

**STATE OF MICHIGAN
IN THE CIRCUIT COURT FOR THE COUNTY OF BAY**

FRASER TOWNSHIP
Plaintiff,

Circuit Case No.: 16-3272-CH
Honorable Joseph Sheeran

v.

HARVEY HANEY,
Defendant

MOTION

MARK J. BRISSETTE (P26982)
BIRCHLER, FITZHUGH, PURTELL, &
BRISSETTE, PLC
Attorney for Fraser Twp
703 Washington Ave Ste 200
Bay City, MI 48708
(989) 892-0591

OUTSIDE LEGAL COUNSEL PLC
PHILIP L. ELLISON (P74117)
Attorney for Haney
PO Box 107
Hemlock, MI 48626
(989) 642-0055
pellison@olcplc.com

**POST-REMAND MOTION FOR ENTRY OF FINAL JUDGMENT
IN FAVOR OF DEFENDANT HARVEY HANEY DISMISSING TOWNSHIP'S CASE
AND FOR OTHER RELIEF UNDER MICHIGAN'S *RIGHT TO FARM ACT***

The Michigan Supreme Court has explained that Michigan's *Right to Farm Act* (RTFA) "provides an affirmative defense to a nuisance action if a defendant can prove two conditions: (1) the challenged condition or activity constitutes a 'farm' or 'farm operation' and (2) the farm or farm operation conforms to the generally accepted agricultural and management practices [(GAAMPs)]." *James Twp v Rice*, 509 Mich 363, 370-371; 984 NW2d 71 (2022). Following trial, Defendant Haney argued that both had been met. However, this Court dismissed Defendant Harvey Haney's RTFA defense based on its reading and application of *Travis v Preston (On Rehearing)*, 249 Mich App 338; 643 NW2d 235 (2002). Haney appealed asserting legal error. The Court of Appeals reversed. **Exhibit E.** Adopting Defendant Haney's position, the panel explained "by providing that 'a local unit of government shall not enact, maintain, or enforce an

ordinance, regulation, or resolution that conflicts in any manner with this act or [GAAMPs],” MCL 286.474(6) “prohibits prospective enforcement of a zoning ordinance that is contrary to the *RTFA* and GAAMPs, even if the enactment of the ordinance itself predated the 2000 amendment to the RTFA.” *Id.* Thus, “the trial court erred as a matter of law by holding that defendant’s MCL 286.474(6) defense to plaintiff’s nuisance abatement action was barred under *Travis*.”¹ *Id.*

MEMORANDUM OF LAW / ARGUMENTS

I. Michigan’s *Right to Farm Act*

Under the 1999 amendments made by the Michigan Legislature, the Michigan *Right to Farm Act* “preempt[s] any local ordinance, regulation, or resolution that purports to extend or revise in any manner the provisions of this act or generally accepted agricultural and management practices developed under this act.” MCL 286.474(6). “Except as otherwise provided in this section, a local unit of government shall not [1.] enact, [2.] maintain, or [3.] enforce an ordinance, regulation, or resolution that conflicts in any manner with this act or generally accepted agricultural and management practices developed under this act.” *Id.* This provision has been interpreted by binding higher court decisions to mean “the RTFA no longer allows township zoning ordinances to preclude farming activity that would otherwise be protected by the RTFA” and “any township ordinance, including a zoning ordinance, is unenforceable to the extent that it would prohibit conduct protected by the RTFA.” *Shelby Charter Twp v Papesh*, 267 Mich App 92, 107; 704 NW2d 92 (2005) (emphasis added); see also *Rice*, 509 Mich at 371 (“the RTFA was amended, effective March 10, 2000, to include MCL 286.474(6), which

¹ In addition, the Township’s argument that the RTFA is unconstitutional or the GAAMPs are otherwise preempted has been adjudicated as “waived.” *Id.* at 4, fn1.

preempts local ordinances such that a farmer's activities falling within the purview of the act cannot be barred by ordinance").² In short, if a farm or farm operation is GAAMP compliant, anything else at the township ordinance level is preempted.³ MCL 286.474(6).

