waste Storage Facility.

d. The following are requirements for using prefabricated tanks for transfer of process and wash water, wastewater, contaminated runoff and leachate. These prefabricated tanks shall not be used to transfer wastes that are predominately manure.

(1) The tank shall be currently listed on the Wisconsin Department of Commerce Plumbing Product Approvals or Alternate Product Approvals List.

(2) The tank shall comply with all stipulations listed in the Wisconsin Department of Commerce approval that relate to liquid tightness and/or structural strength.

(3) The tank shall be located a minimum of 15 feet from established or planned roadways.

e. Lateral seepage from *confined lenses and perched water* shall be controlled as needed for the structural integrity of reception structures or tanks and channels.

f. Excavation of *bedrock* is permitted.

g. Pumps shall be sized to transfer manure at the required system head and flow rate. The type of pump shall be based on the consistency of the manure and the type of bedding used. Requirements for pump installations shall be based on manufacturer's recommendations.

h. Channels going through in-place soils or through liners, such as clay, concrete, polyethylene, or geosynthetic clay, shall be installed so that the performance and integrity of the in-place soil or the liner is maintained.

Table 1 - Separation Distances for Reception Structures or Tanks, Pumps, and Channels[Note 1]

Transfer Components	Floor Surface or Bottom of Pump Relative to Bedrock	Floor Surface or Bottom of Pump Relative to *Regional Water Table* (RWT)	Well Separation Distance[Note 2]
Piston Pumps			
Pumps encased in concrete	≥ 6 inches (bottom of pump)	Bottom of pump maximum depth into RWT shall be 2 feet	≥ 50 feet
Pumps housed in tank	≥ 1 foot (floor of tank)	Floor may be at the level of the RWT	≥ 50 feet
Reception Structures or Tanks			
Small Pits where the footprint is ≤ 100 square feet	≥ 1 foot	Floor may be at the level of the RWT	≥ 50 feet
Large Reception Structures or Tanks	≥ 2 feet	≥ 2 feet (≥1 foot for sumps)	≥ 100 feet
Channels			
(≥ 2 foot depth)	≥ 2 feet	≥ 2 feet (≥1 foot for sumps)	≥ 100 feet

Note 1 The separation is determined to be the closest distance from any point on the inside surface (bottom and sides) of the pumps, reception structures, channels and tanks to the feature from which separation is required.

Note 2 Well separation distances are in accordance with NR 812, Well Construction and Pump Installation.

2. Transfer Pipe

Transfer pipes to waste storage/treatment facility shall meet the following criteria:

a. Joints shall be liquid tight. Pipes shall be bedded according to NRCS Wisconsin Construction Specification 15, Plastic Pipe Conduits, and backfilled according to NRCS Wisconsin Construction Specification 204, Earthfill for Waste Storage Facilities.

b. Pipes shall meet the criteria in Table 2. Pipes of equivalent strength, durability, and liquid tightness are acceptable. All joints and couplings shall be liquid tight in accordance with the manufacturer's specifications. Standard manufactured pieces shall be used for angles needed to make direction changes. Concrete thrust blocks shall be at least 0.5 cubic yard and installed at all angles for pumped systems. The pipe selection shall be compatible with the pump characteristics.

c. Pipes going through in-place soils or through liners such as clay, concrete, polyethylene, or geosynthetic clay shall be installed so that the performance and integrity of the in-place soil or the liner is maintained.

d. Pipes shall be at least 6 inches above bedrock. Excavation of bedrock is acceptable. There is no separation required from the *regional water table.*

e. Pipes shall be protected from frost with a minimum of 4 feet of soil cover or an equivalent amount of soil and insulation. This criteria does not apply to pipes that are empty following transfer.

3. Pipelines

Pipelines to cropland or satellite storage facilities shall meet the following criteria.

a. Design of pipelines shall be in accordance with sound engineering principles considering the load on the pipe, exposure, required capacity etc.

b. Pipelines used for transferring waste to an irrigation system, either spray or injection, or to another waste storage facility shall meet the requirements of National Handbook of Conservation Practices (NHCP), Standard 430DD, Irrigation Water Conveyance, High Pressure, Underground, Plastic Pipeline. Other pipe materials and design procedures may be used if designed and sealed by a Professional Engineer registered in Wisconsin.

c. All pipelines shall be designed based on the type of material and total solids content and shall convey the required flow without plugging. Flow velocities shall be sufficient to minimize settling of solids in the pipeline.

d. Pipelines shall be installed with appropriate connection devices to prevent contamination of private or public water supply distribution systems and ground water.

4. Gravity Transfer

This applies to systems using pipes or channels to carry manure between reception structures or tanks and storage facilities, treatment facilities, or loading areas. Gravity transfer pipes and structures shall meet the following criteria.

a. There shall be no gravity outlets from the waste storage facility.

b. *Reception structures or tanks with a gravity pipe outlet* shall follow all previous reception structure criteria (V.B.1.a-h) plus the following additional criteria.

(1) Reception structures built with pre-manufactured manholes or pipes on end shall follow the criteria in Table 2.

(2) The top elevation and volume of the reception structure or tank shall meet the following criteria.

- Slower Flowing Manure. For manure which tends to be slower flowing due to bedding, feed, or dryness (typically stanchion barns), the maximum operating level of the waste storage facility (see criteria in V.A.5 of NRCS FOTG Section IV, Standard 313, Waste Storage Facility) shall be a minimum of four feet below the bottom of the barn cleaner, scrape alley, etc. The volume of the reception structure or tank between the maximum operating level and the barn cleaner or scrape alley must be at least one-half of the daily manure production.

- Faster Flowing Manure. For manure which tends to be faster flowing due to lack of bedding or additional liquids (typically free stall barns, veal or hog facilities), the maximum operating level shall be a minimum of two feet below the scrape alley, barn cleaner, channel, etc., plus an additional height equal to 1% of the transfer pipe length. There is no minimum volume for the reception structure or tank with this type of manure.

c. Gravity transfer pipes shall follow all previous transfer pipe criteria (V.B.2.a-e) plus the following additional criteria.

(1) The pipe length shall be a maximum of 150 feet for slower flowing manure and a maximum of 400 feet for faster flowing manure.

(2) The pipe diameter shall be a minimum of 24 inches for slower flowing manure.

(3) For pipes carrying slower flowing manure or for reception structures using knife valves, a vent pipe (4-inch diameter minimum) shall be installed within 4 feet of the reception structure.

Table 2 - Transfer Pipes

Material	Materials Components and ASTM Specifications[Note 1]	Well Separation Distance[Note 2]
Pipes Carrying Pumped Manure		
Piston Pumps		
PVC	D-3034 (SDR 35), F-789, F-679	≥ 50 feet
	D-2241 (SDR 26) or D-1785 (Sch. 40)	≥ 25 feet
Chopper Pumps		
PVC	D-2241 (SDR 21) or D-1785 (Sch. 80)	> 25 feet
Pipes Carrying Gravity Flow Manure		
PVC	F-679, F-794, D-3034 (SDR 35), F-789, D-2241(SDR 32.5), or D-1785 (Sch. 40 or 80)	≥ 25 feet
PE	F-667 (smooth inside wall, 10.8 psi joints)	≥ 25 feet
Concrete	C-76, C-789, C-478	≥ 25 feet

Note 1 Pipes listed in NR 812 - Well Construction and Pump Installation are deemed equivalent.
Note 2 Based on NR 812 - Well Construction and Pump Installation.

VI. Considerations

Additional recommendations relating to design which may enhance the use of, or avoid problems with, this practice but are not required to ensure its basic conservation function are as follows:

A. Use appropriate check valves, anti-siphon protection, and open air breaks.

B. Operation and maintenance of gravity pipes carrying faster flowing manure may be enhanced by using venting and clean-out access pipes.

C. Flow through the transfer pipe of a gravity system may be enhanced by using knife valves at the outlet of the reception structure.

D. Flow characteristics may be enhanced by adding dilute waste water to gravity flow systems that do not contain sand bedding.

E. Addition of very liquid wastewater to manure containing sand bedding enhances sand settling. Add water when sand settling is desired.

F. A wet sump may be useful for gravity reception structures.

G. Gravity pipes should be as straight as possible. Risers, such as pre-manufactured manholes, can be used to change direction.

H. Consider restraining the last section of concrete pipes used for gravity transfer.

I. Evaluate the need for frost protection to reduce plugging in transfer gutters and channels.

VII. Plans and Specifications

Plans and specifications for installing manure transfer systems shall be in accordance with this standard and shall describe the requirements for applying the practice to achieve its intended purpose. An inspection plan is required. The plans and specifications must be compatible with and can often be combined with the plans and specifications for the waste storage facility.

VIII. References

USDA, NRCS, Agricultural Waste Management Field Handbook, Part 651, 1992.

Wisconsin Administrative Code, Department of Natural Resources, Chapter NR 812.

USDA, NRCS, National Handbook of Conservation Practices.

USDA, NRCS Wisconsin Field Office Technical Guide (FOTG), Section IV, Practice Standards and Specifications.

IX. Definitions

Bedrock (V.B.1.f) - Consolidated rock material and weathered in-place material with > 50%, by volume, larger than 2 mm in size.

Channel (II) - Structures used to convey manure to reception structures, tanks, or waste storage facilities. They generally are made from concrete and range up to 12 feet wide and from 2 feet to 12 feet deep.

Confined Lenses and Perched Water (V.B.1.e) - Water bearing deposits of stratified lacustrine material or material laid down by glaciers between deposits of less permeable till. Perched water is saturation found above and separated from the regional high water table.

Contaminated Runoff (II) – Runoff that has come through or across a barnyard or animal lot or feed storage area. It generally includes the runoff and any manure, sediment, feed, or other material carried in the runoff. It contains lower concentrations of contaminants than leachate from feed or manure.

Footprint (V.A.2) - This is the area defined by the outside edge of the top surface of the waste when the facility is completely full. This is the top edge of the outside edge of the waste in a reception structure or tank.

Leachate (II) - Concentrated liquid waste which has percolated through or drained by gravity from a pile of manure, manure processing derivative, or animal feed. It contains much higher concentrations of contaminants than contaminated runoff.

Maximum Operating Level (V.A.4.e) - The maximum operating level for waste storage facilities shall be the storage level that provides for the design storage volume as shown in section V.A.5. of FOTG Standard 313 less the volume of precipitation and runoff from the 25-year, 24-hour storm event. See Figure 1 in NRCS FOTG Section IV, Standard 313, Waste Storage Facility. The maximum operating level does not include the Extra Depth for Safety; see FOTG Standard 313 section V.A.7.

Reception structures or tanks with a gravity pipe outlet (V.B.4.b.) - Any manure containment structure having a gravity pipe outlet to the waste storage facility.

Regional Water Table (V.B.2.d) - The seasonal high, free water surface of a large body of groundwater covering a region. All soil below the regional water table is saturated. Soil mottling (redoximorphic features) is not necessarily an indicator of the regional high water table, but is an indication of soil saturation.

Wastewater (II) - Milking center waste, flush water, leachate from feed holding areas, and similar waste materials.

CLOSURE OF WASTE IMPOUNDMENTS

(No.)
Code 360

Natural Resources Conservation Service
Conservation Practice Standard

I. Definition

The closure of waste impoundments, that are no longer used for their intended purpose, in an environmentally safe manner.

II. Purpose

This practice may be applied as part of a conservation management system to support one or more of the following purposes.

- To protect the quality of surface water and groundwater resources.
- To eliminate a safety hazard for humans and livestock.
- To safeguard the public health.

III. Conditions Where Practice Applies

This practice applies to agricultural waste impoundments that are no longer needed as a part of a waste management system and are to be permanently closed or converted.

Where these impoundments are to be converted to fresh water storage and the original impoundment was not constructed to NRCS standards, this practice will only apply where an investigation and evaluation shows structural integrity.

IV. Federal, State, and Local Laws

The closure of waste impoundments shall comply with all federal, state, and local laws, rules or regulations. The operator is responsible for securing required permits. This standard does not contain the text of the federal, state, or local laws governing closure of waste impoundments.

V. Criteria

A. Waste impoundment closure will require a site-specific design and inspection during closure. Additional procedures may be required for remediation. A local permit may be required for the closure operation. The minimum procedure for closure shall include:

1. Removal and proper disposal of accumulated wastes in the facility in accordance with NRCS, Field Office Technical Guide (FOTG), Section IV, Standard 590, Nutrient Management.

2. Soil that is mixed with waste shall be removed and uniformly spread on cropland.

3. An additional 6 inches to 24 inches of soil shall be removed from the sides and bottom of the facility. The amount of soil to be removed shall be determined by the color and consistency indicating permeation or saturation of waste in the soil. Removed soil shall be uniformly spread on cropland.

4. Concrete or synthetic liners may be buried in the existing facility if all listed requirements are met.

   a. Liner is broken up or holes are made to allow movement of water through the profile after the facility is closed.

   b. Soil borings are made below the liner to check for soil mixed with waste. If soil mixed with waste is present, the liner must be pulled back to allow for the removal of the soil as stated in 3 above.

   The liner material may then be buried in the closed facility. If the liner is removed from the closed site, it must be properly disposed of according to Wisconsin Department of Natural Resources (WDNR) regulations.

5. The transfer system shall be removed or permanently plugged.

6. The site shall be filled with clean mineral soil meeting the quality of materials contained in Wisconsin Construction Specification 3, Earthfill, and shaped to insure surface drainage away from the site after settlement. Brick, building stone, concrete, reinforced concrete, broken pavement, and unpainted or untreated wood may be used in the fill pursuant to Chapter NR 500.08 (Wisconsin Administrative Code); however, the upper 3 feet of the fill shall be clean mineral soil as defined previously. Backfill height shall exceed the planned finished grade by a minimum of 5 percent to allow for settlement.

7. Concrete floors for above-ground facilities may be left in place if water is not impounded on the floor surface and the conditions listed in paragraph V.A.4.b. are satisfied.

B. **Conversion.** The waste storage impoundment may be converted to other uses if applicable groundwater standards are met. The converted impoundment shall meet the requirements as set forth in the NRCS , FOTG, Section IV, practice standard for the intended purpose.

Safety. Precautions (fencing and warning signs) shall be used to ensure that the pond is not used for incompatible purposes such as swimming and livestock watering until water quality is adequate for these purposes.

C. **Protection.**

1. All disturbed areas not returned to crop production shall be seeded and mulched in accordance with NRCS, FOTG, Section IV, Standard 342, Critical Area Planting, or other suitable measures used to control erosion and restore the esthetic value of the site.

2. Measures shall be taken during construction to minimize site erosion and pollution of downstream water resources. This may include such items as silt fences, hay bale barriers, temporary vegetation, and mulching.

VI. Considerations

Additional recommendations relating to design which may enhance the use of or avoid problems with this practice, but are not required to ensure its basic conservation function, are as follows.

1. Reduce pumping effort to empty waste impoundments where the surface is covered by a dense mat of floating vegetation by first breaking up this surface crust.

2. Minimize the impact of odors associated with emptying and land-applying wastewater and sludge from a waste impoundment by using an incorporation application method at a time when the humidity is low, when winds are calm, and when wind direction is away from populated areas.

VII. Plans and Specifications

Plans and specifications shall be prepared in accordance with the criteria of this standard and shall describe the requirements for applying the practice to achieve its intended use. A construction plan and inspection plan are required.

VIII. Operation and Maintenance

The proper closure of a waste impoundment should require little or no operation and maintenance; however, if it is converted to another use, such as a fresh water pond, operation and maintenance shall be in accordance with the needs as set forth in the NRCS conservation practice standard for the intended purpose.

IX. References

United States Department of Agriculture, Natural Resources Conservation Service, Agriculture Waste Management Field Handbook, Part 651, 1992.

United States Department of Agriculture, Natural Resources Conservation Service, Wisconsin Field Office Technical Guide, Section IV.

Wisconsin Administrative Code, Chapter NR 500, General Solid Waste Management Requirements.

ATCP 51.20 Runoff management. (1) NEW OR SUBSTANTIALLY ALTERED ANIMAL LOTS. New or substantially altered animal lots shall comply with *NRCS technical guide wastewater treatment strip standard 635 (January, 2002).*

(2) EXISTING ANIMAL LOTS. (a) The predicted average annual phosphorus runoff from each existing animal lot to the end of the runoff treatment area, as determined by the *BARNY* model, shall be less than the following applicable amount:

1. Fifteen pounds if no part of the animal lot is located within 1,000 feet of a navigable lake or 300 feet of a navigable stream.

2. Five pounds if any part of the animal lot is located within 1,000 feet of a navigable lake or 300 feet of a navigable stream.

Note: The *BARNY* model is a computer model that predicts nutrient runoff from animal lots. Copies of the *BARNY* model are on file with the department and the legislative reference bureau. An Excel spreadsheet version may be obtained from the NRCS Wisconsin website (engineering directory).

(b) Runoff from an animal lot may not discharge to any direct conduit to groundwater.

Note: See ss. NR 151.08 (4) and ATCP 50.04 (1). A direct conduit to groundwater may include, for example, a sinkhole.

(3) FEED STORAGE. (a) Feed storage shall be managed to prevent any significant discharge of leachate or polluted runoff from stored feed to waters of the state.

(b) If an existing paved area may be used, without substantial alteration, to store or handle feed with a 70% or higher moisture content:

1. Surface water runoff shall be diverted from entering the paved area.

2. Surface discharge of leachate from stored feed shall be collected before it leaves the paved area, if the paved area covers more than one acre. Collected leachate shall be stored and disposed of in a manner that prevents discharge to waters of the state.

Note: Feed leachate is a potentially serious water pollutant. Paved areas include paved feed storage bunkers and handling areas. Collected leachate may, for example, be transferred to waste storage and applied to land at agronomic rates.

(c) A new or substantially altered feed storage structure, including any building, bunker, silo or paved area used for feed storage or handling, shall be designed, constructed and maintained to the following standards if it may used to store or handle feed with a 70% or higher moisture content:

1. Surface water runoff shall be diverted from entering the feed storage structure.

2. Surface discharge of leachate shall be collected before it leaves the feed storage structure.

3. The top of the feed storage structure floor shall be at least 3 vertical feet from groundwater and bedrock.

4. If the feed storage structure covers more than 10,000 square feet, it shall have an effective subsurface system to collect leachate that may leak through the structure floor. The system shall consist of drainfill material, a tile drainage network, and an effective sub−liner as specified in *Appendix A, worksheet 5, section II.C.*

5. Collected leachate shall be stored and disposed of in a manner that prevents discharge to surface water or groundwater.

Note: Collected leachate may, for example, be transferred to waste storage and applied to land at agronomic rates.

(4) CLEAN WATER DIVERSION. Runoff from a livestock facility shall be diverted from contact with animal lots, waste storage facilities, paved feed storage areas and manure piles within 1,000 feet of a navigable lake or 300 feet of a navigable stream.

Note: See ss. NR 151.06 and ATCP 50.04 (1). Runoff may be diverted by means of earthen diversions, curbs, gutters, waterways, drains or other practices, as appropriate.

(5) OVERFLOW OF WASTE STORAGE FACILITIES. A livestock facility shall be designed, constructed and maintained to prevent overflow of waste storage facilities.

Note: Under s. ATCP 51.18 (5), waste storage capacity must be adequate to meet reasonably foreseeable storage needs, based on the operator's waste and nutrient management strategy under s. ATCP 51.16. See also ss. NR 151.08 (2) and ATCP 50.04 (1).

(6) UNCONFINED MANURE PILES. A livestock facility may not have any unconfined manure piles within 1,000 feet of a navigable lake or 300 feet of a navigable stream.

Note: See ss. NR 151.08 (3) and ATCP 50.04 (1).

(7) LIVESTOCK ACCESS TO SURFACE WATERS OF THE STATE. A livestock facility shall be designed, constructed and maintained to prevent unrestricted livestock access to surface waters of the state, if that access will prevent adequate vegetative cover on banks adjoining the water. This subsection does not prohibit a properly designed, installed and maintained livestock crossing or machinery crossing.

Note: See ss. NR 151.08 (5) and ATCP 50.04 (1).

(8) PRESUMPTION. For purposes of local approval, a livestock facility is presumed to comply with this section if the application for local approval complies with s. ATCP 51.30.

Note: Under s. ATCP 51.30, an application must be complete, credible and internally consistent. An applicant must submit a *runoff management* worksheet signed by the applicant and a registered professional engineer or certified agricultural engineering practitioner (*see Appendix A, worksheet 5)*. The *worksheet* shows presumptive compliance with this section. Local approval is conditioned upon compliance in fact (*see* sub. (9) and s. ATCP 51.34 (4)). The presumption of compliance may be rebutted by clear and convincing evidence in the record (*see* ss. ATCP 51.34 and 51.36).

(9) DEVIATION FROM DESIGN SPECIFICATIONS. Local approval of a livestock facility does not authorize an operator to populate that approved livestock facility if the construction or alteration of an animal lot or feed storage structure deviates materially, and without express authorization from the political subdivision, from design specifications included in the application for local approval. **Note:** A political subdivision

may inspect animal lots or feed storage structures to verify that they are constructed according to specifications included in the application for local approval. This section *does not require or prohibit* local inspection. A deviation under sub. (9) does not invalidate a local approval, but does prevent the livestock operator from populating the approved livestock facility until the deviation is rectified or approved.

(10) EXEMPTION. This section does not apply if all of the following apply:

(a) The operator holds a WPDES permit for the same proposed livestock facility, and that permit is based on housing for a number of animal units that is equal to or greater than the number for which the operator seeks local approval.

(b) The operator includes a copy of the WPDES permit with the operator's application for local approval.

History: CR 05−014: cr. Register April 2006 No. 604, eff. 5−1−06.

Unofficial Text (See Printed Volume). Current through date and Register shown on Title Page.

Arm−lwr− 11/04 January 2006

Wisconsin Department of Agriculture, Trade and Consumer Protection
2811 Agriculture Drive, PO Box 8911, Madison WI 53708−8911
Phone: (608) 224−4622 or (608) 224−4500

Worksheet 5 − Runoff Management

Instructions: This worksheet must be signed by a registered professional engineer or *certified agricultural engineering practitioner* (you must also sign). Signers attest to statements in this worksheet. You are responsible for compliance.

You are NOT required to complete this worksheet if you already hold a *WPDES permit* for the proposed *livestock facility* (for the same or greater number of *animal units*). Simply check the following box, sign at the bottom of this page, and include a copy of the *WPDES permit* with your application.

☐ I enclose a copy of my *WPDES permit* in place of Worksheet 5.

***Animal Lots*[1]**

1. *New* or *Substantially Altered Animal Lots*: All *new* or *substantially altered animal lots* will be constructed according to the attached design specifications that comply with *NRCS* Technical Guide Standard 635 (January, 2002). [Identify *animal lots* and attach design specifications for each *animal lot*.]

2. Existing *Animal Lots* Near Surface Waters: The following *animal lots* are located within 300 feet of a stream[2] or 1,000 feet of a lake. According to the *BARNY runoff model*, each of these *animal lots* has (or with minor alterations[3] will have) predicted average annual phosphorus runoff of less than 5 lbs. per year (measured at the end of the treatment area). Runoff does not discharge to any direct conduit to groundwater. [Identify *animal lots* and minor alterations if any.]