Under *Rice*, a successful invocation of the *RTFA* affirmative defense against Fraser Township's abatement action has two parts: "(1) the challenged condition or activity constitutes a 'farm' or 'farm operation' and (2) the farm or farm operation conforms to the generally accepted agricultural and management practices." *Rice*, 509 Mich at 370-371. There is no application or approval process with any government or outside agency for this defense to apply. See *id.*

The Court of Appeal panel found that Defendant Haney has "met his burden to show that he was engaged in the 'commercial production of a farm product,' because he cultivated animals that were 'intended to be marketed and sold at a profit.'" **Exhibit E at 4.** That is the law of the case. *Grievance Administrator v Lopatin*, 462 Mich 235, 260; 612 NW2d 120 (2000) ("an appellate court's determination of an issue in a case binds lower tribunals on remand and the appellate court in subsequent appeals."). The appeals court panel further explained this Court "did not make any factual findings or a legal determination regarding whether defendant's farm operation conformed to 'all applicable

² Before § 4(6) was added to the *RTFA*, 1999 PA 261, MCL 286.474(6), effective March 10, 2000, the *RTFA* did not exempt farms and farm operations from local laws, including local zoning ordinances. *Scholma v Ottawa Cnty Rd Comm'n*, 303 Mich App 12, 26; 840 NW2d 186 (2013) (citing *Travis v. Preston (On Rehearing)*, 249 Mich App 338, 343; 643 NW2d 235 (2002)). Now it does. MCL 286.274(6).

³ Township officials and attorneys sometime incorrectly times assert that the *Right to Farm Act* only applies in areas zoned by local zoning ordinances as agricultural. There is no basis for that assertion. All local ordinances, "including zoning ordinances" deeming areas zoned or not zoned agricultural, are preempted if a farm or farm operation is not in violation of a GAAMP. *Twp of Williamstown v Hudson*, 311 Mich App 276, 290 (2015). Courts may not inquire into the wisdom or fairness of a law enacted by the Legislature, *Smith v Cliffs on the Bay Condominium Ass'n*, 463 Mich 420, 430 (2000), and instead Courts must apply the law *as written*, *Title Office, Inc v Van Buren Co Treasurer*, 469 Mich 516, 519 (2004). If the township is unhappy with this, it has a legislative remedy. See *People v Harper*, 479 Mich 599, 662 (2007) (those unhappy with a law "can petition the Legislature to amend the statute").

GAAMPs” given its interpretation of *Travis* and now “should make the appropriate findings on the existing trial record.” **Exhibit E at 4.** Key concessions were made by the Township at oral argument with the Court of Appeals—

Judge Korobkin: And so, which GAAAMP or GAMPS are being [allegedly] violated here?

Mr. Brissette: The site [] selection.

MCOA Oral Argument, *available at* <https://youtu.be/UsCx6l1-fBY&t=1440> (starts at approx. 23:58). Thus, on this remand, the concession limits the issue to the Site Selection GAAMP. As such, there is but a singular question left: does the Haney’s farm/farm-operation conform to the ‘site selection’ GAAMP. Because the answer is yes, a final judgment should be entered in favor of Defendant and the Township’s lawsuit must be dismissed with the additional relief provided under *Rice* and MCL 286.473b.

The applicable GAAMP (by concession) is the *Site Selection and Odor Control for New and Expanding Livestock Production Facilities* (commonly known as the “Siting GAAMP”). The first Siting GAAMP was created in 2000 and only regulated “new or expanding” operations designated as a “Livestock Production Facility” which meant only those facilities “ with a capacity of 50 animal units or greater.” **Exhibit A, p. 4.** Importantly, *fifty animal units* does not mean *50 animals*—

| Animal Unit | 50 | 250 | 500 | 750 | 1,000 |
|-----------------------------|-------------------|--------|--------|--------|---------|
| Animal Type ¹ | Number of Animals | | | | |
| Slaughter and Feeder Cattle | 50 | 250 | 500 | 750 | 1,000 |
| Mature Dairy Cattle | 35 | 175 | 350 | 525 | 700 |
| Swine ² | 125 | 625 | 1,250 | 1,875 | 2,500 |
| Sheep and Lambs | 500 | 2,500 | 5,000 | 7,500 | 10,000 |
| Horses | 25 | 125 | 250 | 375 | 500 |
| Turkeys | 2,750 | 13,750 | 27,500 | 41,250 | 55,000 |
| Laying Hens or Broilers | 5,000 | 25,000 | 50,000 | 75,000 | 100,000 |

Exhibit A, p. 4. For swine, “50 animal units” mean 125 pigs. Haney testified that the number of pigs he has (and always had) is around 50—being less than half of the triggering number. As such, one being a singular farm with less than 50 animal units, i.e. less than 125 pigs meant such made the Siting GAAMP inapplicable and thus the Haney farm is GAAMP compliant.

Further, Haney confirmed at trial (and it went unrebutted by the Township) his piggery has never been proposed to have a new or expanding site beyond what was already in place in 1999. Trial Transcript, p. 61. A careful reading shows that the Siting GAAMP only deals with regulating proposed “new” or “expanding” sites.⁴ In other words, the Siting GAAMP’s obligations only apply if a new or expanding facility is being proposed and “livestock facilities in Categories 1, 2 or 3 *with less than 50 animal units* are not required to... conform to the provisions of these [siting] GAAMPs” for any new or expanding sites. As such, Haney is and has been in compliance with the Siting GAAMP all along.

In short, the Haney piggery is both a farm and farm operation (as a matter of law) and is GAAMP-compliant by not being a new or expanding facility with more than 50 animal units. He meets both prongs of the *Rice* test. Therefore, the Court must dismiss the Township’s lawsuit in full because Defendant Haney’s piggery is fully protected by the *Right to Farm Act* and Fraser Township is statutorily barred from “maintain[ing]” or “enforc[ing]” its Zoning Ordinance against the Haney piggery given it comports with the

⁴ The Legislature further mandates that a farm or farm operation that is in conformance with subsection (1) shall not be found to be a public or private nuisance as a result of any of the following: (a) a change in ownership or size; (b) temporary cessation or interruption of farming; (c) enrollment in governmental programs; (d) adoption of new technology; or (e) a change in type of farm product being produced. MCL 286.473(3).

Site Selection GAAMP for when not being “new” or “expanding” facilities after 1999 and not having more than 50 animal units. MCL 286.474(6).

II. Attorney Fees and Costs

MCL 286.473b provides:

In any nuisance action brought in which a farm or farm operation is alleged to be a nuisance, if the defendant farm or farm operation prevails, the farm or farm operation may recover from the plaintiff the actual amount of costs and expenses determined by the court to have been reasonably incurred by the farm or farm operation in connection with the defense of the action, together with reasonable and actual attorney fees.

The Supreme Court in *Rice* has interpreted this statute to mean that “[a] prevailing farm or farm operation is entitled to the actual amount of costs and expenses reasonably incurred, together with reasonable and actual attorney fees, when so demanded.” *Rice*, 509 Mich at 367. “MCL 286.473b gives that discretion to the prevailing farm or farm operation, not to the trial court.” *Id.* (emphasis added).

“[U]nless otherwise directed, “[m]atters specially made taxable elsewhere in the statutes or rules” or “[a]ny attorney fees authorized by statute or by court rule” “may be taxed and awarded as costs.” MCL 600.2405(6). Taxation of costs are assessed pursuant to MCR 2.625. Defendant Haney makes his demand under *Rice* and MCL 286.473b, and requests the same be determined by as costs pursuant to MCR 2.625 or be otherwise directed as to how the Court wishes to proceed.

RELIEF REQUESTED

WHEREFORE, the Court is requested enter a final judgment dismissing the lawsuit in full under the Michigan *Right to Farm Act* and recognize Defendant Haney’s demand for attorney fees and costs pursuant to *Rice* and MCL 286.473b with an amount to be determined by an assessment of costs pursuant to MCR 2.625 unless otherwise directed.

Date: November 11, 2025

RESPECTFULLY SUBMITTED:

Philip L Ellison

PROOF OF SERVICE

The undersigned certifies that a copy of the foregoing document(s) was provided to and/or served on parties or at least one of his/her attorney of record on the date stated above by the following method(s):

- | | |
|---|---|
| <input checked="" type="checkbox"/> US mail (Prepaid) | <input type="checkbox"/> Email (by MSC Admin Order) |
| <input type="checkbox"/> Fax | <input type="checkbox"/> Email (by Agreement) |
| <input type="checkbox"/> Hand Delivery | <input type="checkbox"/> Other: Email |

Philip L Ellison

PHILIP L. ELLISON
Attorney at Law

OUTSIDE LEGAL COUNSEL PLC
by PHILIP L. ELLISON (P74117)
Attorney for Haney Defendant
PO Box 107
Hemlock, MI 48626
(989) 642-0055
pellison@olcplc.com

**STATE OF MICHIGAN
IN THE CIRCUIT COURT FOR THE COUNTY OF BAY**

FRASER TOWNSHIP
Plaintiff,

Circuit Case No.: 16-3272-CH
Honorable Joseph Sheeran

v.