3. Other Existing *Animal Lots*: The following *animal lots* are NOT located within 300 feet of a stream[2] or 1,000 feet of a lake. According to the *BARNY runoff model*, each *animal lot* has (or with minor alterations[3] will have), a treatment area that reduces phosphorus runoff to an average of less than 15 lbs. per year (measured at the end of the treatment area). Runoff does not discharge to any direct conduit to groundwater. [Identify *animal lots* and minor alterations if any.]

Feed Storage

1. General. The operator agrees to manage feed storage to prevent significant discharge of leachate or polluted runoff to waters of the state.

2. Existing Feed Storage (High Moisture Feed). Existing paved areas and bunkers that may be used to store or handle high moisture feed (70% or higher moisture content) will meet the following standards:

a) Surface water runoff will be diverted from entering the paved area or bunker. [4]

b) Surface discharge of leachate will be collected before it leaves any paved area or bunker, if the paved area covers more than one acre. Collected leachate will be stored and disposed of in a manner that prevents discharge to waters of the state. [5]

[1] Treat multiple lots as one *animal lot* if runoff from the *animals lots* drains to the same treatment area or if runoff from the *animal lot* treatment areas converges or reaches the same surface water within 200 feet of any of those treatment areas.

[2] Indicated by a solid or dashed blue line on a 1:24,000 scale USGS topographic map.

[3] "Minor alterations" are repairs or improvements that do not result in *a substantially altered animal lot.* "Minor alterations" may include conservation practices such as runoff diversions, contouring, and planting vegetation.

[4] Runoff may be diverted by means of earthen diversions, curbs, walls, gutters, waterways or other practices, as appropriate.

[5] Use safe methods to dispose of collected leachate. For example, leachate may be transferred to *waste storage structures* and then applied to land at agronomic rates.

Unofficial Text (See Printed Volume). Current through date and Register shown on Title Page.

Worksheet 5 (continued)

3. ***New* or *Substantially Altered* Feed Storage Structures (High Moisture Feed):** *New* or *substantially altered* feed storage structures (buildings, silos, bunkers or paved areas) used to store or handle high moisture feed (70% or higher moisture content) will be designed, constructed and maintained to the following standards [attach design specifications]:

a) Surface water runoff will be diverted from entering the feed storage structure.[1]

b) Surface discharge of leachate will be collected before it leaves the feed storage structure.[2]

c) The top of the feed storage structure floor will be at least 3 vertical feet from groundwater and bedrock.[3]

d) Any feed storage structure with an area greater than 10,000 sq. ft. will have a subsurface drainage system to collect leachate that may leak through the structure floor. The subsurface drainage system must consist of drainfill material below the surface material, a tile drainage network designed to collect the leachate and deliver it to storage, and a subliner. The tile drainage network must, at a minimum, be installed at the perimeter of the structure only on the downgradient side(s). The sub−liner must, at a minimum, consist of one of the following:

- Two feet of soil, either in place or installed, having a minimum of 50% fine soil particles (that pass a #200 soil sieve).
- Two feet of soil, either in place or installed, having a minimum of 30% fine soil particles (that pass a #200 soil sieve) and a minimum PI (plasticity index) of 7.
- A 40 mil liner of HDPE, EPDM or PVC.
- A geosynthetic clay liner.

e) Collected leachate will be stored and disposed of in a manner that prevents discharge to waters of the state.[2]

Nonpoint Pollution Standards

The livestock facility will be designed, constructed and maintained to do all of the following:

1. Divert runoff from contact with *animal lots*, *waste storage facilities*, paved feed storage areas or manure piles within 300 ft. of a stream or 1,000 ft. of a lake.

2. Avoid having any unconfined manure pile within 300 ft. of a stream or 1,000 ft. of a lake.

3. Prevent any overflow of *waste storage facilities*.

4. Restrict livestock access to waters of the state, as necessary to maintain adequate vegetative cover on banks adjoining the water (this does not apply to properly designed, installed and maintained livestock or farm equipment crossings).

_____ _____
Signature of Applicant or Authorized Representative — Date

_____
Print Name of Engineer (include WI License No.) or Certified Practitioner

Professional Engineer's Embossed Seal

_____ _____
Signature of Engineer or Practitioner — Date

_____
Name of Firm and Address

[1] Runoff may be diverted by means of earthen diversions, curbs, walls, gutters, waterways or other practices, as appropriate.

[2] Use safe methods to dispose of collected leachate. For example, leachate may be transferred to waste storage and then applied to land at agronomic rates.

[3] A tile system or curtain drain may be used to intercept lateral groundwater seepage, as necessary, to achieve the required distance to groundwater.

WASTEWATER TREATMENT STRIP

(Acre)
Code 635

Natural Resources Conservation Service
Conservation Practice Standard

I. Definition

A treatment component of an agricultural waste management system consisting of a strip or area of herbaceous vegetation.

II. Purposes

To remove sediment and other pollutants from *wastewater*[1] by filtration, deposition, infiltration, absorption, adsorption, decomposition, and volatilization, thereby reducing pollution, protecting the environment, and improving water quality.

III. Conditions Where Practice Applies

This practice applies:

- Where a wastewater treatment strip is a component of a planned agricultural waste management system in accordance with Natural Resources Conservation Service (NRCS) Agricultural Waste Management Field Handbook (AWMFH), Chapter 9.
- To the treatment of contaminated runoff from dairy and beef *animal lots* using a *slow rate infiltration process, overland flow process, or buffer process.*
- To not more than 10,000 square feet of animal lot area and to not more than 98 *animal units* per slow rate infiltration process treatment strip or overland flow process treatment strip.
- To the treatment of milking center effluent using an overland flow process or buffer process on operations with less than 98 animal units and producing less than 300 gallons of wastewater per day.

This practice does not apply to:

- Swine animal lots.
- Treatment of leachate from silos, bunk silos, or silage bags.
- Treatment of runoff from manure stacks or storage facilities.
- Treatment of runoff from croplands, which is covered in NRCS Field Office Technical Guide (FOTG) Section IV, Standard 393, Filter Strip.
- Animal lots where manure consistency is such that direct discharge of undiluted manure from the animal lot to the treatment area is possible.

IV. Federal, State, and Local Laws

Wastewater treatment strip practices shall comply with all federal, state, and local laws, rules, or regulations. The operator is responsible for securing required permits. This standard does not contain the text of the federal, state, or local laws.

V. Criteria

A. General Criteria

1. **Management Assessment** – A management assessment shall be performed with the owner/operator to determine planned management and explore design options. The assessment shall be conducted, documented, and incorporated into the design. In addition to the Waste Management Inventory in Chapter 9 of the AWMFH, the management assessment for a wastewater treatment strip shall address the following:

   a. Waste Characterization

      (1) Animal types and numbers

      (2) Feed type

   b. Animal Lot Management

[1] Words in the standard that are shown in italics are described in Section X. - Definitions. The words are italicized the first time they are used in the text.

(1) Cleaning methods and frequency

(2) Feeding locations and methods

(3) Animal time on lot

2. **Site Assessment** – A site assessment shall be conducted, documented, and incorporated into the design. The assessment will determine physical site characteristics that may influence the placement, construction, maintenance, and environmental integrity of the wastewater treatment strip. The assessment shall include input from the owner/operators. In addition to the Waste Management Inventory in Chapter 9 of the AWMFH, the site assessment for a wastewater treatment strip shall address the following:

   a. Identification and characterization of contributing drainage area.

      (1) Lot
         i. Slope, size, shape, drainage pattern, surfacing
         ii. Feeding location
         iii. Equipment - access, cleaning, etc.

      (2) Non-lot areas
         i. Surface types, dimensions
         ii. Slopes
         iii. Soils

   b. Soil boring logs and, if available, a soil survey photo. Soil investigation shall include:

      (1) The number and distribution of soil borings sufficient to characterize the soils to a depth of 4 feet below the planned wastewater treatment strip grade.

      (2) The depth to *bedrock* encountered in soil boring(s) and bedrock type, such as sandstone, limestone, dolomite, or granite.

      (3) Depth to saturation and/or mottling encountered in the boring(s).

3. **Outside Water Exclusion** – All components shall be installed that are needed and practicable to keep uncontaminated runoff from entering the animal lot or treatment area. A 25-year 24-hour design storm shall be used. This includes runoff from:

   a. Outside land area – Runoff from outside land areas shall be excluded from the animal lot area by use of diversions, dikes, drop inlets with underground outlets, etc., in accordance with the criteria specified in the FOTG standard for the applicable practice.

   b. Roof runoff – Runoff from roof areas draining to animal lots shall be excluded in accordance with criteria specified in FOTG Standard 558, Roof Runoff Management System.

   c. Springs or seepage – Springs or seepage shall be intercepted by a drainage system sized to carry the anticipated volume of seepage water.

   d. Other water sources – Measures will be installed to prevent all other water sources such as overflowing waterers or cooling water from draining onto the animal lot.

4. **Uncontrolled Cattle Access** – All treatment areas shall be protected from uncontrolled cattle access.

5. **Vegetation of Treatment Areas.**

   a. Treatment area vegetation shall be established and maintained in accordance with criteria specified in FOTG Standard 342, Critical Area Planting, or Standard 612, Tree/Shrub Establishment.

   b. Recommended plant species and seed mixes can be found in Chapter 10 of the AWMFH.

   c. Vegetation shall be established in the treatment area prior to introducing wastewater.

B. Specific Criteria

1. **Animal lot runoff treatment using the slow rate infiltration process.**

   a. **Siting Parameters** – The treatment area shall be further than 100 feet from

any private water well. The bottom of the planned root zone shall be greater than 2 feet above bedrock. The treatment area shall be more than 500 feet from any pond, lake, or sinkhole.

b. **Soils** – This process shall be limited to well-drained loamy soils listed in Chapter 10 of the AWMFH. No evidence of seasonal saturation (mottling) can be observed within 2 feet of the bottom of the planned root zone of the soil profile within the proposed treatment area.

c. **Pretreatment** – Contaminated runoff shall be pretreated by solid/liquid separation using a sediment basin designed in accordance with FOTG Standard 350, Sediment Basin, prior to discharge of liquid to the treatment strip. Pretreatment shall occur between the animal lot and treatment area. Pretreatment shall be designed in accordance with procedures in Chapter 10 of the AWMFH.

d. **Design Criteria** – The treatment area shall be sized to infiltrate the 25-year, 24-hour runoff from the animal lot and contributing area. Runoff shall be infiltrated into the *root zone* of the vegetation to be grown. The depth of water application shall be equal to the *available soil water capacity* of the soil in the root zone.

e. **Treatment Area** – The treatment area shall be level, on native undisturbed soils, and with a maximum length to width ratio of 4:1. Soil shall not be excavated to form the level basin. Fill soils shall be lightly compacted and consist of topsoil of the same texture as the in-place soil. The maximum topsoil fill shall be limited to 2 feet. The treatment area shall be contained such that there is no surface discharge. Treatment shall be designed in accordance with procedures in Chapter 10 of the AWMFH.

2. **Animal lot runoff treatment using the overland flow process.**

a. **Siting Parameters** – The overland flow treatment strip shall be situated or constructed in a 2 foot minimum depth of soil with at least 20% passing the Number 200 sieve (P200 ≥ 20%), and a minimum separation to saturation and bedrock of 2 feet. The treatment strip shall be further than 50 feet from any private water well. Runoff from the end of the treatment strip shall be:

(1) Routed through a non-channelized flow length of over 200 feet to any c*hannelized flow* or wetland, and have a non-channelized flow length of over 500 feet to any pond, lake, or sinkhole. The soils and slopes would be as required for the treatment strip in V.B.2.a. and V.B.2.c. respectively.

or

(2) Routed through another treatment strip designed in accordance with section V.B.2.c. There shall be 300 feet of non-channelized flow length between the end of the last strip and a lake, pond, or sinkhole.

or

(3) Collected and transferred to storage meeting the criteria contained in FOTG Standard 313, Waste Storage Facility, or to one of the options (1) or (2) above at an off-site location.

See Figure 1 for further illustration.

b. **Pretreatment** – Contaminated runoff shall be pretreated by solid/liquid separation using a sediment basin designed in accordance with FOTG Standard 350, Sediment Basin, prior to discharge of liquid to the treatment strip. Pretreatment shall be designed in accordance with procedures in Chapter 10 of the AWMFH.

c. **Treatment Strip Design Criteria** – The runoff distributed to the treatment strip must be spread out across the full width of the treatment strip. The treatment strip shall be designed to treat

runoff from the 25-year, 24-hour storm event. The treatment strip shall be a maximum of 30 feet wide, and sized to pass the design flow at a depth of 1 inch or less. The Mannings "n" value shall be 0.3. Flow length shall be adequate to provide a minimum of 755 seconds of contact time for a 1-inch flow depth with a minimum length of 100 feet. Slope of the treatment strip shall be between 1% and 4%. Runoff from outside land area shall be excluded from the treatment strip.

3. **Animal lot runoff treatment using the buffer process.**

   a. **Siting Parameters** – The buffer area shall be situated or constructed in a 2 foot minimum depth of soil with at least 20% passing the Number 200 sieve (P200 ≥ 20%), and a minimum separation to saturation and bedrock of 2 feet The buffer area shall be further than 50 feet from any private water well.

   b. **Design Criteria** – The runoff distributed to the buffer area must be spread out across the full width of the upper end of the buffer area. Solids shall be kept off the buffer area. The buffer area must be graded so that overland flow is maintained.

      The annual output of phosphorus from the buffer area shall be 15 lbs. or less as determined based on potentially affected resources documented in the site assessment. If the down-gradient end of the waste treatment buffer area is within 1,000 feet of a lake or sinkhole, or within 300 feet of a solid or dashed blue line on a 1:24,000 scale USGS map, quarry, or wetland, the annual output of phosphorus shall be less than 5 lbs. Design to lower values of phosphorus output may be specified by local ordinances or requirements.

      Only slopes from 1% to 8% may be considered as part of the buffer area. If a row crop is used as part of the buffer area, it must be planted on the contour.

      The minimum buffer area shall be 150% of the animal lot size for paved lots and 100% of the animal lot size for earth lots. For combination paved/earth lots, the size of the buffer shall be prorated.

      Size the buffer area according to the Wisconsin Barnyard Runoff Model (*BARNY*). The minimum buffer length shall be the length calculated using BARNY. See Chapter 10 of the AWMFH for the specific methodology.

4. **Milking center wastewater treatment using the overland flow or buffer processes.**

   a. **Siting Parameters** – The treatment strip shall meet the siting parameter criteria found above in section V.B.2.a. or V.B.3.a.

   b. **Pretreatment –** Wastewater shall be pretreated by solid/liquid fat separation prior to discharge to the treatment strip.

   c. **Design Criteria –** The treatment strip shall meet all criteria found in section V.B.2.c. or V.B.3.b. Storage, multiple treatment strips, or other measures shall be provided to allow the treatment area a minimum of three days rest between dosing.

   See Chapter 10 of the AWMFH for pretreatment and design details.

VI. Considerations – Additional recommendations relating to design which may enhance the use of, or avoid problems with, this practice, but are not required to ensure its basic conservation function, are as follows:

- Secondary Storage - Consider collecting a portion or all of the discharge from treatment areas and storing in a waste storage facility.
- Consider storage of lot discharge rather than application to a treatment area when vegetation is dormant or the ground is frozen.
- Consider longer rest periods for milking center wastewater treatment areas to allow

for treatment area maintenance and harvesting.

VII. Plans and Specifications

Plans and specifications for wastewater treatment strips shall be in keeping with this standard and standards for each component of the wastewater treatment strip.

VIII. Operation and Maintenance

An operation and maintenance plan shall be developed that is consistent with the purposes of the practice, its intended life, safety requirements, and the criteria for its design. The plan may include the following, or other items, as appropriate:

A. Clean the animal lot and/or settling areas as needed to prevent migration of solids to the treatment strip.

B. Maintain the wastewater spreader to the initial design function.

C. Harvest treatment strip vegetation as appropriate to encourage dense growth, maintain upright growth, and remove nutrients and other contaminants that are contained in the plant tissue. Controlled grazing can be an acceptable method of harvest.

D. Inspect and repair treatment strips after storm events to fill in gullies, remove flow-disrupting sediment accumulation, re-seed disturbed areas, and take other measures to prevent concentrated flow.

E. Conduct controlled grazing, harvesting, and other maintenance activities only when the treatment strip is dry and moisture content in the surface soil layer will not allow compaction or rutting.

F. Prior to construction, the owner/operator shall sign the operation and maintenance plan to indicate an understanding of the requirements and a commitment to operate and maintain the practice as specified.

IX. References

United States Department of Agriculture - Natural Resources Conservation Service, Wisconsin Field Office Technical Guide, Section IV (Conservation Practice Standards and Wisconsin Construction Specifications).

United States Department of Agriculture – Natural Resources Conservation Service, Agricultural Waste Management Field Handbook.

Young, R.A., Otterby M.A., and Roos, A. 1982. An Evaluation System to Rate Feedlot Pollution Potential, Agricultural Research Service, USDA, ARM-NC-17.

X. Definitions

Animal lots (Section *III*) – An animal lot is an area, a building, or combination of contiguous areas and buildings intended for the confined feeding, breeding, raising or holding of beef and/or dairy cattle. An animal lot is specifically designed as a confinement area in which beef/dairy waste may accumulate, or where the concentration of beef or dairy animals is such that a vegetative cover is denuded and cannot be maintained within the enclosure.

Animal Units (Section III) – A unit of measurement used to determine the total number of single animal types or combination of animal types, as specified in s. NR 243.11, table 2, which are fed, confined, maintained or stabled in an animal feeding operation. One animal unit is equivalent to one head of beef or slaughter cattle weighing more than 1000 pounds.

Available Soil Water Capacity (Section V.B.1.a.) – Expressed as inches of water per foot of soil, it is the amount of water held in a soil between field capacity, which is the moisture content of soil after it is wetted and ceases to drain by gravity, and permanent wilting point, which is the moisture content of soil when plants die.

BARNY (Section V.B.3.b) – BARNY, or the Wisconsin Barnyard Runoff Model, is an inventory and analysis system that is used to assess the water quality impacts of barnyards or feed lots. It is a somewhat modified version of the USDA Agricultural Research Service Feedlot Runoff Model (Young et al. 1982)

Bedrock (V. A. 2. b. (2)) – Consolidated rock material and weathered in-place material with > 50%, by volume, larger than 2 mm in size.

Buffer Process (Section III) – The application of wastewater at the upper reaches of a vegetated slope, with treatment by physical, chemical, and biological means as it flows in a thin film down the length of the slope.

Channelized flow (V. B. 2. a. (1)) – Water movement in a surface drainage feature including, but not necessarily limited to: swales, draws, grassed waterways, ditches, gullies, creeks, or rivers.

Overland Flow Process (Section III) – The application of wastewater at the upper reaches of a grass covered slope, with treatment by physical, chemical, and biological means as it flows in a thin film down the length of the slope.

Root Zone (Section V.B.1.a.) – Depth to which the roots of mature crops will extract available soil water.

Slow Rate Infiltration Process (Section III) – The application of wastewater to a vegetated land surface with the applied water being treated as it flows through the plant-soil matrix.

Wastewater (Section II) – Wastewater is milking center effluent and runoff from animal lots.

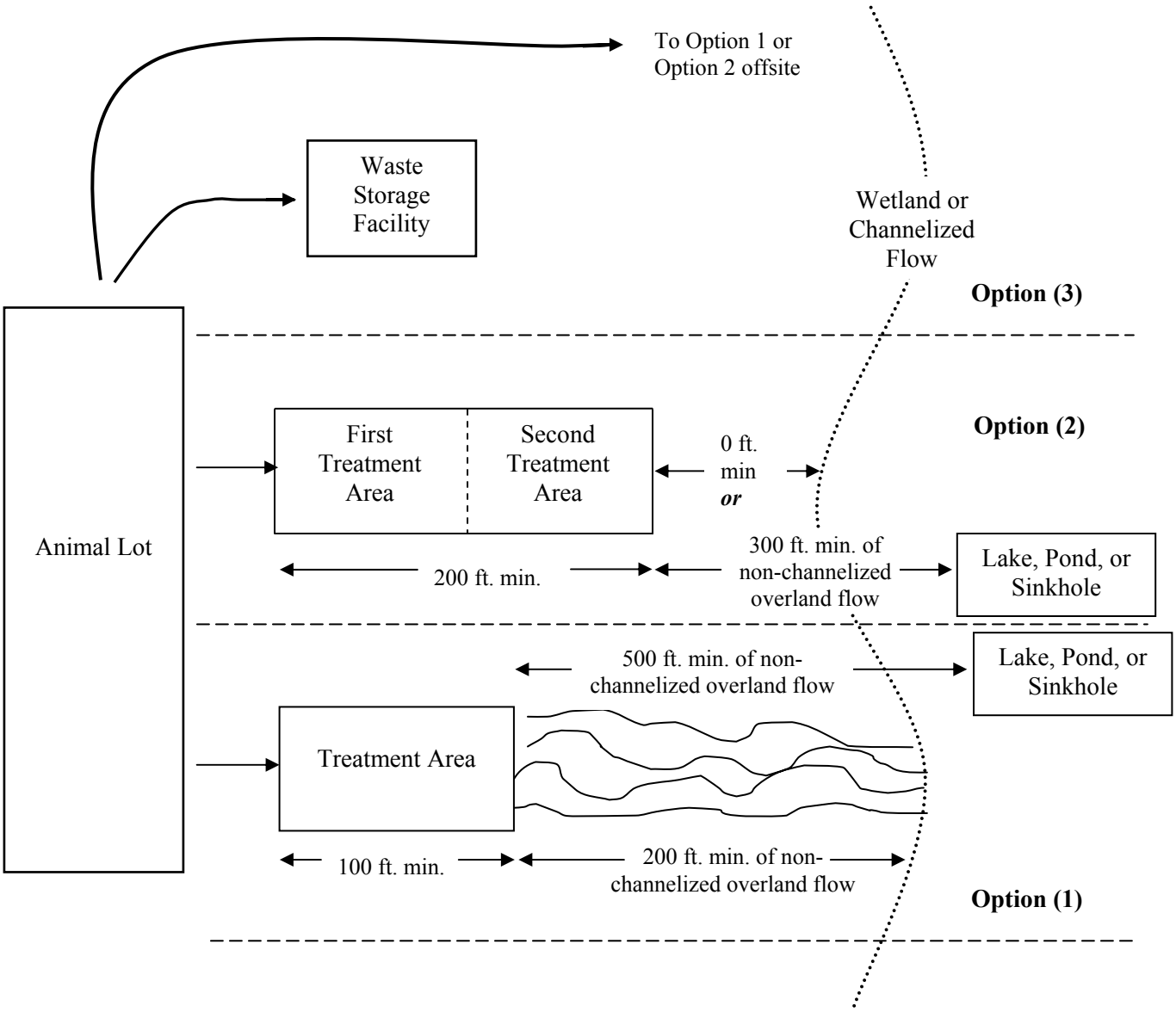


Figure 1. The three options described in section V.B.2. (not to scale)

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Chapter NR 243

ANIMAL FEEDING OPERATIONS

Subchapter I — General
NR 243.01 Purpose.
NR 243.02 Applicability.
NR 243.03 Definitions.
NR 243.04 Rainfall events.
NR 243.05 Calculating animal units.
NR 243.06 Variances.
NR 243.07 Incorporation by reference.