HARVEY HANEY,
Defendant

MARK J. BRISSETTE (P26982)
BIRCHLER, FITZHUGH, PURTELL, &
BRISSETTE, PLC
Attorney for Fraser Twp
703 Washington Ave Ste 200
Bay City, MI 48708
(989) 892-0591

OUTSIDE LEGAL COUNSEL PLC
PHILIP L. ELLISON (P74117)
Attorney for Haney
PO Box 107
Hemlock, MI 48626
(989) 642-0055
pellison@olcplc.com

AT A SESSION OF THE ABOVE COURT
HELD IN THE CITY OF BAY CITY, COUNTY OF BAY

PRESENT: Honorable Joseph Sheeran, Circuit Court Judge

FINAL JUDGMENT DISMISSING CASE

This matter comes before the Court on remand from the Michigan Court of Appeals. The Court of Appeals further held that Defendant Haney met his burden of proving that he is engaged in the “commercial production of a farm product” and therefore satisfies the first prong of the *James Twp v Rice*, 509 Mich 363; 984 NW2d 71 (2022) test. It further instructed this Court on remand to determine, on the existing trial record, whether Defendant’s farm operation conforms to the applicable Generally Accepted Agricultural and Management Practices (“GAAMPs”). At oral argument before the Michigan Court of Appeals, Fraser Township expressly conceded that the only GAAMP at issue is the Site Selection and Odor Control for New and Expanding Livestock Production Facilities GAAMP (“Siting GAAMP”).

Based on the trial record, the Court finds as follows that evidence at trial established that Defendant Haney’s piggery has significantly fewer than 50 animal units and has never been proposed as a new or expanding facility since before 1999. Under the plain terms of the GAAMP, such operations are not subject to Siting GAAMP requirements and are deemed compliant. Because both components of *Rice are satisfied*, Defendant Haney’s piggery is protected by the RTFA.

IT IS THEREFORE ORDERED AND ADJUDGED THAT—

1. Fraser Township is PREEMPTED from “enacting, maintaining, or enforcing” its zoning ordinance against Defendant’s piggery under MCL 286.474(6).
2. The Township’s Complaint and all claims against Defendant Harvey Haney are DISMISSED WITH PREJUDICE.
3. The Court DECLARES that Defendant’s piggery is a protected “farm” and “farm operation” under the Michigan Right to Farm Act, MCL 286.471 et seq., and that the operation is in conformity with all applicable GAAMPs.
4. Defendant Haney is the prevailing party for purposes of MCL 286.473b and may recover actual and reasonable attorney fees, expenses, and costs incurred in defending this action.
5. Pursuant to MCL 286.473b and MCR 2.625, Defendant shall file a verified bill of costs, and the Township may file any permissible objections.
6. This Judgment resolves the last pending claim and closes the case.

Date: _____

Honorable Joseph Sheeran
Circuit Court Judge

DUPLICATE COPY

JUN 25 2000

MICHIGAN DOCUMENTS
LIBRARY OF MICHIGAN

**GENERALLY ACCEPTED AGRICULTURAL
AND MANAGEMENT PRACTICES FOR
SITE SELECTION AND ODOR CONTROL
FOR NEW AND EXPANDING
LIVESTOCK PRODUCTION FACILITIES**



**ADOPTED BY
MICHIGAN COMMISSION OF AGRICULTURE
LANSING, MICHIGAN**

June 2000

MDOC
SF
140
E25
G-46
1999
C-3



TABLE OF CONTENTS

INTRODUCTION 1

DEFINITIONS 3

SECTION I - Determining Acceptable Locations for Livestock Production Facilities 4

 Category 1 Sites - Sites normally acceptable for livestock production facilities..... 5

 Category 2 Sites - Sites where special technologies and/or management practices would be needed to make new and expanding livestock production facilities acceptable..... 6

 Category 3 Sites - Sites that are not acceptable for new and expanding livestock production facilities 7

SECTION II - Defining a Site Plan and a Manure Management System Plan..... 8

APPENDIX A – Michigan Department of Agriculture (MDA) Site Review and Verification Process..... 10