Subchapter II — Requirements for Large Concentrated Animal Feeding Operations
NR 243.11 Large concentrated feeding operations.
NR 243.12 WPDES permit application requirements.
NR 243.121 General permit coverage.
NR 243.13 Standard WDPES permit requirements for large CAFOs.
NR 243.14 Nutrient management.
NR 243.141 Manure stacking.
NR 243.142 Responsibility for large CAFO manure and process wastewater.
NR 243.15 Design, submittal and approval of proposed facilities or systems.
NR 243.16 Evaluations of previously constructed facilities or systems.
NR 243.17 Operation and maintenance.
NR 243.18 Combined wastes.
NR 243.19 Inspections, record keeping and reporting.

Subchapter III — Other Animal Feeding Operations
NR 243.21 Purpose.
NR 243.23 General requirements for animal feeding operations.
NR 243.24 Department discharge determination and NODs.
NR 243.25 NOD enforcement.
NR 243.26 WPDES permits for medium and small CAFOs.

Subchapter IV — CAFO Enforcement
NR 243.31 Enforcement.

Note: Ch. NR 243 as it existed on June 30, 2007 was repealed and a new Ch. NR 243 was created, Register April 2007 No. 616, eff. 7−1−07.

Subchapter I — General

NR 243.01 Purpose. (1) The purpose of this chapter is to implement design standards and accepted management practices and to establish permit requirements and the basis for issuing permits to CAFOs. This chapter also establishes the criteria under which the department may issue a notice of discharge or a permit to other animal feeding operations that discharge pollutants to waters of the state or fail to comply with applicable performance standards and prohibitions in ch. NR 151. For other animal feeding operations, it is the intent of the department that a permit would be issued only when it can be demonstrated that an operation has a discharge of pollutants to waters of the state. The authority for promulgation of this chapter is in chs. 281 and 283, Stats.

(2) The department recognizes the unique nature of the state's agricultural industry and the industry's declared interest in protecting and preserving the state's natural resources. The department also recognizes the benefit of manure applied to land for its fertilizer and soil conditioning value, and encourages the management and use of these materials in such a manner. Only those animal feeding operations that improperly manage their wastes and as a result cause groundwater or surface water pollution or that fail to comply with applicable performance standards and prohibitions or those operations that are CAFOs will be regulated under this chapter. It is not the intent of the department to require that all animal feeding operations obtain a permit.

History: CR 05−075: cr. Register April 2007 No. 616, eff. 7−1−07.

NR 243.02 Applicability. The provisions of this chapter are applicable to large CAFOs and other animal feeding operations that discharge pollutants to waters of the state as determined under subch. III.

History: CR 05−075: cr. Register April 2007 No. 616, eff. 7−1−07.

NR 243.03 Definitions. The following definitions are applicable to terms used in this chapter. Definitions of other terms and meanings of abbreviations are in ch. NR 205.

(1) "Accepted management practices" means practices, techniques or measures through which runoff, manure, milking center waste, leachate and other waste streams associated with an animal feeding operation are handled, stored, utilized or otherwise controlled in a manner that is intended to achieve compliance with livestock performance standards and prohibitions established in ch. NR 151 and water quality objectives established under chs. 281 and 283, Stats. These practices, techniques or measures are established in this chapter as well as ch. NR 154 and ch. ATCP 50 and may include additional practices and procedures as approved by the department on a case−by−case basis.

(2) "Agricultural storm water discharge" means:

(a) For unpermitted animal feeding operations with 300 to 999 animal units, a precipitation−related discharge of manure or process wastewater pollutants to surface waters from a land application area that may occur after the owner or operator of the animal feeding operation has land applied manure or process wastewater in compliance with a nutrient management plan that meets the nutrient management requirements of this chapter; and

(b) For permitted CAFOs, a precipitation related discharge of manure or process wastewater pollutants to surface waters from a land application area that may occur after the owner or operator of the CAFO has land applied the manure or process wastewater in compliance with the nutrient management requirements of this chapter and the terms and conditions of its WPDES permit.

Note: The definition of agricultural storm water discharge does not include discharges of manure or process wastewater pollutants to surface waters from land application activities by an unpermitted small animal feeding operation, because these land application discharges to surface waters by a small operation are not a basis for requiring WPDES permit coverage. See s. NR 243.26 (2) (c).

(3) "Ancillary service and storage areas" means areas that are adjacent to the production area, but are not used for handling or managing livestock, livestock products, mortalities, manure, process wastewater or raw materials. These ancillary areas include areas such as access roads, shipping and receiving areas, pesticide and herbicide storage, oil or fuel storage, raw material handling equipment maintenance, crop equipment or vehicle storage and maintenance areas and refuse piles.

(4) "Animal feeding operation" means a lot or facility, other than a pasture or grazing area, where animals have been, are or will be stabled or confined, and will be fed or maintained for a total of 45 days or more in any 12−month period. Two or more animal feeding operations under common ownership or common management are a single operation if at least one of the following is true:

(a) The operations are adjacent.

(b) The operations utilize common systems for the landspreading of manure or other wastes, including a nutrient management plan or landspreading acreage.

Note: While it is not the sole factor used to determine whether operations have a common system for landspreading, use of common land application equipment is one of the factors the department considers when determining if operations have a common system for landspreading.

(c) Manure, barnyard runoff or other wastes are commingled in a common storage facility prior to landspreading.

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(5) "Animal unit" means a unit of measure used to determine the total number of single animal types or combination of animal types, as specified in s. NR 243.11, that are at an animal feeding operation.

(6) "Applicant" means an owner or operator of a proposed or existing CAFO that is applying for a WPDES permit.

(7) "Areas of channelized flow" means channels or depressions that concentrate flow and are either:

(a) Man−made by a means other than typical field cultivation practices.

(b) A natural channel or depression that cannot be removed or rerouted using typical field cultivation practices or that form on a recurring basis in the same area.

(8) "ASTM" means the American society for testing and materials.

(9) "Combined animal units" means any combination of animal types calculated by adding the number of single animal types as multiplied by the equivalency factors as specified in s. NR 243.11.

(10) "Compost" has the meaning specified under s. NR 500.03 (44).

(11) "Composting" has the meaning specified under s. NR 500.03 (45).

(12) "Concentrated animal feeding operation" or "CAFO" means an animal feeding operation to which any of the following apply:

(a) The operation has 1,000 animal units or more at any time and stores manure or process wastewater in a below or at grade level storage structure or land applies manure or process wastewater.

(b) The operation has 300 to 999 animal units and has a category I unacceptable practice under s. NR 243.24 (1) (a).

(c) Under s. NR 243.26 (2), the operation is designated by the department as having a significant discharge of pollutants to navigable waters or has caused the fecal contamination of water in a well.

(13) "CAFO outdoor vegetated area" means an area that is part of the ancillary service and storage area that consists of a large open outdoor vegetated area of land used by CAFO animals that is owned or operated by a CAFO and is adjacent or connected to, but not part of, the production area.

(14) "Conduit to a navigable water" means a natural or man−made area or structure that discharges to a navigable water via channelized flow. This includes open tile line intake structures, open vent pipes, sinkholes, agricultural well heads, drainage ditches that discharge to navigable waters and grassed waterways that drain directly to a navigable water.

Note: Conduits to navigable waters do not include the components of a subsurface drainage system that are not present at the soil surface.

(15) "Contaminated runoff" means that portion of manure, process wastewater, leachate or other wastes or raw materials mixed with precipitation from animal feeding operations that transports pollutants such as organic matter, suspended solids or nutrients.

(16) "Corrective measures" means accepted management practices or technical standards specified in ch. NR 154 or ATCP 50 designed to address an unacceptable practice or other practices determined by the department to be necessary to protect water quality.

(17) "DATCP" means the Wisconsin department of agriculture, trade and consumer protection.

(18) "Department" means the Wisconsin department of natural resources.

(19) "Designed structures" means groundwater monitoring systems, runoff control structures, permanent spray irrigation or other land application systems, manure, raw materials and waste storage facilities or other manure or waste transfer or treatment systems.

(20) "Direct conduits to groundwater" mean wells, sinkholes, swallets, fractured bedrock at the surface, mine shafts, non−metallic mines, tile inlets discharging to groundwater quarries, or depressional groundwater recharge areas over shallow fractured bedrock.

(21) "Diversion" means a structure built to divert sheet flow or part or all of the water from an existing waterway into a different channel or area.

(22) "Exceptional resource water" means any surface water, or portion thereof, in s. NR 102.11.

(23) "Existing source CAFO" means an operation that is covered by a WPDES permit as of July 1, 2007, and any other permitted operation that is not a new source CAFO.

Note: Existing source CAFOs include CAFOs that are permitted as of July 1, 2007, and animal feeding operations in existence on a site prior to April 14, 2003 that add animals and later apply for a WPDES permit.

(24) "Frozen ground" means soil that is frozen anywhere between the first ½" and 8" of soil as measured from the ground surface.

Note: Under the definition of frozen ground, soil that is that frozen to a depth of ½" or less as measured from the ground surface is not considered frozen ground.

(25) "Governmental unit" means a municipality as defined in s. 281.01 (6), Stats.

(26) "Grassed waterway" means a natural or constructed waterway or outlet shaped or graded and established in suitable vegetation as needed for the conveyance of runoff from a field, diversion or other structure.

(27) "Hydrologic soil group" means a group of soils having similar runoff potential under similar storm and cover conditions.

(28) "Incorporation" means mixing the manure or process wastewater with surface soil so that at least 80% of applied manure or process wastewater is covered with soil and the application rate is controlled to ensure that applied material stays in place and does not run off. Incorporation includes standard agricultural practices such as tillage or other practices that are the equivalent to providing 80% soil coverage.

(29) "Injection" means the placement of liquid manure or process wastewater 4 to 12 inches below the soil surface in the crop root zone using equipment specifically designed for that purpose and where the applied material is retained by the soil and does not concentrate or pool below the soil surface.

(30) "Land application" means surface application, injection or incorporation of manure, process wastewater or other waste generated by a CAFO on cropland using manure hauling vehicles or equipment.

(31) "Large CAFO" means an animal feeding operation that has 1,000 animal units or more at any time.

(32) "Liquid manure" means manure with a solids content of less than 12%.

(33) "Livestock facility" means a structure or system constructed or established on a livestock operation or animal feeding operation, including a runoff control system associated with an outside feedlot, manure storage facility or feed bunker.

(34) "Livestock performance standards and prohibitions" means performance standards and prohibitions contained in ss. NR 151.05, 151.06, 151.07 and 151.08.

(35) "Long−term no−till" means no−till farming that has been implemented a minimum of 3 consecutive years.

(36) "Manure" means a material that consists primarily of litter or excreta, treated or untreated, from livestock, poultry or other animals. Manure includes material mixed with runoff, bedding contaminated with litter or excreta, or process wastewater.

(37) "Margin of safety level" means the level in a liquid storage or containment facility that is vertically one foot below the lowest point of the top of the facility or structure.

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(38) "Maximum operating level" means the level in a liquid storage or containment facility, measured vertically from the lowest point of top of the facility, that is the sum of the margin of safety level and the level necessary to contain the precipitation and runoff that will enter the facility as a result of 100−year, 24−hour rainfall event for swine, veal and poultry operations that are new source CAFOs or a 25−year, 24−hour storm event for all other operations.

(39) "Medium CAFO" means an animal feeding operation with 300 to 999 animal units that has a category I discharge to navigable waters under s. NR 243.24, or that is designated by the department as a CAFO under s. NR 243.26 (2).

(40) "Milking center waste" means all wastes generated at a milking center or milkhouse including waste milk, detergents, acids, sanitizers, manure, bedding materials and footbath chemicals.

(41) "New source CAFO" means any of the following:

(a) An operation that is a large CAFO that has been or will be constructed on or after April 14, 2003, on a new site where no other animal feeding operation is located.

(b) An operation that is a large CAFO that was in existence prior to April 14, 2003, but that completely replaces all of its production or processing equipment on or after April 14, 2003.

(c) A new addition to an existing operation that is a large CAFO that is essentially a new production area added on or after April 14, 2003 that is completely independent of the production area in existence on the site before April 14, 2003.

(d) An animal feeding operation that has been constructed on or after April 14, 2003, on a new site where no other animal feeding operation is located and later becomes a large CAFO.

Note: New operations are operations that essentially build on a brand new site or significantly modify most or all facilities at an existing site, on or after April 14, 2003.

(42) "NOD" means notice of discharge.

(43) "NRCS" means the Wisconsin natural resources conservation service.

(44) "NRCS Standard 590" means the technical standard for nutrient management contained in Appendix B to ch. ATCP 51, except for section V.D.

Note: Appendix B to ch. ATCP 51 includes the September 2005 version of NRCS Standard 590.

(45) "100−year, 24−hour rainfall event" means a rainfall event measured in terms of the depth of rainfall occurring within a 24−hour period and having an expected recurrence interval of once in 100 years as identified in Table 1.

(46) "Outstanding resource water" means any surface water, or portion thereof, specified in s. NR 102.10.

(47) "Pasture or grazing area" means an area where animals graze in large open areas, that is not adjacent to, or connected to, a CAFO production area, and where stocking densities, management systems and management of feed sources ensure that sufficient vegetative cover is maintained over the entire area at all times. A pasture or grazing area is not an animal feeding operation.

Note: Operations that have milking centers for animals on pasture or grazing areas are animal feeding operations since the milking center is considered to be an area of confinement.

Note: A CAFO may have multiple production areas located at different sites or farms, such as a main farm and satellite feedlots or farms.

(48) "Permanent runoff control systems" means constructions or devices installed to permanently contain, control, divert or retard surface runoff water.

(49) "Permit" means a WPDES permit for the discharge of pollutants issued by the department under ch. 283, Stats.

(50) "Permittee" means an owner or operator of a WPDES permitted CAFO.

(51) "Phosphorus index" means the method for assessing and minimizing phosphorus delivery to surface waters associated with manure or process wastewater applications referenced in section V.C.2. of NRCS Standard 590.

(52) "Phosphorus index value" means the value calculated using the phosphorus index that identifies the relative level of risk for phosphorus delivery from a field where manure or process wastewater, along with other nutrients sources, have been or will be applied.

(53) "Process wastewater" means wastewater from the production area directly or indirectly used in the operation of animal feeding operation that results from any or all of the following:

(a) Spillage or overflow from animal or poultry watering systems.

(b) Washing, cleaning, or flushing pens, barns, manure pits, or other animal feeding operation facilities.

(c) Direct contact swimming, washing, or spray cooling of animals or dust control.

(d) Water that comes into contact with any raw materials or animal byproducts including manure, feed, milk, eggs or bedding.

(54) "Production area" means that part of an animal feeding operation that includes the animal confinement area, the manure storage area, the raw materials storage area, and the waste containment areas but not CAFO outdoor vegetated areas. The animal confinement area includes but is not limited to open lots, housed lots, feedlots, confinement houses, stall barns, free stall barns, milkrooms, milking centers, cowyards, barnyards, medication pens, walkers, animal walkways and stables. The manure storage area includes but is not limited to lagoons, runoff ponds, storage sheds, stockpiles, under house or pit storages, liquid impoundments, static piles, and composting piles. The raw materials storage area includes but is not limited to feed silos, silage bunkers and bedding materials. The waste containment area includes but is not limited to settling basins, and areas within berms and diversions that separate uncontaminated storm water. Included in the definition of production area is any egg washing or egg processing facility, and any area used in the storage, handling, treatment or disposal of mortalities.

(55) "Raw materials" means materials typically stored at an agricultural operation that are directly used in livestock production such as bedding material, silage, haylage, grain and other feed sources, but this term does not include pesticides, motor oil or fuel.

(56) "Reviewable facility or system" means runoff control structures, feed and other raw materials storage, permanent spray irrigation or other land application systems, groundwater monitoring systems, manure storage facilities, manure treatment or transfer systems, or other structures or systems associated with the storage, containment, treatment or handling of manure or process wastewater.

(57) "Saturated soils" means soils where all pore spaces are occupied by water and where any additional inputs of water or liquid wastes cannot infiltrate into the soil.

(58) "Solid manure" means manure with a solids content of 12% or more.

(59) "Small CAFO" means an animal feeding operation with less than 300 animal units that is designated by the department as a CAFO under s. NR 243.26 (2).

(60) "Snow covered ground" means areas of a field covered with any amount of snow.

(61) "Source water protection area" means an area delineated by the department for a public water system or including numerous public water systems, whether the source is ground water or surface water or both, as part of the state source water assessment program approved by the U.S. environmental protection agency under 42 USC 300j−13.

(62) "Spray irrigation" means the application of liquid manure or process wastewater to cropland using equipment that discharges manure into the air via a single nozzle or multiple nozzles or hoses and disperses the manure over distances greater than could be achieved using typical moving vehicle or manure hauling equipment.

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(63) "Storage facility" means an excavated or diked pond, walled structure or platform designed for containment of manure.

(64) "Sufficient vegetative cover" means that crop residue or vegetation is present over an entire area in an amount and density of stand that slows the movement of and limits contaminated runoff and soil erosion.

(65) "Surface applied manure" means manure applied to the ground surface by moving vehicles that is not incorporated or injected.

(66) "Surface water quality management areas" or "SWQMA" means all of the following:

(a) The area within 1,000 feet from the ordinary high water mark of navigable waters that consist of a lake, pond or flowage.

(b) The area within 1,000 feet from the high water mark of navigable waters that consist of a glacial pothole lake.

(c) The area within 300 feet from the ordinary high water mark of navigable waters that consist of a river or stream or other non−lake navigable waters.

(d) The area within 300 feet of conduits to navigable waters.

(67) "Swallet" means a sinkhole or rock hole that intercepts a stream, diverting all or a portion of it to groundwater.

(68) "303 (d) listed waters" means the list of impaired waters in the state developed by the department pursuant to 33 USC 1313 and 40 CFR s. 130.7.

(69) "Tolerable soil loss" or "T" means the maximum rate of soil erosion, in tons per acre per year, allowable for particular soils and site conditions that will maintain soil productivity.

Note: Soil loss will be calculated according to the revised universal soil loss equation II as referenced in ch. ATCP 50 or, potentially, SNAP−Plus software currently being developed by UW−Extension.

(70) "25−year, 24−hour rainfall event" means a rainfall event measured in terms of the depth of rainfall occurring within a 24−hour period and having an expected recurrence interval of once in 25 years as identified in Table 1.

(71) "Unacceptable practice" means a practice that causes or has caused the discharge of pollutants to waters of the state or that results in an operation's failure to comply with livestock performance standards and prohibitions outlined in ch. NR 151.

(72) "Wastewater treatment strip" means a constructed strip or area of vegetation for reducing sediment, organic matter and other pollutants.

(73) "Waters of the state" has the meaning specified under s. 283.01 (20), Stats.

(74) "Water quality management area" or "WQMA" has the meaning in s. NR 151.015 (24).

(75) "Wetland" means areas delineated on a hydric soils map that are dominated by hydrophytic vegetation. Wetlands do not include prior converted or farmed wetlands.

(76) "Wetland functional values" means the values or uses of wetlands established in s. NR 103.03 (1).

(77) "Wet soil" means soil that is not saturated but has a moisture content that limits its ability to absorb significant amounts of additional liquid.

(78) "Winter acute loss index value" means the value calculated using the phosphorus index that identifies the relative level of risk for acute losses of manure and process wastewater pollutants associated with surface applications during frozen or snow−covered conditions.

(79) "WPDES" means the Wisconsin pollutant discharge elimination system established under ch. 283, Stats.

History: CR 05−075: cr. Register April 2007 No. 616, eff. 7−1−07.

NR 243.04 Rainfall events. The design rainfall amount and probable intensity of 25−year, 24−hour and 100−year, 24−hour rainfall events for locations in Wisconsin shall be determined from the data in Table 1, or for a particular location, the determination may be made on the basis of more recent rainfall probability data verified by a government agency and approved by the department for this purpose.

TABLE 1
Probable 25−year and 100−year 24−Hour Rainfall Events, In Inches of Rain, for Counties in Wisconsin

	25−year	100−year		25−year	100−year
Adams	4.7	5.9	Marathon	4.5	5.7
Ashland	4.3	5.4	Marinette	4.1	4.9
Barron	4.6	5.8	Marquette	4.6	5.8
Bayfield	4.4	5.4	Menominee	4.3	5.2
Brown	4.3	5.1	Milwaukee	4.5	5.5
Buffalo	4.8	6.1	Monroe	4.8	6.1
Burnett	4.6	5.7	Oconto	4.2	5.1
Calumet	4.4	5.3	Oneida	4.3	5.3
Chippewa	4.7	5.8	Outagamie	4.4	5.3
Clark	4.7	5.9	Ozaukee	4.4	5.4
Columbia	4.7	5.9	Pepin	4.8	6.0
Crawford	5.0	6.2	Pierce	4.8	6.0
Dane	4.8	6.0	Polk	4.7	5.8
Dodge	4.6	5.7	Portage	4.5	5.7
Door	4.1	4.9	Price	4.4	5.5
Douglas	4.4	5.5	Racine	4.6	5.6
Dunn	4.7	6.0	Richland	4.9	6.2
Eau Claire	4.7	6.0	Rock	4.7	6.0
Florence	4.1	4.9	Rusk	4.6	5.7
Fond du Lac	4.5	5.6	St. Croix	4.7	5.9
Forest	4.2	5.1	Sauk	4.8	6.1
Grant	5.0	6.2	Sawyer	4.5	5.6
Green	4.8	6.1	Shawano	4.4	5.4
Green Lake	4.6	5.7	Sheboygan	4.4	5.4
Iowa	4.9	6.2	Taylor	4.6	5.7
Iron	4.3	5.3	Trempealeau	4.8	6.1
Jackson	4.8	6.0	Vernon	4.9	6.2
Jefferson	4.6	5.8	Vilas	4.3	5.2
Juneau	4.7	6.0	Walworth	4.6	5.8
Kenosha	4.6	5.7	Washburn	4.5	5.6
Kewaunee	4.2	5.0	Washington	4.5	5.5
LaCrosse	4.9	6.1	Waukesha	4.6	5.6
Lafayette	4.9	6.2	Waupaca	4.5	5.5
Langlade	4.3	5.3	Waushara	4.6	5.7
Lincoln	4.4	5.5	Winnebago	4.5	5.5
Manitowoc	4.3	5.2	Wood	4.6	5.8

History: CR 05−075: cr. Register April 2007 No. 616, eff. 7−1−07.

NR 243.05 Calculating animal units. (1) GENERAL. The total number of animal units at an operation shall be calculated using the methods in both subs. (2) and (3). The department shall compare the totals under both of these methods and shall use the highest calculated total to determine the size of an animal feeding operation. An owner or operator of an animal feeding operation shall use form 3400−25A for calculating the number of animal units present at the operation.