APPENDIX B - References 13

COMMITTEE MEMBERS 14

GENERALLY ACCEPTED AGRICULTURAL AND MANAGEMENT PRACTICES FOR SITE SELECTION AND ODOR CONTROL FOR NEW AND EXPANDING LIVESTOCK PRODUCTION FACILITIES

Introduction

In 1999, the Michigan legislature enacted P.A. 261 which amended the Michigan Right To Farm Act. P.A. 261 requires the establishment of Generally Accepted Agricultural and Management Practices for Site Selection and Odor Control for New and Expanding Livestock Facilities. These Generally Accepted Agricultural and Management Practices (GAAMPs) are written to fulfill that purpose and to provide uniform, statewide standards and acceptable management practices based on sound science.

A farm or farm operation that conforms to these and other applicable GAAMPs adopted under the Michigan Right to Farm Act according to the Michigan Right to Farm Law (Act 93 of 1981, as amended), shall not be found to be a public or private nuisance. This protection also covers farm operations that existed before a change in the land use or occupancy of land within one mile of the boundaries of the farm land, if before that change the farm would not have been a nuisance. Likewise, this conditional protection applies to any of the following circumstances (P.A. 93 Section 3 (3)):

- (a) A change in ownership or size.
- (b) Temporary cessation or interruption of farming.
- (c) Enrollment in governmental programs.
- (d) Adoption of new technology.
- (e) A change in type of farm product being produced.

To be afforded nuisance protection under these GAAMPs, certain producers as defined in Section 1 must complete, and conform with, the site selection review and verification process, as described in Appendix A.

These GAAMPs for site selection and odor control for new and expanding livestock production facilities are intended to fulfill three primary objectives:

- 1) Environmental Protection
- 2) Social Considerations (neighbor relations)
- 3) Economic Viability

When all three of these objectives are met, the ability of a farm operation to achieve agricultural sustainability is greatly increased.

Producers should utilize recognized industry and university professionals in the evaluation of the economic viability and sustainability of constructing new or expanding existing livestock production facilities. This evaluation should be comprehensive enough to

consider all aspects of livestock production including economics, resources, operation, waste management and longevity.

The decision of where to site a livestock production facility can be based on several objectives including: preserving water quality, minimizing odor, working with existing land ownership constraints, maximizing convenience for the operator, maintaining esthetic character, minimizing conflicts with adjacent land uses and complying with other applicable local ordinances. The environmental objectives of these GAAMPs focus specifically on water quality protection and odor control, and how environmental and management factors affect the suitability of sites for livestock production. The suitability of a particular site for a livestock production facility depends upon a number of factors, such as the number of animal units (size), the species of animals, wind directions, land base for use, topography of the surrounding land, adjacent land uses, the availability of Class A roads for feed and product movement, soil types, hydrology and many others.

Site selection is a complex process, and each site should be assessed individually in terms of its proposed use. These GAAMPs are written in recognition of the importance of site-specificity in siting decisions. While general guidelines apply to all siting decisions, specific criteria are not equally applicable to all types of operations and all locations. In addition to the guidelines provided in these GAAMPs, the United States Department of Agriculture Natural Resources Conservation Service (USDA-NRCS) technical references, including the Agricultural Waste Management Field Handbook (AWMFH) and the Field Office Technical Guides (FOTG), are excellent sources for information and standards related to the siting of livestock production facilities.

Water quality issues regarding animal agriculture production are currently addressed in the Generally Accepted Agricultural and Management Practices for Manure Management and Utilization. The GAAMPs for Manure Management and Utilization cover runoff control and wastewater management, construction design for manure storage and treatment facilities, and manure application to land. In addition, the GAAMPs for Manure Management and Utilization stress the importance of each livestock production facility developing a manure management system plan that focuses on management of manure nutrients and management of manure and odors. These issues are currently covered in the GAAMPs for Manure Management and Utilization and are not duplicated here. Both the Michigan Natural Resources and Environmental Protection Act (NREPA) P.A. 451 of 1994, as amended, and the GAAMPs for Manure Management and Utilization have established a zero discharge standard of manure and other agricultural byproducts into groundwater and surface water.

Odor control is a primary focus relating to the social consideration objectives of these GAAMPs. Odor perception is a subjective response to what people detect through their sense of smell in the air they breathe and poses unique management challenges for livestock producers. While there is no scientific evidence that odorous gases that escape

from livestock production facilities are toxic at the concentrations in the atmosphere experienced by neighbors, they can become an annoyance or a nuisance if manure is mismanaged or livestock production facilities are improperly sited.

Recent experiences with the National Pork Producers Council On-Farm Odor Assessment Program suggest that significant odor reduction can be achieved by improving the management of certain livestock production facilities. Improved management as well as the adoption of new technologies to control odor offer a means for reducing odor from livestock production facilities and manure storage facilities, thus broadening the area within which livestock production facilities may be appropriately sited.

The goal for effective odor management is to reduce the frequency, intensity, duration and offensiveness of odors that neighbors might experience. Because of the subjective nature of human responses to certain odors, recommending appropriate technology and management practices is not an exact science. Since site selection for livestock production facilities is an important factor in managing, and therefore, minimizing potential for odor impacts upon neighbors, site selection for new and expanding residential housing should consider setbacks to avoid potential land use conflicts.

Generally Accepted Agricultural and Management Practices for Site Selection and Odor Control for New and Expanding Livestock Production Facilities will help determine the suitability of sites for livestock production facilities. These GAAMPs provide a planning process that can be used to properly plan new and expanding facilities to increase the suitability of a particular site and enhance neighbor relations.

Definitions, as used in these GAAMPs:

Animal Units - Animal units are defined as listed in the U.S. Code of Federal Regulations (CFR) 40 Section 122, Appendix B. (See Table 1)

Distances between a Livestock Production Facility and Non-Farm Residences - The distance from a livestock production facility and a residence is measured from the nearest point of the livestock facility to the nearest point of the residence.

Expanding Livestock Production Facility - a new facility to increase the holding capacity where animals will be confined that is built at a site that presently has livestock production facilities contiguous to the construction site.

Livestock Farm Residence - a residence on land owned/rented by the livestock farm operation and those residences on farms affiliated by contract or agreement with the livestock production facility.

Livestock Production Facilities - includes all facilities where farm animals as defined in the Right To Farm Act are confined with a capacity of 50 animal units or greater and the associated manure storage facilities.

New Livestock Production Facilities - all facilities where animals will be confined that are built at new sites and are not part of another livestock production facility.

Non-Farm Residence - a residence that is habitable for human occupation and is not affiliated with the specific livestock production system.

Property Line Setback - is the distance from the livestock production facility to the property line as measured from the facility to the nearest point of the facility owner's property line.

Table 1. Animal Unit Equivalentents

| Animal Unit | 50 | 250 | 500 | 750 | 1,000 |
|-----------------------------|-------------------|--------|--------|--------|---------|
| Animal Type ¹ | Number of Animals | | | | |
| Slaughter and Feeder Cattle | 50 | 250 | 500 | 750 | 1,000 |
| Mature Dairy Cattle | 35 | 175 | 350 | 525 | 700 |
| Swine ² | 125 | 625 | 1,250 | 1,875 | 2,500 |
| Sheep and Lambs | 500 | 2,500 | 5,000 | 7,500 | 10,000 |
| Horses | 25 | 125 | 250 | 375 | 500 |
| Turkeys | 2,750 | 13,750 | 27,500 | 41,250 | 55,000 |
| Laying Hens or Broilers | 5,000 | 25,000 | 50,000 | 75,000 | 100,000 |

¹ All other animal types not in this table, but defined in the Michigan Right to Farm Act or described in Michigan Commission of Agriculture Policy, are to be calculated as one thousand pounds live weight equals one animal unit.

² Weighing over 55 pounds.

Section I - Determining Acceptable Locations for Livestock Production Facilities

All potential sites for new and expanding livestock production facilities can be identified by three general categories. These are:

Category 1. Sites normally acceptable for livestock production facilities.

Category 2. Sites where special technologies and/or management practices would be needed to make new and expanding livestock production facilities acceptable.

Category 3. Sites that are not acceptable for new and expanding livestock production facilities.

Category 1 Sites: Sites normally acceptable for livestock production facilities.

Category 1 sites are those sites which have been traditionally used for agricultural purposes and are in an area with a relatively low residential housing density. These sites are located where there are 3 or fewer non-farm residences within ¼ mile from a livestock production facility with less than 1000 animal units, and 3 or fewer non-farm residences within ½ mile from a livestock production facility with 1000 animal units or greater. New and expanding livestock production facilities should only be constructed in areas where local zoning allows for agriculture uses.