Note: In accordance with the definition in s. NR 243.03(4), animals included in the total count may be housed at more than one site or location.

Note: Form 3400−25A can be obtained at regional offices of the department or the department's Bureau of Watershed Management, 101 S. Webster St., P.O. Box 7921, Madison, Wisconsin 53707.

(2) COMBINED ANIMAL UNITS. The number of animal units present at an operation shall be calculated by multiplying the number of animals for each animal type by the appropriate equivalency factor in Table 2A. The total number of animal units at the operation is the sum of the calculated animal unit numbers of all animal types present at the operation.

Note: Under the combined animal unit calculation, an operation with 400 animal units of milking cows, 300 animal units of heifers and 200 animal units of swine would have a total of 1000 animal units present.

(3) INDIVIDUAL ANIMAL UNITS. The number of animal units present at an operation shall be calculated by multiplying the num-

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ber of animals for each animal type by the appropriate equivalency factor in Table 2B. The total number of animal units at an operation is the highest calculated number of animal units for any individual animal type.

Note: Under the individual animal unit calculation, an operation with 400 animal units of milking cows, 300 animal units of heifers and 200 animal units of swine would have 400 animal units present.

(4) OTHER ANIMAL TYPES. For animal types not listed in Table 2A, the department shall base equivalency to animal units on live animal weights, the characteristics of the manure, including nutrient content or pollutant concentration, or a combination of both. In cases based strictly on live weight, 1,000 pounds of live weight is equivalent to one animal unit.

TABLE 2A
Combined Animal Unit Calculation Equivalencies

Animal Type	Combined Animal Equivalent of 1,000 Animal Units	Combined Animal Unit Equivalency Factor
Dairy Cattle:		
Milking and Dry Cows	715	1.4
Heifers (800 to 1200 lbs)	910	1.1
Heifers (400 to 800 lbs)	1670	0.6
Calves (under 400 lbs)	5000	0.2
Veal Calves:		
Per Animal	2000	0.5
Beef Cattle:		
Steers or Cows (400 lbs to Mkt)	1000	1.0
Calves (under 400 lbs)	5000	0.2
Bulls	700	1.4
Swine:		
Pigs (55 lbs to Mkt)	2500	0.4
Pigs (up to 55 lbs)	10000	0.1
Sows	2500	0.4
Boars	2000	0.5
Sheep:		
Per Animal	10000	0.1
Horses:		
Per Animal	500	2.0
Ducks:		
Per Bird (Liquid poultry manure handling)	5000	0.2
Per Bird (Non−liquid poultry manure handling)	100000	0.01
Chickens:		
Per Bird (Liquid poultry manure handling)	3000	0.033
Layers (Non−liquid poultry manure handling)	10000	0.01
Broilers and Pullets (Non−liquid poultry manure handling)	200000	0.005
Turkeys:		
Per Bird	55000	0.018

TABLE 2B
Individual Animal Unit Calculation Equivalencies

Animal Type	Individual Animal Equivalent of 1,000 Animal Units	Individual Animal Unit Equivalency Factor
Dairy Cattle:		
Milking and Dry Cows	700	1.43
Heifers (400 to 1200 lbs)	1000	1.0
Veal Calves:		
Per Animal	1000	1.0
Beef Cattle:		
Steers, Bulls or Cows (400 lbs to Mkt)	1000	1.0
Swine:		
Pigs (55 lbs to Mkt)	2500	0.4
Pigs (up to 55 lbs)	10000	0.1
Sheep:		
Per Animal	10000	0.1
Horses:		
Per Animal	500	2.0
Ducks:		
Per Bird (Liquid poultry manure handling)	5000	0.2
Per Bird (Non−liquid poultry manure handling)	30000	0.0333
Chickens:		
Per Bird (Liquid poultry manure handling)	30000	0.0333
Layers (Non−liquid poultry manure handling)	82000	0.0123
Broilers and Pullets (Non−liquid poultry manure handling)	125000	0.008
Turkeys:		
Per Bird	55000	0.018

History: CR 05−075: cr. Register April 2007 No. 616, eff. 7−1−07.

NR 243.06 Variances. (1) A permittee may request a waiver or variance to a requirement of this chapter. Subject to sub. (2), the department may approve a variance from a requirement in this chapter when special circumstances show that a variance is needed and the approval of the variance will not negatively impact or threaten the environment or public health. A request for a variance shall be submitted in writing and shall specify the requirement in this chapter from which a variance is requested and the reasons a variance is needed. The department shall approve or deny the variance within 30 days after the request is submitted.

(2) The department may not grant a waiver or variance to a federal statutory or regulatory requirement or to a state statutory requirement.

Note: If a permittee seeks approval of a variance to a requirement from this chapter that is specified in a WPDES permit, the permit must be modified to include the approved variance. Consequently, permittees should consider submitting any variance requests as part of the permit application process, so if approved, the variance can be incorporated into the permit.

Note: An animal feeding operation may participate in the Environmental Results Program (also known as the Green Tier Program) pursuant to s. 299.83, Stats. For more information on this innovative program that provides regulatory flexibility and

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superior environmental results, please refer to www.dnr.wi.gov/org/caer/cea/environmental.

History: CR 05−075: cr. Register April 2007 No. 616, eff. 7−1−07.

NR 243.07 Incorporation by reference. (1) CODE OF FEDERAL REGULATIONS. 40 CFR 412.22 in effect as of July 1, 2007, is incorporated by reference for this chapter. This federal regulation references 40 CFR 125.30 through 125.32 and these federal regulations are also incorporated by reference for this chapter. Copies of these regulations are available for inspection at the offices of the department and the legislative reference bureau, Madison, Wisconsin.

Note: Copies of these materials may be also be viewed online at www.gpoaccess.gov/cfr/index.html, or may be purchased for personal use from: Superintendent of Documents, U.S. Government Printing Office, PO Box 371954, Pittsburgh, PA 15250−7954, phone: (202) 783−3238.

(2) OTHER MATERIALS. The materials listed in this section are incorporated by reference for this chapter. Some of the technical standards include secondary materials which are also incorporated by reference for this chapter. Copies of these materials are available for inspection at the offices of the department and the legislative reference bureau, Madison, Wisconsin. The materials incorporated by reference include:

(a) NRCS Standard 313, dated December 2005. NRCS Standard 313, dated December 2005, includes all of the following materials:

1. NRCS Agricultural Waste Management Field Handbook, Part 651, chs. 9 and 10, 1992.

2. NRCS Standard 342, dated June 2002.

3. NRCS Construction Specification 4, dated September 2003.

4. NRCS Construction Specification 203, dated March 2005.

5. NRCS Construction Specification 204, dated March 2005.

6. NRCS Construction Specification 300, dated December 2005.

7. American Concrete Institute 318, Building Code Requirements for Reinforced Concrete, in effect as of July 1, 2007.

8. ASTM Standard D−653−05.

9. ASTM Standard D−2488−00.

10. ASCE Standard SEI/ASCE 7−02.

11. ASAE Standard EP378.3.

12. ASAE Standard EP393.2.

(b) NRCS Standard 332, dated May 2002.

(c) NRCS Standard 360, dated December 2002.

(d) NRCS Standard 393, dated January 2001.

(e) NRCS Standard 585, dated June 2002.

(f) NRCS Standard 634, dated December 2005. NRCS Standard 634, dated December 2005, includes all of the following materials:

1. NRCS Construction Specification 15, Plastic Pipe Conduits, dated January 2006.

2. NRCS Standard 430DD−1, dated December 1988.

(g) NRCS Standard 635, dated January 2002. NRCS Standard 635, dated January 2002, includes all of the following materials:

1. NRCS Standard 350, dated July 2002.

2. NRCS Standard 612, dated March 2003.

Note: Copies of NRCS technical standards may be inspected at offices of the department, DATCP, NRCS, county land conservation departments and legislative reference bureau, Madison, Wisconsin. Copies may also be obtained at no charge online at www.wi.nrcs.gov.

Note: Copies of ASTM Standards may be obtained online at www.astm.org or at the corresponding address: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428−2959.

Note: Copies of ASCE Standards may be obtained from the American Society of Civil Engineers online at www.pubs.asce.org.

Note: Copies of ASAE Standards may be obtained from the American Society of Agricultural and Biological Engineers online at www.asabe.org.

History: CR 05−075: cr. Register April 2007 No. 616, eff. 7−1−07; **corrections in (1) and (2) (intro.) made under s. 13.92 (4) (b) 6., Stats.**

Subchapter II — Requirements for Large Concentrated Animal Feeding Operations

NR 243.11 Large concentrated feeding operations. (1) APPLICABILITY. The provisions of this subchapter are applicable to existing large CAFOs, proposed expansions of existing animal feeding operations that will become large CAFOs and newly proposed large CAFOs.

Note: Owners or operators of animal feeding operations are responsible for obtaining all necessary state and local permits and approvals in addition to those outlined in this subchapter.

(2) CALCULATION OF ANIMAL UNITS. The determination as to whether an existing, proposed or expanded operation meets the criteria of a large CAFO shall be based on the total number of animal units at the animal feeding operation calculated pursuant to s. NR 243.05. Based on the provisions of this subchapter and information provided as part of an operation's application for a WPDES permit, as required in s. NR 243.12, the department shall determine whether a WPDES permit is required for an operation.

(3) WPDES PERMIT COVERAGE REQUIRED. (a) Except as provided in par. (b), any person owning or operating a large CAFO that stores manure or process wastewater in a structure that is at or below grade or that land applies manure or process wastewater shall have a WPDES permit. A discharge of pollutants from manure or process wastewater to waters of the state by an unpermitted animal feeding operation with 1,000 animal units or more is prohibited. A pasture or grazing area may operate without WPDES permit coverage.

(b) If a person owns or operates an animal feeding operation with 999 animal units or less, and that person expands its operation to 1000 animal units or more due to the purchase of another animal feeding operation, that person has 90 days from the date of the purchase to apply for a WPDES permit.

(4) ADDITIONAL INFORMATION. If requested by the department, owners or operators of animal feeding operations indicating that their operation will have 900 animal units or more shall submit additional information to the department regarding how the estimated number of animal units was calculated in accordance with Table 2A and 2B.

History: CR 05−075: cr. Register April 2007 No. 616, eff. 7−1−07.

NR 243.12 WPDES permit application requirements. (1) GENERAL. A large CAFO may not discharge pollutants from manure or process wastewater to waters of the state unless the discharge is covered by and in compliance with a WPDES permit. Pursuant to s. 283.37 (2), Stats., a complete application for a WPDES permit shall be filed in accordance with the following requirements:

(a) Except as provided for in par. (c), a person who is proposing to own or operate a large CAFO that will store manure or process wastewater in a storage facility constructed at or below grade or that will land apply manure or process wastewater shall file a preliminary application for a WPDES permit at least 12 months prior to the intended date on which the operation will become a large CAFO. The preliminary application for a WPDES permit shall consist of completed forms 3400−25 and 3400−25A. The owner or operator shall then submit a completed final WPDES permit application under sub. (2) at least 180 days prior to the intended date on which the operation would become a large CAFO. The owner or operator of a proposed large CAFO may not discharge pollutants from manure or process wastewater to waters of the state until one of the following has occurred:

1. The department has issued an individual WPDES permit for the operation.

2. The department has granted general WPDES permit coverage to the operation under s. NR 243.121.

(b) An owner or operator of an operation that is defined as a large CAFO as of July 1, 2007, that is not already covered by a WPDES permit or that has not already submitted a WPDES permit

application, shall submit a complete permit application to the department by no later than July 31, 2007.

(c) An owner or operator of an animal feeding operation with 999 animal units or less that becomes a large CAFO as a result of the purchase of another animal feeding operation shall apply for a WPDES permit no later than 90 days from the date of the purchase.

Note: Owners or operators of an operation that has chickens or ducks with a non−liquid manure handling system, heifers, ducks or veal calves may become a CAFO for the first time due to the rule changes that became effective on July 1, 2007. Consequently, the department advises owners or operators to re−calculate the total number of animal units using the numbers in s. NR 243.05 and Table 2B to determine whether the operation has 1000 animal units or more and is required to obtain permit coverage.

(d) An owner or operator of a large CAFO that already holds a WPDES permit shall reapply at least 180 days prior to the expiration date of its current WPDES permit, unless all of the following apply:

1. The permittee has ceased operation or is no longer defined as a large CAFO under s. NR 243.03 (28).

2. The permittee has demonstrated to the department that there is no remaining potential for a discharge of manure or process wastewater pollutants to waters of the state that was generated while the operation was a CAFO.

3. The permittee submits a letter to the department documenting that subds. 1. and 2. have been satisfied.

Note: Due to the extent of water resources in the state, it is the department's position that if the manure or process wastewater from a CAFO is land applied to sites in Wisconsin, pollutants from the manure or process wastewater will reach waters of the state either via leaching to groundwater or surface runoff. Also, it is the department's position that storage facilities constructed at or below grade will have some pollutant discharges to groundwater. Therefore, all large CAFOs must apply for a WPDES permit.

(2) CONTENTS OF A FINAL PERMIT APPLICATION. (a) For a person applying for a first time permit issuance, a complete final permit application shall consist of the following:

1. The location of the existing or proposed site on maps including aerial photographs and soil survey maps.

2. A scaled drawing of existing and proposed animal housing, feed storage structures and other raw materials storage areas. The production area shall be clearly delineated as well as ancillary service and storage areas. Existing features shall be clearly delineated from proposed features.

3. A description and scaled drawing of existing and proposed manure storage or composting facilities, process wastewater storage or treatment facilities and other treatment systems. Plans and specifications for new manure storage or composting facilities and process wastewater facilities or proposed modifications to existing storage, composting or treatment facilities or systems shall be submitted. Upon approval by the department, plans and specifications for proposed storage, composting or treatment facilities may be submitted during the term of the permit if construction of the facilities will begin during the term of the permit. In addition, evaluations of existing storage, composting or treatment facilities or systems not previously reviewed and approved by the department shall be submitted.

Note: Stormwater construction site permit procedures and requirements outlined in ch. NR 216 may apply to construction activities.

4. A description and scaled drawing of existing and proposed runoff control systems, groundwater monitoring systems, water supply wells, permanent spray irrigation systems or other landspreading or treatment systems. Plans and specifications for new systems or proposed modifications to existing systems shall be submitted. Upon approval by the department, plans and specifications for proposed systems may be submitted during the term of the permit if construction of these facilities is planned to begin during the term of the permit. In addition, evaluations of existing systems not previously reviewed and approved by the department shall be submitted.

Note: Department approval to submit plans and specifications for proposed systems and evaluations of existing systems during the term of the permit does not delay compliance with the requirements in s. NR 243.13.

5. A description and scaled drawing of any existing and proposed ancillary service and storage areas and outside animal lots, including a map showing the area's size and location, the number of animals to be using the area, projected number of days in use, and type and percent of vegetative cover to be maintained.

6. A complete nutrient management plan that meets the requirements of s. NR 243.14. The plan shall be based on the volume of manure that will be generated by the operation from 1,000 animal units or the number of animal units that are expected to be at the operation by the end of the first year of permit coverage, whichever is greater. The permittee shall specify the expected number of animal units at the operation for the first year of the permit and during the permit term. The plan shall include all of the following information:

a. A narrative overview of the operation's nutrient management plan including a general description of anticipated amounts and types of manure and process wastewater produced on an annual basis, amount of manure and process wastewater to be land applied, anticipated frequency of land application for manure and process wastewater, methods of land application, and other methods of use, disposal, distribution or treatment.

b. Additional information the department requests for the purpose of identifying possible water quality impacts associated with an operation's land application activities.

7. Any other information requested by the department that is necessary to comply with the requirements of ch. NR 150.

Note: The department has developed an environmental analysis questionnaire identifying most of the information needed to comply with ch. NR 150 that is included as part of a large CAFO's application package for first time issuances.

(b) For operations submitting a reissuance application, a complete reissuance application shall consist of the following:

1. Information on changes to the operation that have occurred during the current permit term and changes that are anticipated during the upcoming permit term, including changes that are necessary to comply with this chapter.

2. The location of the existing site and proposed modifications to the site on maps such as aerial photographs and soil survey maps.

3. Scaled drawing and descriptions of existing and proposed animal housing, manure storage, composting and treatment facilities, process wastewater storage or treatment facilities or systems, runoff control structures or systems, feed storage structures, groundwater monitoring systems, water supply wells, ancillary and service storage areas, loafing and outside lot areas and feed storage structures. Existing features shall be clearly delineated from proposed features.

4. An updated nutrient management plan reflecting changes that have occurred at the operation since the previous permit issuance or reissuance and that incorporates the requirements in this chapter.

5. A description of permanent spray irrigation systems and any other landspreading or treatment systems.

6. Any other information requested by the department that is necessary to comply with the requirements of ch. NR 150.

(3) APPLICATION FORMS. Final permit and reissuance application information shall be submitted along with completed forms 3400−25 and 3400−25A. The department shall take action on a complete application pursuant to s. NR 200.10.

Note: Applications and forms 3400−25 and 3400−25A can be obtained at regional offices of the department or the department's Bureau of Watershed Management, 101 S. Webster St., P.O. Box 7921, Madison, Wisconsin 53707.

History: CR 05−075: cr. Register April 2007 No. 616, eff. 7−1−07.

NR 243.121 General permit coverage. (1) GENERAL PERMIT. (a) The department may issue a WPDES general permit to cover a category or group of CAFOs where the department has determined that the operations will not be covered by an individual permit issued pursuant to s. 283.37 (2), Stats.

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(b) For purposes of this section, a category or group of CAFOs may be defined by size of operation, type of livestock or species, geographic or watershed area, method of managing manure or any other feature or attribute that the department determines is appropriate for defining a category of coverage.

(2) GENERAL PERMIT APPLICATION REQUIREMENTS. An owner or operator seeking coverage under a general permit shall submit an application to the department in accordance with s. NR 243.12 and shall include information documenting that the operation qualifies for the general permit based on the eligibility criteria specified in the general permit.

(3) GENERAL PERMIT ELIGIBILITY. The department shall specify criteria for determining eligibility for general permit coverage in the WPDES general permit.

(4) INDIVIDUAL PERMIT COVERAGE. Under s. 283.35 (3), Stats., the department may withdraw general permit coverage for a CAFO and issue an individual permit to the CAFO. The CAFO shall submit additional information requested by the department that is needed for issuance of an individual permit.

Note: The department may allow a permittee to participate in a cooperative compliance program to assist the CAFO with maintaining compliance with a general permit. A cooperative compliance program is an organization comprised of several CAFOs that have been granted permit coverage under a general permit. Cooperative compliance programs primarily assist facilities in maintaining compliance with general permits. Cooperative compliance programs retain environmental experts with substantial experience and knowledge in the management of manure and nutrients, design and maintenance of agricultural best management practices and environmental protection.

History: CR 05−075: cr. Register April 2007 No. 616, eff. 7−1−07.

NR 243.13 Standard WDPES permit requirements for large CAFOs. (1) GENERAL. The department shall include conditions in permits that meet the requirements in subs. (2) to (8), if applicable to the primary livestock type housed at the CAFO. Pursuant to s. 283.31, Stats., the department shall include conditions in a WPDES permit for the production area and ancillary service and storage areas to ensure that clean water is diverted, as appropriate, from the production area and that are necessary to achieve compliance with surface water and groundwater quality standards contained in chs. NR 102 to 105, 140 and 207, and the livestock performance standards and prohibitions prescribed in ch. NR 151.

Note: Large CAFOs are not eligible for cost sharing under chs. NR 153 and 154, nor is cost sharing necessary for compliance with the livestock performance standards and prohibitions.

(2) DAIRY COWS, CATTLE AND DUCKS. (a) The standard in this subsection applies to large CAFOs that confine mostly mature dairy cows, milking or dry, or cattle such as heifers, steer or bulls, or ducks. Except as provided in par. (b) or (c), a large CAFO may not discharge manure or process wastewater pollutants to navigable waters from the production area, unless all of the following apply:

1. Precipitation causes an overflow of manure or process wastewater from a containment or storage structure.

2. The containment or storage structure is properly designed, constructed and maintained to contain all manure and process wastewater from the operation, including the runoff and the direct precipitation from a 25−year, 24−hour applicable rainfall event.

3. The production area is operated in accordance with the inspection, maintenance and record keeping requirements in s. NR 243.19.

Note: Operations are not allowed to discharge pollutants to navigable waters under any circumstance or storm event from areas of the production area where manure or process wastewater is not properly stored or contained by a structure. Wastewater treatment strips, grassed waterways or buffers are examples of facilities or systems that by themselves do not constitute a structure.

(b) 1. The department may establish an alternative discharge limitation to the standard limitation established in par. (a) if an applicant or permittee requests an alternative limitation. When requesting an alternative site specific limitation, the applicant or permittee shall submit all of the following additional information as part of the application for WPDES permit issuance or reissuance:

a. A technical analysis, calculations and other relevant information that demonstrates that the discharge of pollutants, on a mass basis, associated with the alternative limitation will be equal to or less than the mass loading of pollutants associated with achieving the standard limitations in par. (a).

b. A calculation of daily inputs to the storage systems and all daily outputs from the storage systems, including losses due to evaporation, sludge removal, and off−site transport of manure and wastewater.

c. A calculation determining the median annual overflow volume based on a 25−year period of actual rainfall data applicable to the site.

d. Representative samples and analysis of all sources of input into the storage systems for nitrogen, phosphorus, BOD_5 and total suspended solids, or other applicable pollutant data.

e. Predicted annual average discharge of pollutants, expressed, where appropriate, as a mass discharge on a daily basis in pounds per day, and calculated considering the information in this subd. 1. b. to d.

f. Any additional information requested by the department.

2. The department may approve an alternative limitation if the alternative limitation is based on site specific alternative technologies that will achieve a quantity of pollutants discharged from the production area that is equal to or less than the quantity of pollutants that would be discharged if the production area was designed, constructed, operated and maintained in compliance with the standard limitation in par. (a). If approved, the alternative limit shall be included in the proposed WPDES permit.

(c) A large CAFO that primarily confines ducks, was in existence as of 1974 and has not completely replaced all of its production or processing equipment after 1974, may have a discharge of pollutants from the production area to navigable waters that meets the limits in 40 CFR part 412.22 provided the discharge will not exceed water quality standards. 40 CFR part 412.22 is incorporated by reference in s. NR 243.07. The department shall impose best management practices or effluent limitations on the discharge to address other pollutants associated with manure or process wastewater or to meet surface water or groundwater quality standards. If the permittee chooses this option, the permittee shall monitor pollutants in all runoff from the production area to demonstrate compliance with effluent limitations.

Note: Copies of 40 CFR part 412.22 and the other federal regulations referenced in 40 CFR part 412.22 are available for inspection at the office of the department, Madison, Wisconsin and U.S. EPA offices.

(3) SWINE, POULTRY OTHER THAN DUCKS AND VEAL CALVES. (a) Except as provided in par. (b), a large CAFO that is an existing source CAFO that confines mostly swine, poultry other than ducks or veal calves shall comply with the requirements in sub. (2).