For any proposed site in Category 1, it is recognized that there is potential risk for surface or groundwater pollution or conflict over excessive odors from a livestock production facility. However, the appropriate use of technologies and management practices can minimize these risks, thus allowing the livestock production facility to operate with minimal potential for excessive odor or environmental degradation. If the proposed site is within Category 1, it is recognized that this is a site normally acceptable for livestock production facilities. As shown in Table 2, if the proposed site is within Category 1 and has a capacity of 50 to 999 animal units, MDA will review and verify the producer's plans at the producer's request. These plans should be made available to the local unit of government if requested. If the proposed site is within Category 1 and has a capacity of greater than 1000 animal units, the producer must follow the MDA site selection review and verification process as described in Appendix A.

Table 2. Category 1 Site Setbacks, Verification and Notification

| Animal Units | Non-Farm Residences within Distance | Minimum Property Line Setback¹ | MDA Verification | Local Unit of Government Notification |
|---------------------|--|--|-------------------------|--|
| 50-999 | 0-3 within 1/4 mile | 250 ft | Upon Producer Request | Upon Local Unit Request |
| 1000 or more | 0-3 within 1/2 mile | 600 ft | Yes | Yes |

¹May be modified with the use of the Minnesota Odor Estimator Model, utilizing the 95% odor annoyance free requirement, based upon proximity to existing non-farm residences and management technologies implemented at the livestock production facility.

Category 2 Sites: Sites where special technologies and/or management practices would be needed to make new and expanding livestock production facilities acceptable.

Category 2 sites are those where site-specific factors may limit the environmental, social or economic acceptability of the site for livestock production facilities and where structural, vegetative, technological and management measures can be planned and implemented to address those limiting factors. These measures should be incorporated into a Site Plan and a Manure Management System Plan, both as defined in Section II, which are required for all new and expanding livestock production facilities that are within this category. New and expanding livestock production facilities should only be constructed in areas where local zoning allows for agriculture uses.

Table 3 shows how Category 2 sites are defined and lists setbacks, verification and notification requirements. As an example, a proposed site for a livestock production facility with 500 animal units and between 4 and 20 residences within ¼ mile of the facility, would have a setback of 400 feet from the owner’s property line, would require that a Site Plan and a Manure Management System Plan be verified by MDA, and would require that the local unit of government be notified.

Table 3. Category 2 Site Setbacks, Verification and Notification

| Animal Units | Non-Farm Residences within Distance | Minimum Property Line Setback¹ | MDA Verification | Local Unit of Government Notification |
|---------------------|--|--|-------------------------|--|
| 50-249 | 4 -20 within ¼ mile | 250 ft | Upon Producer Request | Upon Local Unit Request |
| 250-499 | 4 -20 within ¼ mile | 300 ft | Yes | Yes |
| 500-749 | 4 -20 within ¼ mile | 400 ft | Yes | Yes |
| 750-999 | 4 -20 within ¼ mile | 500 ft | Yes | Yes |
| 1000 or more | 4 -20 within ½ mile | 600 ft | Yes | Yes |

¹ May be modified with the use of the Minnesota Odor Estimator Model, utilizing the 95% odor annoyance free requirement, based upon proximity to existing non-farm residences and management technologies implemented at the livestock production facility.

As part of the review and evaluation of the proposed site plan, MDA will determine if these GAAMPs are being utilized and if appropriate technology and management practices are included in the plan. In addition, MDA will use the Minnesota Odor Setback Estimator Model as part of the decision making process to determine appropriate setback distances. For livestock production facilities with between 50 and 249 animal units, a Site Plan and

Manure Management System Plan should be developed and provided by the producer to the local unit of government, if requested.

Category 3 Sites: Sites not appropriate for new and expanding livestock production facilities.

New and expanding livestock production facilities should not be constructed in areas where local zoning does not allow for agriculture uses. Any proposed site with more than 20 non-farm residences within ¼ mile is a Category 3 site, and new and expanding livestock production facilities are inappropriate for that site. Additionally, the following categories are considered unacceptable for construction of new and expanding livestock production facilities.