Note: All existing source dairy, cattle, swine, poultry other than ducks, and veal operations, are subject to the same discharge limitations related to the 25−year, 24−hour storm event as well as the same allowances for alternative discharge limitations. New source swine, poultry other than ducks, and veal calves have more restrictive discharge limitations and additional criteria for receiving alternative discharge limitations.

(b) A large CAFO that is a new source CAFO and that confines mostly swine, poultry other than ducks or veal calves may not discharge manure or process wastewater pollutants into navigable waters from the production area except as provided in par. (c). Storage and containment facilities and structures shall be designed, constructed, operated and maintained to contain all manure and process wastewater, including runoff and the direct precipitation from a 100−year, 24−hour rainfall event, and the production area shall be operated in accordance with the inspection, maintenance and recordkeeping requirements in s. NR 243.19.

(c) 1. For swine, poultry other than ducks or veal calf operations that are new source CAFOs, the department may establish

an alternative discharge limitation to the applicable standard limitation established in par. (b) if an owner or operator of the large CAFO requests an alternative limitation. When requesting an alternative limitation under this paragraph, the applicant shall submit all of the following additional information as part of the application for WPDES permit issuance:

a. Calculations that demonstrate that the quantity of pollutants discharged from the production area will be offset by additional best management practices that achieve an equivalent or greater reduction in the quantity of pollutants released to other media, including water and air, from the production area or land application areas. The calculations shall be made on a mass basis, where appropriate.

b. Any other specific information requested by the department that is needed by the department to make a determination pursuant to this paragraph.

2. If approved by the department, the alternative limitation shall be established in the WPDES permit and shall be based on site specific innovative technologies that will achieve an overall environmental performance across all media that is equal to, or superior to, the reductions achieved by the standard as provided in par. (b).

(4) HORSES AND SHEEP. (a) This subsection applies to large CAFOs that confine mostly horses or sheep. All large CAFOs that confine mostly horses or sheep may not discharge process wastewater pollutants into navigable waters from the production area except if both of the following are met:

1. A rainfall event causes an overflow of process wastewater from a facility or structure designed, constructed, operated and maintained to contain all process wastewater generated including the runoff from a 25−year, 24−hour rainfall event.

2. The discharge complies with water quality standards.

(b) In a WPDES permit, the department may impose additional requirements or best management practices, or other restrictions for production area discharges of manure or process wastewater to meet surface water quality or groundwater standards.

(5) ALL LARGE CAFOS. (a) If a discharge of manure or process wastewater pollutants to waters of the state occurs, including a discharge allowed under subs. (2) to (4), the discharge shall comply with groundwater and surface water quality standards.

(b) The permittee may not allow livestock to come into direct contact with navigable waters in the production area.

(6) EMERGENCY RESPONSE PLAN. (a) *General.* Within 30 days of permit issuance or reissuance, a permittee shall develop an emergency response plan, or update an existing plan if necessary, that is designed to address unauthorized spills or discharges. For purposes of this subsection, unauthorized spills or discharges include catastrophic spills resulting from failures of containment or storage structures or equipment malfunctions, leakage from pumping systems and other events creating potential environmental damage. The emergency response plan shall be maintained at the production area in a place accessible to all employees. The permittee shall notify all employees involved with manure handling of the location and contents of the emergency response plan. Relevant portions of the plan shall be retained with land application equipment and with contracted land applicators. The plan shall be implemented whenever an unauthorized spill or discharge occurs. The plan shall be made available to the department upon request.

Note: Pursuant to s. 292.11, Stats., owners or operators of CAFOs are required to report spills of hazardous substances. Under s. 292.11, Stats., manure can be considered a hazardous substance.

(b) *Plan content.* The emergency response plan shall include all of the following information:

1. The names and telephone numbers of persons who are identified by the permittee as responsible for implementing the emergency response plan.

2. Areas of the production area where potential unauthorized spills or discharges can occur, and their accompanying surface and subsurface drainage points.

3. Procedures to be followed in the event of an unauthorized spill or discharge, including the following:

a. Actions to contain, minimize and manage any unauthorized discharge.

b. Actions to mitigate the adverse effects of any unauthorized discharge.

c. Identification of contractors, equipment, equipment technical support, clean−up materials and alternative manure storage that can be used in the event of an unauthorized discharge.

d. Identification of land application sites or alternative storage facilities that can be used in the event of an unauthorized discharge during precipitation events or when soils are saturated, frozen or snow covered. Those land application sites identified shall have the lowest potential to deliver pollutants to waters of the state out of all the land application sites available to the permittee.

e. Procedures for reporting the unauthorized discharge to the permittee's main operational contact, any applicable local emergency or health authorities, and the department in accordance with permit requirements and s. 292.11, Stats.

(c) *Amendments.* The emergency response plan shall be reviewed and, if appropriate or necessary, amended whenever the operation undergoes significant expansions or other changes that affect the volume or location of potential unauthorized spills or discharges. The plan shall be amended as needed to reflect changes in available equipment, available clean−up contractors or procedures to address unauthorized spills or discharges, or amended in accordance with comments provided by the department. Dates of plan amendments shall be retained with the plan at the production area.

(7) ANCILLARY SERVICE AND STORAGE AREAS. In accordance with the terms and conditions of the WPDES permit, a permittee may discharge contaminated storm water to waters of the state from ancillary service and storage areas provided the discharges of contaminated stormwater comply with groundwater and surface water quality standards. These areas include CAFO outdoor vegetated areas, access roads, sites used for the handling or storage of material or refuse other than manure, bedding, feed or process wastewater, areas for storage or maintenance of material handling equipment, areas for shipping and receiving, and other sources of contamination that are not identified as part of the production area. These areas do not include land application areas. The permittee shall take preventive maintenance actions and conduct periodic visual inspections to minimize the discharge of pollutants from these areas to surface waters. For CAFO outdoor vegetated areas, the permittee shall also implement the following practices:

(a) Manage stocking densities, implement management systems and manage feed sources to ensure that sufficient vegetative cover is maintained over the entire area at all times.

(b) Prohibit direct access of livestock or poultry to surface waters or wetlands located in or adjacent to the area unless approved by the department.

(c) Comply with other measures specified in the permit to prevent exceedances of groundwater and surface water quality standards.

Note: Examples of ancillary service and storage areas include access roads into the production area, pesticide storage, motor oil and fuel drums, equipment repair areas, and junk or scrap piles. These areas do not include land application areas or areas that are part of the production area. Contaminated stormwater discharges from construction site areas are subject to the WPDES permit requirements under ch. NR 216.

(8) MORTALITY MANAGEMENT. (a) Animal carcasses may not be disposed of in a manner that results in a discharge of pollutants to surface waters, violates groundwater standards or impairs wetland functional values. Animal carcasses may not be disposed of

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directly into waters of the state. In addition, carcasses may not be disposed of in liquid manure or process wastewater containment, storage or treatment facilities unless the containment, storage or treatment facility is adequately designed to contain and treat carcasses and the facility has been approved by the department for that use.

(b) The permittee shall maintain records of mortality management and disposal methods in accordance with s. NR 243.19.

Note: The permittee should be aware that there are additional restrictions on the disposal of animal carcasses in ch. 95, Stats., and ch. ATCP 3. Furthermore, there may be local regulations regarding disposal of carcasses. If a carcass is disposed of off−site, the disposal may be subject to the requirements in s. NR 502.12 or ch. NR 518.

Note: In accordance with s. 283.53, Stats., the term of a WPDES permit cannot exceed 5 years.

History: CR 05−075: cr. Register April 2007 No. 616, eff. 7−1−07.

NR 243.14 Nutrient management. (1) NUTRIENT MANAGEMENT PLANS. (a) *General.* Permittees shall submit a nutrient management plan developed by a nutrient management planner qualified under s. ATCP 50.48 to the department for review and approval outlining the amounts, timing, locations, methods and other aspects regarding the land application of manure and process wastewater. A complete nutrient management plan shall be submitted with a permit application in accordance with s. NR 243.12. The nutrient management plan shall comply with the requirements of this section and the permittee's WPDES permit. Subject to additional requirements specified in this section and in a WPDES permit, the land application practices identified in the nutrient management plan shall, at a minimum, conform with the nutrient budgeting, soil test recommendations, application practices and restrictions contained in NRCS Standard 590.

(b) *Plan content.* The permittee's nutrient management plan shall contain information necessary to document how the operation's land application activities will comply with the restrictions in NRCS Standard 590, this chapter and the conditions of the operation's WPDES permit. In cases where there is limited acreage available for application, the department may require that the permittee submit additional or more specific information, including verification that the permittee has permission to land apply manure on fields not owned by the permittee. The department may require additional management practices be included in the nutrient management plan to ensure compliance with the requirements of this chapter and the permittee's WPDES permit.

Note: The Wisconsin Conservation Planning Technical Note WI−1 contains additional detail on the information that needs to be included in a plan drafted in accordance with NRCS Standard 590, as well as additional background information useful for nutrient management planning. While additional information beyond that outlined in the technical note is needed to comply with the requirements of this section, the technical note does provide general guidance on how to create a nutrient management plan.

(c) *Amendments.* 1. The nutrient management plan shall be reviewed and amended by the permittee on an annual basis to reflect any changes in operations. Except as provided in subd. 2., the management plan may be amended at any time provided the proposed amendments are approved in writing by the department. An amendment does not become effective until the department has reviewed and approved the amendment.

2. The department may establish a condition in the WPDES permit that allows the permittee to implement certain types of nutrient management plan amendments without obtaining, or prior to obtaining, department approval.

(2) GENERAL REQUIREMENTS. (a) A discharge of manure or process wastewater pollutants to waters of the state by a CAFO as a result of the land application of manure or process wastewater is subject to the WPDES permit terms and conditions except where the discharge is an agricultural storm water discharge. A permittee's land application practices for manure and process wastewater shall comply with this section, the terms and conditions of the WPDES permit and the permittee's approved nutrient management plan. Except as provided in s. NR 243.142 (2), the permittee is responsible for ensuring that the manure and process wastewater generated or handled at the operation is land applied or disposed of in a manner that complies with this subchapter and the terms and conditions of the WPDES permit.

(b) A permittee who land applies manure or process wastewater shall land apply all manure and process wastewater in compliance with the following requirements:

1. Manure or process wastewater may not pond on the application site.

2. During dry weather conditions, manure or process wastewater may not run off the application site, nor discharge to waters of the state through subsurface drains.

3. Manure or process wastewater may not cause the fecal contamination of water in a well.

4. Manure or process wastewater may not run off the application site nor discharge to waters of the state through subsurface drains due to precipitation or snowmelt except if the permittee has complied with all land application restrictions in this subchapter and the WPDES permit, and the runoff or discharge occurs as a result of a rain event that is equal to or greater than a 25−year, 24−hour rain event.

5. Manure or process wastewater may not be applied to saturated soils.

6. Land application practices shall maximize the use of available nutrients for crop production, prevent delivery of manure and process wastewater to waters of the state, and minimize the loss of nutrients and other contaminants to waters of the state to prevent exceedances of groundwater and surface water quality standards and to prevent impairment of wetland functional values. Practices shall retain land applied manure and process wastewater on the soil where they are applied with minimal movement.

7. Manure or process wastewater may not be applied on areas of a field with a depth to groundwater or bedrock of less than 24 inches.

8. Manure or process wastewater may not be applied within 100 feet of a direct conduit to groundwater.

9. Manure or process wastewater may not be applied within 100 feet of a private well or non−community system as defined in ch. NR 812 or within 1000 feet of a community well as defined in ch. NR 811.

10. On a field with soils that are 60 inches thick or less over fractured bedrock, manure or process wastewater may not be applied on frozen ground or where snow is present.

11. Manure or process wastewater may not be applied on fields when snow is actively melting such that water is flowing off the field.

12. Where incorporation of land applied manure is required under NRCS Standard 590, the incorporation shall occur within 48 hours of application.

13. Manure or process wastewater may not be surface applied when precipitation capable of producing runoff is forecast within 24 hours of the time of planned application.

(c) Land application of process wastewater shall be included in the permittee's nutrient management plan and shall be done in accordance with the requirements of this section, except that process wastewater may be applied to frozen or snow covered ground in accordance with the requirements in s. NR 214.17 (2) to (6) instead of subs. (6) and (7). The permittee shall specify in the nutrient management plan or permit application whether process wastewater will be applied to frozen or snow−covered ground in accordance with subs. (6) and (7) or s. NR 214.17 (2) to (6).

(d) If incorporation is required under this section or the WPDES permit, the permittee shall specify the method of incorporation in the nutrient management plan.

Note: In addition to implementing practices specified in a nutrient management plan, the permittee should consider the following factors when making decisions about the timing of application and placement of manure and process wastewater on fields: the ability of the soil to absorb or otherwise hold liquids associated with manure and process wastewater based on the soil's moisture content or permeability, if snow is present on a field or the ground is frozen, the prediction of temperature increases that will likely result in sudden snowmelts or pollutant movement, upslope

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areas contributing runoff or snow melt to the site where applications occur, and other field conditions that may contribute to runoff events.

(e) A permittee shall identify as part of its nutrient management plan, to the maximum extent practicable, the presence of subsurface drainage systems in fields where its manure or process wastewater is applied.

(f) Subject to other restrictions on application rates in this section, the permittee shall use results of manure, process wastewater and soil analyses to determine nutrient application rates for manure and process wastewater.

Note: Under s. NR 243.19, the permittee shall conduct sampling of manure, process wastewater and soils, keep records associated with sampling and land application activities and submit reports to the department regarding the sample results and land application of manure and process wastewater.

Note: Pursuant to s. NR 243.142, the permittee is responsible for land application activities of the manure and process wastewater generated by the large CAFO, including the land application activities of contract haulers and employees.

(3) NUTRIENT CREDITING. A permittee's manure and process wastewater application rates shall take into account soil nutrient levels prior to landspreading, nutrient applications from other sources, including commercial fertilizers, biosolids, first and second year manure and legume credits, and other sources of nutrients that are expected to be applied or have already been applied to land where manure or process wastewater will be applied. Adjustments shall be made to assumed nutrient credits based on actual crop yields.

(4) SWQMA APPLICATION RESTRICTIONS. (a) Subject to additional restrictions in subs. (6) and (7) for the winter season, a permittee shall choose and implement one of the following options whenever manure or process wastewater is applied on areas of fields within the SWQMA:

1. Not apply manure or process wastewater within 25 feet of a navigable water, conduit to a navigable water or wetland; and inject or immediately incorporate manure and process wastewater in all other areas within the SWQMA.

2. Not apply manure or process wastewater within 25 feet of a navigable water, conduit to a navigable water or wetland; and surface apply liquid manure and process wastewater in all other areas of the SWQMA provided that all of the following conditions are met:

a. The application is on long−term no−till ground.

b. The ground has 30% crop residue or more at the time of application.

c. The hydraulic application rate is limited to that specified in Table 3.

3. Establish a 35−foot wide vegetated buffer adjacent to the navigable water, conduit to a navigable water or wetland where there is no application of manure or process wastewater on the buffer; and comply with a practice in this subd. 3. a. or b. For the purposes of this subdivision, a vegetated buffer means a narrow, permanent strip of dense perennial vegetation established parallel to the contours of and perpendicular to the dominant slope of the field for the purposes of slowing water runoff, enhancing water infiltration, and minimizing the risk of any potential nutrients or pollutants from leaving the field and reaching navigable waters.

a. Inject or immediately incorporate manure and process wastewater in all other areas within the SWQMA, or

b. Surface apply in all other areas of the SWQMA provided the ground has 30% residue or more at the time of application and the hydraulic application rate is limited in accordance with Table 3.

4. Establish a filter strip that is a minimum of 21 feet wide adjacent to the navigable water, conduit to a navigable water or wetland; and comply with a practice in this subd. 4. a. or b. The filter strip shall be designed in accordance with NRCS Standard 393, dated January 2001. NRCS Standard 393, dated January 2001, is incorporated by reference in s. NR 243.07.

Note: Copies of NRCS Standard 393, dated January 2001 and documents referenced in this standard may be inspected at the offices of the department, DATCP, NRCS, county land conservation departments and the legislative reference bureau, Madison, Wisconsin.

a. Inject or immediately incorporate manure and process wastewater in all other areas within the SWQMA, or

b. Surface apply in all other areas of the SWQMA provided the ground has 30% residue or more at the time of application and the hydraulic application rate is limited in accordance with Table 3.

5. Not apply manure or process wastewater within 100 feet of a navigable water or conduit to a navigable water.

6. Implement other practices within the SWQMA that are approved, in writing, by the department provided that the permittee demonstrates pollutant reductions are equivalent to, or better than, reductions achieved by not applying manure or process wastewater within 100 feet of downgradient navigable waters or conduits to navigable waters.

Note: The Wisconsin buffer initiative may provide additional information on the proper design and use of riparian buffers to best protect water quality.

Note: Demonstrations of equivalent practices may consist of model outputs, calculations or other means of demonstrating equivalent pollutant reductions.

(b) The nutrient management plan shall specify the land application practices that have been selected and will be followed on each field to meet the requirements of this subsection. Permittees implementing practices under par. (a) 1., 2. or 4. shall demonstrate to the department how the practices provide for pollutant reductions equivalent to, or better than, reductions achieved by not applying manure and process wastewater within 100 feet of downgradient navigable waters or conduits to navigable waters.

(c) If the application rates in Table 3 apply pursuant to any of the requirements in par. (a) 2. to 4., any additional applications made to meet the allowed nutrient crop budget shall be done with a minimum of 7 days between applications, provided the soils are not saturated.

TABLE 3
Maximum Rates of Unincorporated Liquid Manure and Process Wastewater Applied Within a SWQMA

Surface Texture Class[1]	Max Application Rate (gallons/acre)
Fine	5,000
Medium	7,500
Coarse	10,000

1 Fine – clay, silty clay, silty clay loam, clay loam.
Medium – sandy clay, sandy clay loam, loam, silt loam, silt.
Coarse – loamy sand, sandy loam, sand. This category includes peat and muck based on their infiltration capacity.

(5) PHOSPHORUS DELIVERY. (a) The permittee shall assess and minimize the potential for delivery of phosphorus to waters of the state from fields by applying its manure and process wastewater in accordance with one of the methods specified in subd. 1. or 2. The permittee shall specify the method it will apply to a field in the nutrient management plan.

1. Use the soil test phosphorus method specified in NRCS Standard 590. In addition, for applications to fields directly adjacent to, or that have been determined by the department to have a high potential to deliver phosphorus to, 303 (d) listed waters impaired by nutrients or outstanding or exceptional resource waters, the permittee may not increase soil test phosphorus levels over a crop rotation unless the permittee receives department approval, and the permittee can demonstrate that deliverability of phosphorus to these waters will not increase as a result of increases in soil test phosphorus in the field. The permittee may not raise soil test phosphorus levels over a rotation above the optimum level for the highest phosphorus demanding crop in a rotation for a field with soil test phosphorus levels below optimum levels.

Note: Maps or written descriptions of the locations of outstanding and exceptional resource and 303 (d) listed waters can be found on the department's website at http://dnr.wi.gov.

Note: In accordance with s. NR 243.14 (1) (a) and NRCS Standard 590, a permittee shall determine optimum soil phosphorus levels for various Wisconsin crops as

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specified in University of Wisconsin−Extension Publication A2809, "Soil Test Recommendations for Field, Vegetable and Fruit Crops."

2. Use the phosphorus index method specified in NRCS Standard 590.

(b) If a permittee applies manure or process wastewater on fields with soil test levels greater than 100 ppm, the permittee shall comply with the requirements in both subd. 1. and 2.:

1. For fields with soil test phosphorus levels between 100 ppm and 200 ppm, the permittee shall calculate the planned average phosphorus index value for the crop rotation or for the next 4−year period, whichever time period is less. If the calculated average phosphorus index value is greater than 6, manure and process wastewater applications to that field are prohibited. If the calculated phosphorus index value is 6 or less, applications are allowed provided that the cumulative application of phosphorus from manure and process wastewater does not exceed 50% of the cumulative annual crop phosphorus removal over the rotation or the next 4−year period, whichever is less.

2. For fields with soil test phosphorus levels of 200 ppm and greater, applications of phosphorus from manure and process wastewater are prohibited unless the permittee receives department approval. The department may only approve the application if all of the following requirements are met:

a. The permittee can demonstrate that additional applications of manure or process wastewater will not significantly increase phosphorus delivery to surface waters or wetlands.

b. The permittee calculates the planned average phosphorus index value for the rotation or the next 4−year period, whichever is less and the planned average phosphorus index value is 6 or less.

c. The cumulative application of phosphorus from manure and process wastewater does not exceed 50% of the cumulative annual crop phosphorus removal over the rotation or the following 4−year period, whichever is less.

Note: Strategies for assessing and reducing phosphorus index (PI) values, algorithms, and software for calculating the Wisconsin PI can be found at http://wpindex.soils.wisc.edu/.

Note: A permittee that complies with the requirements of this section and its WPDES permit also addresses delivery of nitrogen to waters of the state.

Note: Also see s. NR 217.04 (1) (a) 5.

(6) SOLID MANURE WINTER RESTRICTIONS. The restrictions in this subsection apply to the land application of solid manure on frozen or snow covered ground.

(a) *Frozen ground−solid manure.* Unless prohibited under par. (c), solid manure may be surface applied on frozen ground if the manure is applied in compliance with the restrictions in Table 4 or otherwise immediately incorporated.

(b) *Snow covered ground−solid manure.* Unless prohibited under par. (c), solid manure may only be land applied to snow covered ground in accordance with the following:

1. If less than one inch of snow is present on the area where manure is to be land applied, the permittee may surface apply or immediately incorporate the solid manure.

Note: If there is less than one inch of snow on the ground and the ground is frozen, pursuant to par. (a), Table 4 restrictions must be followed when surface applying solid manure.

2. If one to 4 inches of snow is present on the area where manure is to be land applied, the permittee shall surface apply the manure in compliance with restrictions in Table 4 or otherwise immediately incorporate the solid manure.

3. If more than 4 inches of snow is present on the area where manure is to be land applied, the permittee shall surface apply the solid manure in compliance with the restrictions in Table 4. Incorporation of solid manure is prohibited.

Note: It is assumed that proper incorporation of solid manure is not achievable if more than 4 inches of snow is present at the time of application.

(c) *High−risk runoff period.* 1. Beginning January 1, 2008, solid manure may not be surface applied from February 1 through March 31 if any of the following conditions exist on the area of the field where the manure is to be applied:

a. Snow is present to a depth of one inch or greater.

b. The ground is frozen.

Note: Under the initial applicability provisions, the prohibition of surface application of solid manure during the high−risk period does not apply to an operation permitted as of July 1, 2007, until permit reissuance or modification. An exception to delaying compliance until permit reissuance or modification is if an operation is permitted as of July 1, 2007, and the permit requires compliance upon written department notification. Under par. (c), department notification may not require compliance prior to January 1, 2008.

Note: Solid manure may be surface applied at other times of the winter, or may be incorporated at other times during the winter, including high−risk runoff periods, if the application is done in accordance with pars. (b) and (c) and other land application requirements in this chapter.

(d) To meet the requirements of par. (c), a permittee may choose to stack solid manure generated at a production area location in accordance with s. NR 243.141 (1) rather than use a storage facility that meets the design requirements in s. NR 243.15.

TABLE 4
Restrictions for Surface Applying Solid Manure on Frozen and Snow Covered Ground

Criteria	Restrictions for fields With 0−6% slopes	Restrictions for fields with slopes > 6% and up to 9%	Restrictions for fields with slopes greater than 9%
Required fall tillage practice prior to application	Chisel or moldboard plow, no−till or a department approved equivalent[A]	Chisel or moldboard plow, no−till or department approved equivalent[A]	Not allowed
Minimum % solids allowed	12%	> 20%	Not allowed
Application rate (cumulative per acre)	Not to exceed 60 lbs. P_2O_5 per winter season, the following growing season's crop P_2O_5 budget taking into account nutrients already applied, or phosphorus application restrictions specified in a department approved nutrient management plan, whichever is less	Not to exceed 60 lbs. P_2O_5 per winter season, the following growing season's crop P_2O_5 budget taking into account nutrients already applied, or phosphorus application restrictions specified in a department approved nutrient management plan, whichever is less	Not allowed
Setbacks from surface waters	No application allowed within SWQMA	No application allowed within 2.0 x SWQMA	Not allowed
Setbacks from downslope areas of channelized flow, vegetated buffers, and wetlands	200 feet	400 feet	Not allowed
Setbacks from direct conduits to groundwater	300 feet	600 feet	Not allowed

[A] All tillage and farming practices shall be conducted in accordance with the following requirements; 0−2% slope = no contouring required, >2−6% slope = tillage and practices conducted along the general contour, >6% slope = tillage and farming practices conducted along the contour. The department may approve alternative tillage practices on a case−by−case basis in situations where conducting practices along the contour is not possible. Allowances for application on no−till fields only apply to fields where no−till practices have been in place for a minimum of 3 years.

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(7) LIQUID MANURE WINTER RESTRICTIONS. The following additional restrictions in this subsection apply to the land application of liquid manure on frozen or snow covered ground:

(a) *Frozen ground−liquid manure.* Surface application of liquid manure on frozen ground is prohibited, except for an emergency situation under par. (d) or if allowed under par. (e). Injection or immediate incorporation of liquid manure is allowed on frozen ground, except if prohibited due to snow covered conditions under par. (b).

(b) *Snow covered ground−liquid manure.* Unless prohibited under par. (c) and subject to the frozen ground prohibition in par. (a), liquid manure may only be land applied to snow covered ground in accordance with the following:

1. If less than one inch of snow is present on the area where liquid manure is to be applied, surface application, injection or immediate incorporation of liquid manure is allowed.

2. If there is one to 4 inches of snow present on the area where liquid manure is to be applied, surface application of liquid manure is prohibited, except for department approved emergencies under par. (d) or if allowed under par. (e). Immediate incorporation or injection is allowed on areas where there is one to 4 inches of snow.

3. If there is greater than 4 inches of snow on the area where liquid manure is to be applied, surface application and incorporation of liquid manure is prohibited, except for department approved emergencies under par. (d) or if allowed under par. (e). Injection of liquid manure is allowed on areas where there is greater than 4 inches of snow.

(c) *High−risk runoff period.* 1. Unless there is a department approved emergency situation under par. (d), liquid manure may not be surface applied from February 1 through March 31.

Note: Prior to January 1, 2010, existing source CAFOs may surface apply liquid manure at other times of the winter. Also, during the high−risk period, liquid manure may be injected or incorporated if allowed under pars. (b) and (c) and other requirements in this chapter.

(d) *Emergency applications for liquid manure.* 1. Except as provided in subd. 3., a permittee may surface apply liquid manure on frozen or snow covered ground on an emergency basis in accordance with the restrictions in Table 5 if all of the following conditions are met:

a. The manure is from a storage or containment facility that is designed and maintained in accordance with ss. NR 243.15 and 243.17 to provide 180 days of storage for the manure.

b. The application of manure is necessitated by exceedances or expected exceedances of the margin of safety level that were unavoidable due to unusual weather conditions, equipment failure or other unforeseen circumstances beyond the control of the permittee.

c. The permittee has notified the department verbally prior to the emergency application. Unless necessitated by imminent impacts to the environment or human or animal health, the permittee may not apply manure to a field on an emergency basis until the department has verbally approved the application.

d. The permittee submits a written description of the emergency application and the events leading to the emergency application to the department within 5 days of the emergency application.

2. Allowances for emergency surface applications of liquid manure do not apply to situations where a permittee has failed to properly maintain storage capacity either through improper design or management of the storage facility, including failure to properly account for the number or volume of wastestreams entering the facility, failure to empty a storage or containment facility in accordance with permit conditions prior to the onset of frozen or snow covered ground conditions or due to an increase in animal units.

Note: The allowance for emergency surface applications in compliance with permit conditions is intended to avoid more significant impacts to human health and water quality associated with uncontrolled overflows of manure storage facilities. Causes of emergency surface applications could include conditions such as prolonged storm events or early onset of frozen ground conditions that preclude applications of manure prior to the onset of frozen or snow covered ground conditions provided that the operation made all other attempts to maintain storage volume before an emergency application became necessary.

3. The permittee shall conduct emergency surface applications of liquid manure in accordance with the restrictions in Table 5. The permittee may only conduct emergency surface applications on fields that the department has approved for emergency applications, in writing, as part of a nutrient management plan. The department may approve alternate fields and impose alternative restrictions, in writing and on a case−by−case basis, if fields that meet the restrictions in Table 5 are not available at the time of the emergency application, the permittee has explored all other options identified in its emergency response plan and the application results in a winter acute loss index value of 4 or less using the phosphorus index.

Note: The winter acute loss index value is displayed under the heading "Acute Loss Frozen Soil PI" in the cropping screen of the Snap−Plus nutrient management software program.

Note: Reporting requirements for emergency surface applications are contained in s. NR 243.19.

(e) *Existing source CAFOs−liquid manure exception.* Prior to January 1, 2010, if an existing source CAFO does not have 180 days of storage for liquid manure as specified in s. NR 243.15, the permittee may surface apply liquid manure on frozen or snow covered ground in accordance with the restrictions in Table 5 without satisfying the emergency criteria in par. (d). If a permittee does not have access to sites that meet the criteria in Table 5, the department may approve alternate sites and restrictions, in writing on a case−by−case basis as part of a nutrient management plan provided the application results in a winter acute loss index value of 4 or less using the phosphorus index. This allowance for existing source CAFOs to surface apply liquid manure on frozen or snow covered ground without satisfying the emergency criteria in par. (d) is not applicable after January 1, 2010.

Note: An existing source CAFO is defined under s. NR 243.115(1).

(f) *Frozen liquid manure.* Liquid manure that is frozen and cannot be transferred to a manure storage facility may be surface applied on frozen or snow−covered ground in accordance with the restrictions in Table 5. Surface applications of frozen liquid manure do not require prior department approval or notification provided application sites for frozen liquid manure are identified in the approved nutrient management plan. During February and March, the permittee shall notify the department if the permittee expects to surface apply frozen liquid manure more than 5 days in any one month.

Note: Applications of frozen manure under par. (f) are limited to times when the operation's manure handling system is not functioning due to very cold weather.

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TABLE 5
Frozen and Snow Covered Ground Restrictions – Emergency Surface Applications of Liquid Manure

Criteria	Restrictions for fields with 0−2% slopes	Restrictions for fields with >2−6% slopes	Restrictions for fields with slopes greater than 6%
Required fall tillage practice prior to application	Chisel or moldboard plow or department approved equivalent[A]	Chisel or moldboard plow or department approved equivalent[A]	Not allowed
Application rate (cumulative per acre)	Maximum application volume of 7,000 gallons per acre per winter season, not to exceed 60 lbs. P_2O_5, the following growing season's crop P_2O_5 budget taking into account nutrients already applied or other phosphorus application restrictions specified in a department approved nutrient management plan, whichever is less	Maximum application volume of 3,500 gallons per acre per winter season, not to exceed 30 lbs. P_2O_5, the following growing season's crop P_2O_5 budget taking into account nutrients already applied, or other phosphorus application restrictions specified in a department approved nutrient management plan, whichever is less	Not allowed
Setbacks from surface waters	No application allowed within SWQMA	No application allowed within SWQMA	Not allowed
Setbacks from downslope areas of channelized flow, vegetated buffers, wetlands	200 feet	200 feet	Not allowed
Setbacks from direct conduits to groundwater	300 feet	300 feet	Not allowed

[A] All tillage and farming practices shall be conducted along the contour in accordance with the following requirements; 0−2% slope = no contouring required, >2−6% slope = tillage and practices conducted along the general contour. The department may approve alternative tillage practices on a case−by−case basis in situations where conducting practices along the contour is not possible

(8) IDENTIFICATION OF SITES. The permittee shall submit sites that meet or are expected to meet the criteria in Tables 4 and 5 for manure and the criteria in s. NR 214.17 (2) to (6) for process wastewater to the department for review and approval as part of its nutrient management plan. In addition, the permittee shall evaluate each field at the time of application to determine if conditions are suitable for applying manure and complying with the requirements of this section. All surface applications of manure or process wastewater on frozen or snow−covered ground shall occur on those fields that represent the lowest risk of pollutant delivery to waters of the state and where the application results in a winter acute loss index value of 4 or less using the phosphorus index.

(9) ADEQUATE STORAGE. All permittees shall have and maintain adequate storage for all manure and process wastewater generated at the operation to ensure that wastes can be properly stored and land applied in compliance with the conditions and timing restrictions of the permit, nutrient management plan and this chapter. As part of the nutrient management plan, the permittee shall provide the department with documentation that it has adequate storage and methods of maintaining adequate storage for manure and process wastewater generated at the operation. For liquid manure, adequate storage means a minimum of 180 days of storage designed and maintained in accordance with ss. NR 243.15 (3) (i) to (k) and 243.17 (3) and (4).

(10) ADDITIONAL RESTRICTIONS. The department may require the permittee to implement practices in addition to or that are more stringent than the requirements specified in this section when necessary to prevent exceedances of groundwater quality standards, prevent impairments of wetland functional values, prevent runoff of manure or process wastewater during dry weather conditions or to address previous manure or process wastewater runoff events or discharges from a site to waters of the state that occurred despite compliance with this section and the conditions of a WPDES permit. These conditions may include additional restrictions on nitrogen and phosphorus loadings or other nutrients and pollutants associated with the manure or process wastewater, injection or incorporation requirements, restrictions on winter landspreading, distribution schedules, and other management or site restrictions. The department may also consider nutrient management conditions contained in ch. ATCP 50 as well as the following site−specific factors when developing permit conditions or reviewing and approving the nutrient management plan or any proposed amendments to an approved nutrient management plan:

(a) Soil limitations such as permeability, infiltration rate, drainage class and flooding hazard.

(b) Volume and water content of the waste material.

(c) Available storage capacity and method of application.

(d) Nutrient requirements of the crop or crops to be grown on the fields utilizing the manure.

(e) The presence of subsurface drainage systems.

(f) Potential impacts to waters identified as source water protection areas.

(g) Potential impact to groundwater in areas with direct conduits to groundwater, shallow soils over bedrock, highly permeable soils and shallow depth to groundwater.

History: CR 05−075: cr. Register April 2007 No. 616, eff. 7−1−07.

NR 243.141 Manure stacking. (1) STACKING TO AVOID SURFACE APPLICATIONS IN FEBRUARY AND MARCH. For solid manure with a solids content of 16% or greater, the department may approve stacking of the manure outside of a department approved manure storage facility where a permittee chooses to stack solid manure in accordance with s. NR 243.14 (6) (d). Permittees choosing to stack solid manure under s. NR 243.14 (6) (d) shall land apply all stacked manure from a site within 8 months of the date when stacking first began at the site.

(2) OTHER STACKING ALLOWANCES. For periods when the ground is not frozen or snow−covered, the department may approve stacking of solid manure with a solids content of greater than 32% outside of a department approved manure storage facility on a case−by−case basis as allowed under a WPDES permit. Factors the department shall consider when approving stacking of solid manure on a case−by−case basis include the potential for leachate or runoff from the stack causing exceedances of surface water or groundwater quality standards or impairments to wetland functional values, information submitted or proposed to be submitted by the permittee outlining leaching and runoff characteristics of the manure, and practices to be implemented by the permittee to minimize the potential for leachate or runoff from the stack such as limiting the frequency, volume of manure to be stacked and length of stacking period.

(3) STACKING CONDITIONS. All proposed stacking sites shall be reviewed and approved by the department and identified in the permittee's nutrient management plan. Stacking approvals may be rescinded based on documented impacts to waters of the state

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at or from the stacking site. Stacking may only be approved provided the following requirements are met:

(a) When piled in a stack, the solid manure stack must be able to maintain its shape with minimal sloughing such that an angle of repose of 45 degrees or greater is maintained when the manure is not frozen.

(b) Stacking of solid manure outside of a department approved manure storage facility shall, at a minimum, meet the specifications in NRCS Standard 313, Table 9, dated December 2005. Alternatively, stacks may be placed on sites with soils in the hydrologic soil group D provided the manure has a solids content of greater than 32% and all other criteria in NRCS Standard 313, Table 9, dated December 2005, are met. NRCS Standard 313, dated December 2005, is incorporated by reference in s. NR 243.07.

Note: Copies of NRCS Standard 313, dated December 2005 and documents referenced in this standard may be inspected at the offices of the department, DATCP, NRCS, county land conservation departments and the legislative reference bureau, Madison, Wisconsin.

(c) The permittee shall implement any necessary additional best management practices to ensure stacking areas maintain compliance with the production area requirements in s. NR 243.13. Best management practices may include upslope clean water diversions or downslope containment structures.

Note: Manure with a solids content of approximately 20% or less may not meet the stacking criteria either because it cannot be stacked or is prone to runoff. This manure may require storage in a constructed facility during the months of February and March.

Note: Manure stacks are considered to be part of the animal production area and are subject to production area discharge restrictions in s. NR 243.13. For CAFOs, if a manure stack is not placed in a containment or storage structure or the runoff from the stack is not contained in a structure, discharges to navigable waters are not allowed under any circumstance or storm event.

(d) The stacked manure shall have minimal leaching so that leachate from the stack is contained within the designated stacking area and does not cause an exceedance of groundwater quality standards.

(e) Solid manure may not be stacked in a water quality management area.

(f) Stacks may only be placed on cropland.

(4) The department may require additional restrictions on stacking of solid manure needed to protect water quality, that include acceptable time periods for stacking, how long the manure stacks may remain in place, size of manure stacks, stack siting restrictions based on slope and soil conditions, loading and resting requirements of stacking sites, conservation practices and site monitoring requirements.

History: CR 05−075: cr. Register April 2007 No. 616, eff. 7−1−07.

NR 243.142 Responsibility for large CAFO manure and process wastewater. (1) GENERAL. Except as provided in sub. (2), the owner or operator shall be responsible for the storage, management and land application of all manure and process wastewater generated by the operation in accordance with terms and conditions contained in the WPDES permit and the approved nutrient management plan.

Note: If manure or process wastewater is stored or sent out of the state of Wisconsin, it is not regulated under ch. NR 243 or the WPDES permit once it is out of the state.

(2) EXEMPTIONS. Upon written department approval as required under sub. (3), once the manure or process wastewater is distributed offsite, the permittee is not responsible for the land application, use or disposal of manure or process wastewater if the manure or process wastewater is distributed in compliance with the conditions of the department approval and in accordance with any of the following:

(a) *De minimus quantity of solid manure distributed.* A de minimus amount of solid manure is sold or given away to another person. Under this paragraph, a de minimus amount of solid manure means the total quantity of manure distributed to the other person is no more than 175 cubic feet within a 30−day period and no more than 525 cubic feet within a 12−month period.

(b) *Distributed as a commercial product.* 1. The manure is sold or given away to another person and that person manipulates the manure, and distributes it as a commercial fertilizer pursuant to a fertilizer license issued by DATCP or distributes it as a soil or plant additive pursuant to a soil and plant additive license issued by DATCP.

2. The permittee manipulates the manure and distributes it as a commercial fertilizer pursuant to a fertilizer license issued by DATCP or distributes it as a soil or plant additive pursuant to a soil and plant additive license issued by DATCP. The permittee is responsible for the manipulated manure until it is distributed off−site to another person.

Note: If the permittee manipulates the manure and distributes the manure under a DATCP license, the permittee responsible for the manure and the manipulated manure is subject to the WPDES permit requirements until it is distributed off−site (off of any part of the CAFO) to another person. Transfer of responsibility can only occur if the conditions in sub. (3) are met.

(c) *Alternative uses of distributed manure.* For solid manure, the manure is sold or given away to another person for landscaping, greenhouse use, use as an animal bedding product or for other beneficial purposes that do not include application to croplands.

(d) *Manure or process wastewater is distributed to another permittee.* The manure or process wastewater is sold or given away to another operation permitted under a WPDES permit that has a department approved management plan that addresses the manure or process wastewater, and the manure or process wastewater will be land applied under the other permit.

(e) *Composted manure.* The manure is sold or given away to another person who composts the manure and the department has determined that the composting process and land application or use of the distributed manure will be more appropriately regulated under ch. NR 518.

(3) DEPARTMENT APPROVAL. If a permittee wants to transfer responsibility to another person for the land application, disposal or use of manure or process wastewater that will be distributed in accordance with one of the methods in sub. (2) (b) to (e), the permittee shall obtain written department approval for the distribution. If written approval is not obtained, the permittee remains responsible for the land application, disposal and use of the distributed manure or process wastewater in accordance with the terms of the permit and this chapter. To obtain department approval for the purposes of transferring responsibility, the permittee shall comply with all of the following conditions:

(a) Neither the permittee, its agent or a contract hauler working on behalf of the permittee may land apply the distributed manure.

(b) The permittee shall demonstrate to the department that the distributed manure will be beneficially used.

(c) If the manure is distributed in accordance with sub. (2) (b) or (c), and if the person receiving the manure intends to store the manure, the permittee shall demonstrate to the department that the distributed manure will be delivered to proper storage. For purposes of this paragraph, proper storage means one of the following:

1. The distributed manure will be stored in a facility that complies with NRCS Standard 313, December 2005.

2. The distributed manure will be stored in a manner that will not cause exceedances of groundwater and surface water quality standards and will not impair wetland functional values.

Note: Proper storage may include manure stored in bags provided that the manure is dry enough to avoid leachate generation.

Note: A permittee does not need to obtain approval from the department to transfer responsibility for de minimus amounts of manure under sub. (2) (a).

(4) REVOCATION OF APPROVAL. The department may revoke its approval of the responsibility transfer if the department determines that the conditions of approval are not being met by the permittee or recipients of the manure.

(5) RECORDKEEPING AND REPORTING. (a) The permittee shall estimate the amount of manure and process wastewater distributed under sub. (2) in its nutrient management plan and record the actual amount distributed at the time of distribution. The permit-

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tee shall create and maintain records that identify the name and address of the recipient of the distributed manure or process wastewater, the quantity distributed, and the dates of distribution. The permittee shall keep these records for at least 5 years and shall make them available to the department upon request. The permittee shall report the amount of manure distributed under sub. (2) to the department in the annual report.

(b) Prior to distribution, the permittee shall notify the recipient, in writing, of the nutrient content of the distributed manure and process wastewater based on the most recent representative sampling information that has been conducted in accordance with the permittee's WPDES permit. At a minimum, the permittee shall provide information to the recipient regarding the nitrogen and phosphorus content of the manure.

History: CR 05−075: cr. Register April 2007 No. 616, eff. 7−1−07.

NR 243.15 Design, submittal and approval of proposed facilities or systems. (1) SUBMITTAL AND APPROVAL. (a) *Plans and specifications.* 1. Plans and specifications for proposed reviewable facilities or systems shall be submitted as part of the permit application unless written department approval is received for a later submittal. Plans and specifications shall be submitted during the term of the permit if construction of a reviewable facility or system or a modification to an existing reviewable facility or system is proposed during the term of the permit. Submittal of plans and specifications shall meet the requirements in s. NR 108.04 (2). Plans and specifications submitted for department approval shall include a narrative describing the proposed facility or system, a written management and site assessment, scaled drawings, an operation and maintenance plan and relevant calculations for the proposed facility or system. An owner or operator may not commence construction of a proposed reviewable facility or system until plans and specifications have been approved by the department in writing.

Note: Department approval should not be viewed as a guarantee that the approved facility or system or permittee can or will comply with WPDES permit conditions.

2. Barnyards, feedlots and reviewable facilities or systems may not be located within 250 feet of a private well or noncommunity system as defined in ch. NR 812 or within 1000 feet of a community well as defined in ch. NR 811.

3. Owners or operators of large CAFOs shall, at a minimum, design and construct reviewable facilities or systems that are part of the production area to meet the production area requirements in s. NR 243.13, accepted management practices, and the adequate storage requirements under ss. NR 243.14 (9) and 243.17 (3). All proposed plans and specifications, including the operation and maintenance plan, shall include a written explanation regarding the ability of the proposed facility or system to meet the production area requirement in s. NR 243.13 and the adequate storage requirements under ss. NR 243.14 (9) and 243.17 (3).

4. The department may require the submittal of additional information necessary to meet the requirements of ch. NR 150.

(b) *Department approval.* The department shall review and approve, conditionally approve or reject the plans and specifications in accordance with the timelines established in s. 281.41, Stats.

Note: In accordance with s. NR 108.04, submittals shall occur at least 90 days prior to the anticipated date upon which the owner or operator plans to commence construction.

Note: Department approval may be in addition to any local or county approvals needed. Also, a storm water construction WPDES permit may be required prior to construction pursuant to ch. NR 216.

(c) *Alternative practices or designs.* When the owner or operator of the large CAFO demonstrates that accepted management practices or those practices or design standards specified in this section are more stringent than necessary to avoid a detrimental effect on water quality, the department may approve alternative practices or design standards. This demonstration may be made during the permit issuance process under ch. 283, Stats., or during the plan review process under this section. The department may only approve alternative practices or design standards if the owner or operator can demonstrate that the design and operation of the alternative practices will achieve compliance with the requirements of ss. NR 243.13 and 243.14 (9), surface water and groundwater quality standards and the 180−day storage requirement in s. NR 243.17 (3).

(d) *Additional requirements.* As part of its written approval of plans and specifications, the department may require that accepted management practices or design standards or those practices or design standards specified in this section be superseded by more stringent operational or design requirements or practices, based on the following site−specific conditions:

1. Physical location of the facilities or systems, including depth to groundwater and bedrock and proximity to surface waters and wetlands.

2. Soil limitations such as permeability, infiltration rate, drainage class and flooding hazard.

3. Volume and water content of the waste material.

4. Available storage capacity and method of application.

5. Additional requirements or practices necessary to prevent exceedance of groundwater or surface water quality standards or impairments to wetland functional values.

(2) RUNOFF CONTROL. Runoff control systems in the production area shall be designed to comply with the applicable standards in s. NR 243.13 using permanent runoff control systems that are consistent with accepted management practices such as wastewater treatment strips, sediment basins, waste storage facilities, roof runoff management, grassed waterways and clean water diversions. Wastewater treatment strips shall be designed in accordance with NRCS Standard 635, dated January 2002. NRCS Standard 635, dated January 2002, is incorporated by reference in s. NR 243.07.

Note: Copies of NRCS Standard 635, dated January 2002 and documents referenced in this standard may be inspected at the offices of the department, DATCP, NRCS, county land conservation departments, and the legislative reference bureau, Madison, Wisconsin.

Note: In accordance with s. NR 243.13(2), operations are not allowed to discharge pollutants to navigable waters under any circumstance or storm event from parts of the production area where manure or process wastewater is not properly stored or contained by a structure. Wastewater treatment strips, grassed waterways or buffers are examples of facilities or systems that by themselves do not constitute a structure.

(3) STORAGE OR CONTAINMENT. Permittees proposing to construct storage or containment facilities shall design and install facilities that, at a minimum, meet the following requirements:

(a) *Nutrient management.* Storage and containment facilities shall be designed to provide storage capacity that is consistent with the department approved nutrient management plan and the requirement in ss. NR 243.14 (9) and 243.17 (3).

(b) *Alarm systems.* For storage or containment facilities that are either covered, buried or otherwise concealed in a manner that does not allow visual inspection of the level of manure or process wastewater in the facility, submitted designs shall include installation of a monitoring or alarm system to prevent overflows from the facility.

(c) *Leakage collection or monitoring.* 1. The permittee shall assess if a leakage collection or monitoring system or secondary containment system is necessary to prevent discharges of manure and process wastewater to groundwater or surface waters and include the assessment as part of submitted plans and specifications. If the permittee determines that these systems are necessary, it shall include plans and specifications for these systems as part of its submittal. Components of a collection or monitoring system design may include secondary containment associated with liner installation, leachate collection, leachate recirculation, monitoring sumps or monitoring wells. Components of secondary containment may include concrete or earthen berms or diversions designed to temporarily collect or divert overland flow away from surface waters or areas susceptible to groundwater contamination.

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2. The department may require the installation of a leakage collection or monitoring system or secondary containment based on the following considerations:

a. Whether facilities are located on or near areas that are susceptible to groundwater contamination such as direct conduits to groundwater, sandy soils, and sites with minimal separations between bedrock and high water tables.

b. The size and depth of the facility.

c. The type of liner used.

d. Characteristics of waste being stored.

e. Other considerations based on potential impacts to waters of the state.

(d) *Process wastewater.* Storage and containment facilities for process wastewater that are stored separately from manure shall be designed and constructed in accordance with ch. NR 213 and shall be designed to achieve compliance with the applicable standards in ss. NR 243.13 and 243.14 (9).

(e) *Permanent markers.* Liquid manure and process wastewater storage and containment facilities shall be constructed with permanent markers to clearly indicate the margin of safety level and maximum operating levels. Liquid manure storage and containment facilities shall also have a marker near the bottom of the facility indicating the level at which the facility provides 180 days of storage.

(f) *Standard 313.* Manure storage and containment facilities constructed after July 1, 2007, shall, at a minimum, be designed and constructed in accordance with the design criteria contained in NRCS Standard 313, December 2005.

(g) *Solid manure−storage design capacity.* Subject to par. (h), all permittees shall have properly designed storage for all solid manure generated by the CAFO during February 1 through March 31 or shall obtain department approval to stack manure under s. NR 243.141.

(h) *Solid manure−timeframe for compliance.* 1. Except as provided in subd. 2., after July 1, 2007, all permit issuances, reissuances and modifications shall require that permittees provide solid manure storage for at least the time period from February 1 through March 31 or obtain department approval to stack manure under s. NR 243.141. If solid manure storage capacity is not obtained by an existing source CAFO at the time of public notice for a proposed permit reissuance or modification, the department shall include an evaluation and a schedule in the proposed permit to ensure that storage capacity is available by November 30th after permit reissuance or modification.

2. If an owner or operator of a large CAFO holds a WPDES permit on July 1, 2007, that requires compliance with the revised land application requirements in s. NR 243.14 upon department notification of rule changes, then the permittee shall meet the requirements in par. (g) by January 1, 2008.

(i) *Liquid manure−new source CAFOs.* All proposed liquid manure storage or containment facilities for new source CAFOs shall be designed and constructed to provide a minimum of 180 days of storage in accordance with par. (k). The design shall include a level indicator on the storage or containment facility indicating when the necessary amount of material has been removed to provide 180 days of storage. At the time of permit issuance or prior to November 30 after permit issuance, all new source CAFOs shall have properly designed liquid manure storage or containment facilities or a system of designed facilities that can contain, at a minimum, all liquid manure generated by the large CAFO for the animals present at the operation and other waste sources directed to the storage facility during any 180−day period. Properly designed storage is storage that meets the design requirements in par. (f). If a new source CAFO does not have at least 180 days of storage at the time of public notice of a proposed permit, the WPDES permit shall contain a construction schedule in order to ensure that an operation has a design volume of at least 180 days of storage prior to November 30.

(j) *Liquid manure−existing source CAFOs.* By January 1, 2010, all existing source CAFOs shall have liquid manure storage or containment facilities that are properly designed to provide a minimum of 180 days of storage in accordance with par. (k). All plans and specifications submitted on or after January 1, 2010 for proposed liquid manure storage or containment facilities by existing source CAFOs shall be designed to continue to provide a minimum of 180 days of storage in accordance with par. (k). The design shall include a marker near the bottom of the facility indicating when the necessary amount of material has been removed to provide 180 days of storage. The department may include requirements for evaluations, plan and specification submittal and construction schedules in permits prior to January 1, 2010 if necessary to insure that an operation meets the requirements for 180 days of storage for liquid manure storage or containment facilities by January 1, 2010.

(k) *Calculating design volume.* Design volume for providing 180 days of storage for liquid manure shall be calculated based on the maximum animals present at an operation for the period of time liquid manure and other wastes mixed with the liquid manure are to be stored during any 180−day period and other design considerations. Liquid manure that is not directed to any facility or structure covered by the operation's WPDES permit may be subtracted from the design volume calculations. At a minimum, design volume shall include all of the following:

1. Capacity for liquid manure that will be stored as well as process wastewater and other wastes that will be mixed and stored with the liquid manure.

2. Anticipated direct precipitation, runoff directed to the facility and evaporation for the 180−day storage period, including direct precipitation and runoff from a 100−year, 24−hour storm event for swine, veal and poultry operations that are new source CAFOs or a 25−year, 24−hour storm event for all other operations.

3. A margin of safety.

4. Other design and storage considerations specified in NRCS Standard 313, dated December 2005.

Note: 180 days of design storage is not required for process wastewater if process wastewater is stored separately from liquid manure. Requirements for storage of process wastewater are contained in s. NR 243.15 (3) (d).

(4) TRANSFER SYSTEMS. Manure and process wastewater transfer systems constructed after July 1, 2007, shall be designed, constructed and operated in accordance with the criteria contained in NRCS Standard 634, dated December 2005. NRCS Standard 634, dated December 2005 is incorporated by reference in s. NR 243.07.

Note: Copies of NRCS Standard 634, dated December 2005, and documents referenced in this standard may be inspected at the offices of the department, DATCP, NRCS, county land conservation departments, and the legislative reference bureau, Madison, Wisconsin.

(5) DIGESTERS FOR BIOGAS PRODUCTION. After July 1, 2007, digester facilities for biogas production shall be designed and constructed in accordance with NRCS Standard 313, December 2005. The department may apply additional design requirements in accordance with ch. NR 213 based on materials added or chemical characterization of the digester influent or effluent. Plans and specifications for digesters shall be submitted in accordance with sub. (1). At a minimum, the following information shall be included in the plans and specifications submitted for the construction of a digester for biogas production:

(a) The adequacy of each facility's proposed linings to prevent exfiltration of manure, untreated or digested, and other pollutants to groundwater.

(b) The proximity of bedrock and the water table to the proposed elevation of each facility's floors verified through onsite soil test borings or pits.

(c) Additional design considerations based on operation of the digester, including use of additives and operational temperatures.

(6) PERMANENT SPRAY IRRIGATION SYSTEMS. Proposed permanent spray irrigation and other treatment systems shall at a mini-

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mum meet the requirements of s. NR 214.14, soil investigation and groundwater monitoring criteria in ss. NR 214.20 and 214.21, and land application requirements specified in s. NR 243.14.

Note: Permanent spray irrigation systems are considered a reviewable system or facility; therefore, plans and specifications must be submitted to the department in accordance with sub. (1).

(7) GROUNDWATER MONITORING. The department may require the installation of groundwater monitoring wells in the vicinity of manure storage facilities, runoff control systems, permanent spray irrigation systems and other treatment systems where the department determines monitoring is necessary to evaluate impacts to groundwater and geologic or construction conditions warrant monitoring. If a groundwater monitoring system is required, plans and specifications for a monitoring system shall be submitted and the system shall, at a minimum, be designed, constructed and monitored in accordance with chs. NR 140 and 141 and s. NR 214.21.

(8) COMPOSTING FACILITIES. The department shall determine if the design and operation of a manure or animal carcass composting facility that is part of the production area is more appropriately approved under this section or ch. NR 502. This determination shall be based on factors such as the type of materials mixed with the manure or animal carcass and the amount and source of the materials, the method of composting and the characteristics of the final composted material. If the department determines that design and operation requirements for a composting facility are appropriately reviewed and approved under this section, the department may still apply additional design and operation requirements contained in ch. NR 502 as needed to protect water quality and shall apply additional design and operation requirements as needed to meet the requirements in ss. NR 243.13 and 243.14 (9).

(9) FEED STORAGE. Proposed feed storage facilities and associated runoff control systems shall be designed and constructed to ensure that leachate and contaminated runoff are collected or controlled in a manner that complies with the applicable production area requirements in s. NR 243.13 and adequate storage requirements in s. NR 243.14 (9). Plans and specifications submitted to the department for proposed feed storage facilities shall include an evaluation of the need for underground leachate collection to prevent exceedances of groundwater quality standards.

(10) CONSTRUCTION AND POST CONSTRUCTION. All facilities or systems shall be constructed in accordance with the approved plans and specifications. After construction of a reviewable facility or system has been completed, the WPDES permit applicant or permittee shall submit a post−construction report to the department that includes:

(a) Scaled drawings of the constructed facility or system.

(b) Documentation that construction has complied with approved plans and specifications and applicable design standards.

History: CR 05−075: cr. Register April 2007 No. 616, eff. 7−1−07.

NR 243.16 Evaluations of previously constructed facilities or systems. (1) All owners or operators applying for a WPDES permit shall submit an evaluation of any constructed reviewable facilities and systems not previously approved or evaluated by the department, as part of the application for a WPDES permit. Evaluations shall be submitted under the signature and the seal of a professional engineer registered in Wisconsin or other qualified individual. At a minimum, evaluations shall include the following information:

(a) A narrative providing general background and operational information on existing facilities and systems.

(b) Available post−construction documentation including the date and materials of construction.

(c) For facilities or systems that are part of the production area, an assessment of the ability of the facility or system to meet the production area requirements in s. NR 243.13, the adequate storage requirement under s. NR 243.14 (9), and accepted management practices.

(d) An assessment of the ability of the facility or system to meet the applicable design requirements identified in s. NR 243.15.

(e) Any proposed actions to address issues identified as part of the evaluation.

(2) The department may require an evaluation of a constructed facility or system previously reviewed and approved or evaluated by the department based on factors including the age of the facility or system, the facility's or system's ability to meet current design standards, requirements of this chapter or permit conditions, identified environmental impacts or physical location of the storage facility relative to waters of the state.

(3) The department may require additional practices, conditions or permittee actions based on department review of submitted evaluations of previously constructed structures or systems. This includes the installation of a leakage collection or monitoring system, secondary containment systems, or groundwater monitoring, increased inspection frequency, or replacement, upgrade or closure of systems or structures in order to ensure compliance with requirements in ss. NR 243.13 and 243.15, prevent exceedances of groundwater or surface water quality standards or to prevent impairments to wetland functional values.

(4) By January 1, 2010, permittees shall have or install the permanent markers specified in s. NR 243.15 (3) (e) to previously constructed liquid manure and process wastewater storage or containment facilities.

History: CR 05−075: cr. Register April 2007 No. 616, eff. 7−1−07.

NR 243.17 Operation and maintenance. The permittee shall operate all constructed facilities and systems in accordance with applicable requirements of s. NR 243.13, the operation and maintenance plan for a given facility or system, and WPDES permit conditions.

(1) DIGESTER FACILITIES. (a) *Influent and effluent characterization.* 1. Prior to introducing any additives to a digester, other than manure, the permittee shall obtain written department approval. If any materials other than manure are used in the digester, the permittee shall maintain daily records of the volumes of all manure and non−manure components added to the digester influent.

2. The department may require monitoring for additional pollutants, including metals, based on the characterization of digester additives or the digester influent or effluent.

3. The department may apply additional requirements under chs. NR 213 and 214 if either:

a. Materials other than manure comprise 10% or greater of the total digester volume.

b. The department determines that the chemical characterization of the digester influent or effluent warrants additional requirements.

(2) CHEMICAL ADDITION OR DISPOSAL. (a) *Additive approval.* Except as provided in par. (b), the permittee shall notify the department and obtain written department approval prior to adding any chemicals, pollutants or other wastes to any manure, process wastewater, or stormwater storage facility or treatment system. In this section, other wastes means any waste other than manure, process wastewater or stormwater. Factors the department will consider when approving a chemical or pollutant include:

1. The beneficial use or purpose of the chemical or pollutant.

2. The potential impact the storage or land application of the mixed waste containing the chemical or pollutant may have on waters of the state.

(b) *Exceptions.* The WPDES permit may specify certain additives for which written department approval is not required before adding the substance to a treatment or storage facility.

(c) *Prohibited materials.* Medical wastes, including expired or unused antibiotics, petroleum products not designed for use in manure storage facilities, pesticides, paints, solvents and hazardous wastes may not be disposed of in storage or treatment facilities specified in par. (a).

(3) LIQUID MANURE−MAINTAINING 180 DAYS OF STORAGE. (a) Except as provided in sub. (4), once a permittee has constructed or established properly designed manure storage or containment facilities or a system of properly designed facilities that provide a minimum of 180 days of storage for liquid manure pursuant to s. NR 243.15 (3) (i) or (j), the operation shall operate and maintain the storage facilities or system such that the 180−day design requirement is met for all animals onsite, except as allowed under sub. (4).

(b) Liquid storage facilities or systems shall be emptied so that the 180−day level indicator, specified in s. NR 243.15 (3) (i) or (j), is visible on at least one day between October 1 and November 30, except for liquid manure remaining due to unusual fall weather conditions prohibiting manure applications during this time period. The permittee shall record the day on which the 180−day level indicator was visible during this time period. Permittees unable to empty their storage facility to the 180−day level indicator between October 1 and November 30, shall notify the department by December 5.

(c) Permittees shall demonstrate compliance with the 180−day design storage capacity requirement at all the following times:

1. As part of an application for permit issuance and reissuance.

2. At the time of submittal of plans and specifications for proposed reviewable facilities or systems.

3. In annual reports to the department.

4. Subject to sub. (4), when a facility is proposing, at any time, a 20% expansion in animal units or an increase by an amount of 1,000 animal units or more.

(4) LIQUID MANURE−EXCEPTIONS TO MAINTAINING 180 DAYS OF STORAGE. (a) Permittees that have maintained a minimum of 180 days of storage capacity for liquid manure in accordance with sub. (3) may be allowed to temporarily reduce this level of minimum required design capacity to 150 days design capacity if all of the following are met:

1. The reduction in storage is related to a planned increase in animal units.

2. The permittee notifies the department in writing of the proposed reduction prior to the planned expansion and reduction in 180−day design storage.

3. The permittee has a department approved expansion plan and schedule outlining how the operation will acquire or construct additional storage to achieve 180 days of storage after the expansion. The proposed schedule to acquire or construct additional storage may not exceed 24 months from the date of notification.

(b) Failure to maintain 180 days of storage under this paragraph is not reason for allowing emergency applications of liquid manure under s. NR 243.14 (7) (d).

Note: The 180−day storage capacity includes process wastewater and other wastes mixed and stored with liquid manure. See s. NR 243.15 (3) (k).

(5) SOLID MANURE−MAINTAINING STORAGE DURING FEBRUARY AND MARCH. Pursuant to s. NR 243.15 (3) (g) and (h), once a permittee has constructed or established properly designed manure storage facilities or a system of properly designed facilities that provide storage for solid manure generated at an operation site during February 1 through March 31, the operation shall operate and maintain the storage facilities or system to continue to provide storage for all solid manure generated at the operation site from February 1 to March 31, or otherwise obtain department approval to stack some or all of the manure in accordance with ss. NR 243.14 (6) (d) and 243.141 (1).

(6) DISCHARGE PREVENTION. A permittee shall operate and maintain storage and containment facilities to prevent overflows and discharges to waters of the state.

(a) The permittee may not exceed the maximum operating level in liquid storage or containment facilities except as a result of recent precipitation or conditions that do not allow removal of material from the facility in accordance with permit conditions.

(b) The permittee shall maintain a margin of safety in liquid storage or containment facilities that levels of manure, process wastewater and other wastes contained in the storage or containment facility may not exceed. Materials shall be removed from the facility in accordance with the permittee's nutrient management plan to ensure that the margin of safety is not exceeded.

(7) CLOSURE. (a) *General.* If the permittee wishes to abandon or discontinue use of structures or systems covered under this subchapter, a closure plan shall be submitted to the department for prior approval.

(b) *Manure storage facilities.* Closure of manure storage facilities shall be completed, at a minimum, according to NRCS Standard 360, dated December 2002. NRCS Standard 360, dated December 2002, is incorporated by reference in s. NR 243.07. Closure of a manure storage facility shall occur when manure has not been added or removed for a period of 24 months, unless the owner or operator can provide information to the department that the structure is designed to store manure for a longer period of time or information that the storage structure will be utilized within a specific period of time.

Note: Copies of NRCS Standard 360, dated December 2002, and documents referenced in this standard may be inspected at the offices of the department, DATCP, NRCS, county land conservation departments and the legislative reference bureau, Madison, Wisconsin.

(c) *Monitoring wells.* Groundwater monitoring wells shall be abandoned in accordance with ch. NR 141.

History: CR 05−075: cr. Register April 2007 No. 616, eff. 7−1−07.

NR 243.18 Combined wastes. If a permittee combines manure or process wastewater with other types of waste not generated by the operation, the combined wastewater shall be stored and land applied in accordance with this subchapter. The permittee shall obtain department approval prior to combining other wastes with manure or process wastewater. The department may apply additional requirements such as the requirements in ch. NR 113, 213, 204 or 214 to the land application of the combined wastes and to the design of structures or systems associated with the combined wastes. Factors that the department shall consider in determining other applicable requirements include the volume and characteristics of the wastes or wastewater combined with the manure, requirements in other rules and any treatment of the combined wastes. The operation's nutrient management plan shall address land application of these wastes.

Note: Other wastes do not include process wastewater from the operation itself. Examples of other wastes include septage or municipal biosolids.

History: CR 05−075: cr. Register April 2007 No. 616, eff. 7−1−07.

NR 243.19 Inspections, record keeping and reporting. (1) MONITORING AND INSPECTION PROGRAM. In accordance with a WPDES permit, the permittee shall submit a monitoring and inspection program designed to determine compliance with permit conditions that identifies the areas that the permittee will inspect in accordance with this section, the person responsible for conducting the inspections and how inspections will be recorded and submitted to the department. The monitoring and inspection program shall be consistent with the requirements in this subsection.

(a) *Inspections.* Visual inspections shall be completed by the permittee or designee in accordance with the following frequencies:

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1. Daily inspection for leakage of all water lines that potentially come into contact with pollutants or drain to storage or containment structures or runoff control systems, including drinking or cooling water lines.

2. Weekly inspections to ensure proper operation of all storm water diversion devices and devices channeling contaminated runoff to storage or containment structures.

3. Weekly inspections of liquid storage and containment structures. For liquid storage and containment facilities, the berms shall be inspected for leakage, seepage, erosion, cracks and corrosion, rodent damage, excessive vegetation and other signs of structural weakness. In addition, the level of material in all liquid storage and containment facilities shall be measured and recorded in feet or inches above or below the margin of safety level.

4. Quarterly inspections of the production area, including outdoor animal pens, barnyards and raw material storage areas. CAFO outdoor vegetated areas shall be inspected quarterly.

5. Periodic inspections and calibration of landspreading equipment to detect leaks and ensure accurate application rates for manure and process wastewater. An initial calibration of spreading equipment shall be followed by additional calibration after any equipment modification that may impact application of manure or process wastewater or after changes in product or manure or process wastewater consistency. Spreading equipment for both liquid and solid manure shall be inspected just prior to the hauling season, and equipment used for spreading liquids shall be inspected at least once per month during months when hauling occurs.

6. Inspections each time manure or process wastewater is surface applied on frozen or snow−covered ground to determine if applied materials have run off the application site. Inspections shall occur during and shortly after application.

(b) *Corrective actions.* The permittee shall take corrective actions as soon as practicable to address any equipment, structure or system malfunction, failure or other problem identified through monitoring or inspections in par. (a).

(c) *Sampling.* Manure, process wastewater and soil on fields used for land application shall be sampled by the permittee in accordance with this chapter and WPDES permit conditions. Manure or process wastewater shall be analyzed on at least an annual basis for nitrogen, phosphorus and percent solids in years when the manure or process wastewater is applied. The department may require more frequent monitoring and monitoring for other parameters as part of a WPDES permit where necessary to provide representative samples of manure and process wastewater. Manure and soil samples shall be analyzed by a laboratory certified under s. ATCP 50.50. Samples of process wastewater that are not mixed with manure shall be analyzed using applicable methods specified in ch. NR 219. The department may specify alternative methods for sampling in the WPDES permit. The permittee shall submit appropriate quality control information for sampling and analysis upon written request of the department.

Note: NRCS Standard 590 requires soil testing once every 4 years.

(2) RECORD KEEPING. The permittee shall retain complete records onsite of all information required as part of this subchapter for a period of at least 5 years from the date the records are created. Results of inspection information, sampling and other information required under this section shall be recorded at the time the information is obtained.

(a) *Record keeping requirements for the production area.* The permittee shall create and retain records documenting the following information for the production area:

1. Current design of any manure storage structures, including volume for solids accumulation, design treatment volume, total design volume, and approximate number of days of storage capacity.

2. Sampling and inspection information required under sub. (1) (a) and (c).

Note: This subsection requires that specific information must be recorded when samples are taken or inspections are conducted.

3. The date that liquid storage facilities were emptied to the 180−day level indicator.

4. The date, time and estimated volume of any overflow.

5. Any actions taken to correct deficiencies as required under sub. (1) (b). Deficiencies not corrected within 30 days shall be accompanied by an explanation of the factors preventing correction.

6. Mortality management and practices used by the permittee to meet the requirements of s. NR 243.13 (8), including the dates and methods of disposal.

(b) *Record keeping requirements for land application activities.* The permittee shall create and retain the following records for activities associated with land application:

1. A copy of the nutrient management plan.

2. Daily logs recorded using form 3200−123A or a department approved equivalent, indicating the following.

a. The dates manure or process wastewater is applied to each field.

b. Fields used.

c. Acres applied.

d. Manure source and waste type.

e. Spreader volume.

f. Number of loads.

g. Whether the soil was dry, wet, saturated, frozen or snow covered at the time of application.

h. Weather conditions at time of application.

i. Whether manure was injected, incorporated or surface applied.

j. Dates of emergency applications in winter.

k. For surface applications on frozen or snow−covered ground, whether any applied manure or process wastewater ran off the application site.

3. A weather log for all dates that manure and process wastewater is spread, including weather 24 hours prior to and following application.

4. Total amount of nitrogen and phosphorus actually applied to each field, including documentation of calculations for the total amount applied.

5. Results from manure, process wastewater and soil sampling.

6. Dates of manure application equipment inspection.

7. Records of the date, recipient name and address, approximate amount and nutrient content of manure or process wastewater distributed to another person in accordance with s. NR 243.142.

(c) *Record keeping for sampling.* For each manure, process wastewater and soil sample taken, the permittee shall record the following information:

1. The date, exact place, method and time of sampling or measurements.

2. The individual or lab that performed the sampling or measurements.

3. The date the analysis was performed.

4. The individual who performed the analysis.

5. The analytical techniques or methods used.

6. The results of the analysis.

(d) *Record keeping for inspections.* For each inspection conducted by the permittee, the permittee shall record the following information:

1. The date and name of persons performing the inspection.

2. An inspection description, including components inspected.

3. Details of what was discovered during the inspection.

4. Recommendations for repair or maintenance.

5. Any corrective actions taken.

(3) REPORTING REQUIREMENTS. (a) *Corrective actions.* If the permittee fails to take corrective action within 30 days of identifying a malfunction, failure or other problem identified under sub. (1), the permittee shall contact the department immediately following the 30−day period and provide an explanation for its failure to take action.

(b) *Quarterly reporting requirements.* The permittee shall summarize the results of the inspections conducted at the production area in a written quarterly report. The reports shall be maintained onsite until submittal as part of the annual report in par. (c). The report shall include the following information:

1. Identified permit violations including all discharges of manure or process wastewater to surface waters, overflows of liquid manure or process wastewater storage and containment structures, and number of missed inspections.

2. Dates, times and approximate volume of discharges in subd. 1.

3. Corrective actions taken.

4. A summary of the condition of runoff control systems and storage and containment structures.

5. A summary of recorded levels of materials in liquid storage and containment structures, including exceedances of the maximum operating and margin of safety levels.

6. Other information requested by the department in writing or in the permit.

(c) *Annual reporting requirements.* The permittee shall submit written annual reports to the department by the date specified in the WPDES permit for all manure and other process wastewater that is generated. These annual reports shall cover the previous calendar year or cropping year, as specified in the WPDES permit, and shall include the following:

1. The quarterly reports required under par. (b).

2. The number and type of mature and immature animals at the operation and whether the animals are in open confinement or housed under roof.

3. The total amount of material in large CAFO storage or containment facilities, including manure and process wastewater generated by the large CAFO in the previous 12 months, precipitation and runoff diverted to storage or containment structures.

4. Lab analyses of manure and process wastewater land applied in the previous 12 months, and the most recent soil test analysis completed for fields receiving manure or process wastewater in the previous 12 months.

5. An annual spreading report summarizing manure and other process wastewater land application activities using form 3200−123 or a department−approved equivalent, indicating the following for each field receiving manure or process wastewater:

a. Date of application.

b. Information on the fields where manure or process wastewater is applied including field identification, slope and soil test phosphorus levels.

c. Acres applied.

d. Source and nutrient content of applied manure.

e. Current and previous field crops.

f. Nutrient balance indicating crop nutrient need in comparison to nutrients applied and credited from all sources.

g. Whether the soil was dry, wet, saturated, frozen or snow covered.

h. Method and rate of application in tons or gallons per acre.

i. Whether fields meet T.

j. Whether soil tests have been taken within the last 4 years.

k. Number of years of crop phosphorus need applied based on crop rotation.

L. For surface applications on frozen or snow−covered ground, whether any applied manure or process wastewater ran off the application site.

6. Dates on which storage facilities were emptied to the 180−day level indicator.

7. Total amount of manure and process wastewater distributed to another person by the permittee in accordance with s. NR 243.142 in the previous 12 months.

8. Total number of acres for land application covered by the nutrient management plan developed in accordance with s. NR 243.14.

9. Total number of acres actually used by the permittee for land application of manure and process wastewater in the previous 12 months.

10. A statement indicating whether the current version of the permittee's nutrient management plan was developed or approved by a certified nutrient management planner.

11. Results of land application equipment inspections and calibration.

12. Other information requested by the department in writing or in the permit.

Note: Forms 3200−123 and 3200−123A can be obtained at regional offices of the department or the department's Bureau of Watershed Management, 101 S. Webster St., P.O. Box 7921, Madison, Wisconsin 53707.

History: CR 05−075: cr. Register April 2007 No. 616, eff. 7−1−07.

Subchapter III — Other Animal Feeding Operations

NR 243.21 Purpose. The purpose of this subchapter is to establish procedures, in cooperation with other federal and state agencies and governmental units, for addressing unacceptable practices through the issuance of a notice of discharge or WPDES permit under s. 281.16 or ch. 283, Stats. Animal feeding operations with fewer than 1000 animal units that have unacceptable practices are subject to this subchapter.

History: CR 05−075: cr. Register April 2007 No. 616, eff. 7−1−07.

NR 243.23 General requirements for animal feeding operations. (1) LIVESTOCK PERFORMANCE STANDARDS AND PROHIBITIONS. (a) Owners and operators of animal feeding operations shall comply with the livestock performance standards and prohibitions in accordance with the requirements s. NR 151.095.

(b) The department may grant a variance to livestock performance standards or accepted management practices consistent with s. NR 151.097. A variance may not be granted to a livestock prohibition or other statutory requirements.

Note: Additional procedures for implementing cropland performance standards are included in ch. NR 151.

Note: Under s. 281.16 (3) (e), Stats., an owner or operator may not be required by the state, or a governmental unit through an ordinance or regulation, to bring existing livestock facilities into compliance with the livestock performance standards or prohibitions, technical standards or conservation practices unless cost sharing is available.

History: CR 05−075: cr. Register April 2007 No. 616, eff. 7−1−07.

NR 243.24 Department discharge determination and NODs. Unless based on information provided as part of a WPDES permit application submitted pursuant to s. NR 243.26 (1), no determination may be made by the department that an unacceptable practice exists at an operation until there has been an onsite investigation by the department or a federal or state agency or governmental unit.

(1) CATEGORIES OF UNACCEPTABLE PRACTICES. The department shall identify the categories of discharge associated with unacceptable practices pursuant to the following criteria:

(a) *Category I.* A category I unacceptable practice is a practice or facility at an animal feeding operation that causes a point source discharge of pollutants to navigable waters by either of following means:

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1. Pollutants are discharged into navigable waters through a man−made ditch, flushing system or other similar man−made device.

2. Pollutants are discharged into navigable waters that originate outside of the operation and pass over, across or through the operation or otherwise come into direct contact with the animals confined at the operation.

(b) *Category II.* A category II unacceptable practice is a practice or facility at an animal feeding operation that causes a discharge of pollutants to waters of the state that is the result of an owner's or operator's failure to comply with a livestock performance standard or prohibition in ss. NR 151.05 to 151.08. For Category II discharges, waters of the state has the meaning specified under s. 281.01 (18), Stats.

(c) *Category III.* A category III unacceptable practice is a practice or facility at an animal feeding operation that caused a discharge of pollutants to waters of the state and that is not described in par. (a) or (b).

(2) COORDINATION WITH GOVERNMENTAL UNITS. Unless an unacceptable practice is an imminent threat to public health or fish and aquatic life, the department shall notify the appropriate governmental unit prior to taking any of the following actions:

(a) Contacting an owner or operator of an animal feeding operation under the procedures in this subchapter to investigate a discharge from an unacceptable practice.

(b) Issuing an NOD for a category II unacceptable practice.

(c) Taking enforcement action under s. 281.98, Stats., against an owner or operator of an animal feeding operation for failing to comply with a livestock performance standard or prohibition.

(3) DEPARTMENT ACTION. If the department determines that an unacceptable practice exists at an operation based on its own onsite investigation, an investigation conducted by a federal or state agency or governmental unit, or information provided as part of WPDES permit application, the department may take any of the following actions:

(a) *For all unacceptable practices.* 1. The department may coordinate with a designated governmental unit to address the unacceptable practice and provide assistance to the owner or operator. This contact shall be made as soon as possible after the determination that an unacceptable practice exists at an operation to maximize opportunities for the governmental unit to provide assistance to the owner or operator.

2. The department may issue a notice of intent to issue an NOD.

(b) *Category I unacceptable practices.* For category I unacceptable practices, the department may take any of the following actions:

1. Issue an NOD to the owner or operator of the animal feeding operation to address the unacceptable practices.

2. Send the owner or operator a permit application if the owner or operator has not filed a WPDES permit application pursuant to s. NR 243.26.

3. Designate the operation as a CAFO under s. NR 243.26 (2).

4. Take direct enforcement action.

Note: In general, the department considers factors such as the degree of harm to a waterbody and the level of mismanagement or negligence by an owner or operator when deciding whether to take direct enforcement action.

(c) *Category II unacceptable practices.* For category II unacceptable practices, the department may take any of the following actions:

1. Issue an NOD if requested by a governmental unit or if a governmental unit is not addressing a facility's noncompliance with livestock performance standards or prohibitions in a manner consistent with the procedures established in ch. NR 151.

2. Follow the procedures outlined in s. NR 151.095.

3. Designate the operation as a medium or small CAFO under s. NR 243.26 (2).

(d) *Category III unacceptable practices.* For category III unacceptable practices, the department may take any of the following actions:

1. Issue an NOD to the owner or operator.

2. Take direct enforcement action.

3. Designate the operation as a medium or small CAFO under s. NR 243.26 (2).

Note: In most cases, the department will rely on governmental units to fully implement the livestock performance standards and prohibitions and address impacts to water quality from category II unacceptable practices. The department intends to issue NODs in accordance with this section in cases where a governmental unit has requested assistance in implementing and enforcing the performance standards or prohibitions or in cases where a governmental unit has failed to appropriately address unacceptable practices at animal feeding operations in a timely manner. The department recognizes that coordination between governmental units, the department of agriculture, trade and consumer protection and other state agencies is needed to achieve statewide compliance with the performance standards and prohibitions. Accordingly, the department has worked with counties, the department of agriculture, trade and consumer protection and other interested partners to develop a detailed intergovernmental strategy for achieving compliance with the performance standards and prohibitions that recognizes the procedures in this subchapter, state basin plans and the priorities established in land and water conservation plans.

(4) NOTICE OF DISCHARGE. (a) If the department issues an NOD to an owner or operator of an animal feeding operation, it shall be sent certified mail, return receipt requested or personal delivery.

(b) The department shall include all of the following information in an NOD:

1. A summary of the results of the onsite investigation used to determine that unacceptable practices exist at an operation. The summary shall include a determination of the category of the unacceptable practice that exists at the operation. The department shall provide a copy of the summary to the animal feeding operation and appropriate governmental unit.

2. One or more suggested corrective measures for the unacceptable practice identified in the summary report. The department may amend an NOD at any time to reflect changes to suggested corrective measures based on further evaluation and planning associated with addressing the unacceptable practice.

3. A list of known governmental or private services that may be available to provide technical or financial assistance.

4. For category II unacceptable practices, the NOD shall contain determinations consistent with s. NR 151.095, except that the length of the compliance period shall be determined in accordance with subd. 5. Determinations required under s. NR 151.095 may be included as part of the NOD or as amendments to the NOD.

Note: Section NR 151.095 contains the criteria and establishes the procedures for determining when cost sharing is required for eligible costs associated with corrective measures and when cost sharing is considered to have been made available. Cost sharing is not required for new facilities and for practices that do not involve eligible costs, such as moving a manure pile. Cost sharing for eligible costs may be available under ch. NR 120 or 153.

5. A reasonable compliance period for implementing necessary corrective measures shall be specified in the NOD. The compliance period identified in the NOD shall be determined by the department in accordance with the following:

a. The length of the compliance period shall be from 60 days to 2 years unless otherwise provided for in this paragraph.

b. The length of the compliance period may be less than 60 days if the site is an imminent threat to public health or fish and aquatic life.

c. The compliance period may not be more than 2 years unless an alternative compliance period has been mutually agreed upon by the department and the owner or operator of the animal feeding operation.

d. For existing practices or facilities where corrective measures require cost sharing in accordance with s. NR 151.095 and where cost sharing has not previously been made available, the compliance period specified in an NOD shall begin on the date that cost share dollars are available pursuant to s. NR 151.095 (5) (d).

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Note: Cost−share dollars may be offered as part of an NOD or may be included in an amendment to an NOD.

e. For all other practices or facilities, the compliance period specified in the NOD shall begin on the date of the NOD, regardless of the availability of cost sharing.

6. An explanation of the possible consequences if the owner or operator fails to comply with the provisions of the notice, including enforcement or loss of cost sharing, or both.

(c) The department may request that proposed corrective measures be submitted to the department for review prior to implementing the corrective measures.

(d) The department may require that accepted management practices be superseded by additional design requirements or practices if they are necessary for water quality protection.

(e) The department may require that the owner or operator of the animal feeding operation, or a designee, notify the department as to the status of implementing the corrective measures prior to the end of the compliance period.

History: CR 05−075: cr. Register April 2007 No. 616, eff. 7−1−07.

NR 243.25 NOD enforcement. (1) CATEGORIES I AND III. (a) Owners or operators or animal feeding operations that receive an NOD for a category I or III unacceptable practice shall implement corrective measures within the compliance period specified, regardless of the availability of cost sharing. The owner or operator may seek cost sharing to implement corrective measures within the specified compliance period, but if cost sharing is not available, the owner or operator shall install corrective measures to abate or eliminate the discharge without cost sharing or otherwise apply for a WPDES permit.

(b) If the owner or operator does not implement the corrective measures within the specified time frame to address category I or III unacceptable practices, the department may issue a specific WPDES permit or grant general permit coverage or the department may pursue enforcement action under ch. 283, Stats.

(2) CATEGORY II. For operations issued an NOD for a category II unacceptable practice, if the owner or operator of the animal feeding operation does not implement corrective measures within the compliance period specified in the NOD, and cost sharing has been made available for existing facilities or practices or if cost sharing is not required under s. NR 151.095, the department may take enforcement action pursuant to s. 281.98, Stats., require the submittal of a WPDES permit application or take other appropriate actions against the owner or operator.

Note: The procedures specified in this subchapter for category II unacceptable practices are limited to actions taken by the department under s. 281.98, Stats., for noncompliance with a livestock performance standard or prohibition. Pursuant to other statutory authority, the department may take direct enforcement action without cost sharing against a livestock producer for willful or intentional acts or other actions by a producer that pose an imminent or immediate threat to human health or the environment.

History: CR 05−075: cr. Register April 2007 No. 616, eff. 7−1−07.

NR 243.26 WPDES permits for medium and small CAFOs. (1) OPERATIONS DEFINED AS A MEDIUM CAFO. Any owner or operator of an animal feeding operation with 300 to 999 animal units shall submit a complete application for a WPDES permit to the department before a category I discharge to navigable waters occurs. An owner or operator of an animal feeding operation that has 300 to 999 animal units may not have a Category I discharge to navigable waters under s. NR 243.24 (1) (a) unless the discharge is covered by and in compliance with a WPDES permit. In the event an owner or operator of an animal feeding operation has a Category I discharge to navigable waters and that operation is not covered by a WPDES permit at the time of the discharge, the owner or operator shall immediately contact the department and shall immediately apply for a WPDES permit.

(2) OPERATIONS DESIGNATED AS MEDIUM OR SMALL CAFOS. (a) Subject to par. (c), for animal feeding operations not already defined as a CAFO under sub. (1), the department may designate an animal feeding operation with 999 animal units or less as a CAFO if all of the following occur:

1. The department conducts an onsite investigation of the operation.

2. The department determines one of the following:

a. The operation is a significant contributor of pollutants to navigable waters and the department considers the factors in par. (b) when making this determination; or

b. The operation has caused the fecal contamination of water in a well constructed in accordance with ch. NR 811 or 812.

3. For discharges of pollutants from land applied manure or process wastewater to navigable waters by an animal feeding operation with 300 to 999 animal units, the department determines the discharge was not an agricultural storm water discharge.

4. The department provides written notification to the owner or operator of the designation.

Note: Consistent with past regulatory practices, the department intends to continue to work cooperatively with animal feeding operations to address discharges to waters of the state to the maximum extent practicable in order to make designation of an operation as a CAFO unnecessary. This approach includes using voluntary programs or the issuance of an NOD, which typically provides an opportunity to obtain cost−share and technical assistance, to aid an operation to implement corrective measures.

Note: Written notification by the department may be included as part of a Category I, II or III NOD or a separate written notice may be sent to the owner or operator.

Note: For animal feeding operations with less than 300 animal units, a significant discharge of pollutants to navigable waters from land application activities is not a basis for designating an operation as a CAFO and requiring a WPDES permit−see par. (c). For animal feeding operations with 300−999 animal units, a significant discharge of pollutants to navigable waters from either the production area or land application areas is a basis for CAFO designation and WPDES permit coverage.

(b) The department shall consider all of the following factors when determining whether an operation is a significant contributor of pollutants to navigable waters under par. (a):

1. The size of the animal feeding operation and the amount of manure or process wastewater reaching navigable waters.

2. The location of the operation's production and land application areas relative to the navigable waters.

3. The means of conveyance of the manure or process wastewater into navigable waters.

4. The slope, vegetation, rainfall and other factors affecting the likelihood or frequency of discharges of manure or process wastewater into navigable waters.

5. Other factors relevant to water quality impacts.

(c) If the animal feeding operation has less than 300 animal units, the department may not designate the operation as a CAFO based on the discharge criteria in par. (a) 2. a. unless the operation had a Category I discharge to navigable waters under s. NR 243.24 (1) (a) that the department determines contributed a significant amount of pollutants to navigable waters.

(d) If an animal feeding operation is designated as a CAFO under par. (a), the owner or operator of the operation shall take one of the following actions within 90 days of written notification by the department of the designation:

1. In accordance with sub. (3), submit a completed WPDES permit application for an individual permit or for general permit coverage to the department. If a general permit is not available from the department, the permittee shall apply for an individual permit.

2. Demonstrate to the complete satisfaction of the department that the owner or operator has taken actions to permanently eliminate or significantly reduce the discharge that was the basis of the designation.

(e) If the owner or operator fails to take the actions required in par. (d) within 90 days of notification, the department may take enforcement action.

(3) APPLICATIONS. Applications shall, at a minimum, be submitted on forms 3400−25 and 3400−25A. The department may require additional information as part of the permit application consistent with the requirements of subch. II.

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Note: Applications can be obtained at regional offices of the department or the department's Bureau of Watershed Management, 101 S. Webster St., P.O. Box 7921, Madison, Wisconsin 53707.

(4) WPDES TERMS AND CONDITIONS. (a) WPDES permits issued under this subchapter shall contain requirements designed to implement corrective measures to address unacceptable practices, to protect groundwater and surface waters, and to prevent impairments to wetland functional values. At a minimum, permits shall contain requirements that a permittee do all of the following:

1. Comply with livestock performance standards and prohibitions, regardless of the availability of cost sharing.

2. Address manure, process wastewater and contaminated runoff from the production area in a manner that is consistent with accepted management practices and that treats or contains all manure, process wastewater and contaminated runoff for storm events up to and including a 25−year, 24−hour storm event.

Note: In determining accepted management practices for small and medium CAFOs, the department shall consider the factors contained in 40 CFR § 125.3 (d).

3. Control all discharges from the production area in a manner that does not cause exceedances of groundwater or surface water quality standards or impair wetland functional values.

4. Develop and implement a nutrient management plan in accordance with s. NR 243.14 for the land application of manure and process wastewater.

5. Comply with the requirements in ss. NR 243.13 (5) (b) and (6) to (8) and 243.142 (5).

6. Conduct periodic inspections of the production area and land application equipment at a frequency specified in the WPDES permit.

7. Conduct manure, process wastewater and soil sampling in accordance with WPDES permit conditions.

8. Maintains and submit reports to the department in accordance with WPDES permit conditions.

Note: The WPDES permit requirements outlined in this subsection for small and medium CAFOs, including the requirement to develop and implement a nutrient management plan in accordance with s. NR 243.14, are only mandatory for those small and medium operations that have been issued a WPDES permit. For small and medium CAFOs that have not been issued a WPDES permit, nutrient management requirements contained in ch. ATCP 50 apply.

(b) All submitted plans and specifications or evaluations of facilities or structures required under a WPDES permit shall be done in accordance with ss. NR 243.15 and 243.16 unless the department includes alternative requirements in the WPDES permit.

Note: Under par. (b), all permitted medium and small CAFOs are required to install 180 days of storage for liquid manure.

(c) The permittee shall comply with the operation and maintenance requirements in s. NR 243.17, unless the department includes alternative requirements in the WPDES permit.

Note: Pursuant to s. 283.31, Stats., and federal regulations, a point source discharge by a medium size CAFO is prohibited unless the discharge is covered by, and in compliance with, a WPDES permit.

Note: Pursuant to ch. NR 153, operations covered by a WPDES permit are no longer eligible for cost sharing under s. 281.65, Stats.

(5) GENERAL PERMITS. The department may issue a general permit to cover a category of medium or small CAFOs.

(6) REISSUANCE OR TERMINATION OF WPDES COVERAGE. If a medium or small CAFO is covered by an individual or general WPDES permit, the owner or operator shall maintain permit coverage and shall reapply for continued coverage at least 180 days prior to the expiration of the WPDES permit unless:

(a) The permittee has ceased operation or is no longer a CAFO.

(b) The permittee has demonstrated to the satisfaction of the department that there is no remaining potential for a discharge to navigable waters of manure and process wastewater that was generated while the operation was a CAFO, or there is no remaining potential to cause well contaminations.

History: CR 05−075: cr. Register April 2007 No. 616, eff. 7−1−07.

Subchapter IV — CAFO Enforcement

NR 243.31 Enforcement. (1) If the department finds that the owner or operator of a CAFO violated a term or condition of its WPDES permit, the department may, following notice to the permittee, modify, suspend or revoke the permit, in whole or in part, under s. 283.53 (2), Stats.

(2) If the department finds that the owner or operator of a CAFO is violating a term or condition of its WPDES permit, any requirement in this chapter or ch. 283, Stats., or that the owner or operator of a CAFO is discharging manure or process wastewater pollutants to waters of the state without a WPDES permit, the department may refer the matter to the department of justice for enforcement, pursuant to s. 283.89, Stats. In an enforcement action, the department may seek temporary or permanent injunctive relief and may seek the civil and criminal penalties established in s. 283.91, Stats. The department may recover the costs of investigating the violation and the expenses of prosecution, including attorneys fees under s. 283.91 (5), Stats., and the costs of removing, terminating or remedying the adverse effects on the water environment under s. 283.87, Stats.

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