1. Wetlands - New and expanding livestock production facilities shall not be constructed within a wetland as defined under MCL 324.30301 (NREPA, PA 451, as amended).
2. Floodplain - New and expanding livestock production facilities and manure storage facilities shall not be constructed in an area where the facilities would be inundated with surface water during a 25 year flood.

The following categories are also considered unacceptable for construction of new livestock production facilities. However, expanding livestock production facilities may be acceptable if appropriate control technologies and management practices are used. In addition, review and approval of expansion in these areas is required by the appropriate agency, as indicated.

1. Drinking Water Sources

Groundwater protection - New livestock production facilities shall not be constructed within a 10 year time-of-travel zone designated as a wellhead protection area as recognized by the Michigan Department of Environmental Quality (MDEQ), pursuant to programs established under the Michigan Safe Drinking Water Act, P.A. 399. An expanding livestock production facility may be constructed with review and approval by the local unit of government administering the Wellhead Protection Program.

Where no designated wellhead protection area has been established, construction of new and expanding livestock production facilities shall not be closer than 2000 feet to a Type I or Type IIa public water supply and shall not be closer than 800 feet to a Type IIb or Type III public water supply. An expanding livestock facility may be located closer than these distances, so long as appropriate hydrogeological studies indicate that water quality will not be jeopardized. New and expanding livestock

production facilities should not be constructed within 75 feet of any known existing private domestic water supply (wellhead).

Surface water protection - New and expanding livestock production facilities shall not be constructed within the 100 year flood plain of a stream reach where a community surface water source is located, unless the livestock production facility is located downstream of the surface water intake.

2. High Public Use Areas - Areas of high public use or where a high population density exists are subject to setbacks to minimize the potential effects of a livestock production facility on the people that use these areas. New livestock production facilities should not be constructed within 1500 feet of hospitals, churches, licensed commercial elder care facilities, licensed commercial child care facilities, school buildings, parks or campgrounds. Existing livestock production facilities may be expanded within 1500 feet of high public use areas with appropriate MDA review and verification. The review process will include input from the local unit of government and from people who utilize those high public use areas within the 1500 foot setback.
3. Residential Zones - Areas that are zoned primarily for residential use will generally have housing at a density that necessitates setback distances for livestock production facilities to prevent conflicts. New livestock production facilities shall not be constructed within 1500 feet of areas zoned for residential use where agriculture uses are excluded. Existing livestock production facilities may be expanded within 1500 feet of areas zoned for residential use with approval from the local unit of government.

Section II - Defining a Site Plan and a Manure Management System Plan

Site Plan

A Site Plan is a comprehensive plan for siting a livestock production facility, and includes a base map(s) to scale of the property illustrating the following features:

- Property lines, easements, rights-of-way, and any deed restrictions.
- Public utilities, overhead power lines, cable, pipelines, and legally established public drains.
- Positions of buildings, wells, septic systems, culverts, drains and waterways, walls, fences, roads, and other paved areas.
- Location, type and size of existing utilities.
- Location of wetlands, streams and other bodies of water.
- Existing land uses for contiguous land.

- Names and addresses of adjacent property owners.
- A soils map of the area where all livestock production facilities are located.
- Wind rose (indicates prevailing wind direction) from the nearest weather service office.
- Distance and direction to the non-farm residences within one mile.
- Distance and direction to the nearest residentially zoned area.

Manure Management System Plan

The Manure Management System Plan describes the system of structural, vegetative and management practices that the owner/operator has chosen to implement on the site. Items to address in the manure management system plan are described in the GAAMPs for Manure Management and Utilization. The implementation of a manure management system plan should include the following components:

- Sufficient land, or have access to sufficient land for the proper collection, storage, treatment, transfer and utilization of the manure and other by-products generated.
- Polluted runoff and leachate from manure and feed should be collected and transferred to storage or treatment facilities and should be utilized in an environmentally acceptable manner.
- Planning and installation of manure management system components to ensure proper function of the entire system.
- A written operation and maintenance plan for all structural components of the manure management system including inspection frequency, areas to address, regular maintenance and record keeping.
- Assessment of potential odor generation and the technologies and management practices to be implemented to minimize excessive odors.
- Through development of an Emergency Action Plan, identify the actions to take and contacts to be made in the event of a spill or discharge.

Other items that may accompany the manure management system plan include the following:

Veterinary Waste Management Plan - identify the processes and procedures used to safely dispose of livestock-related veterinary wastes produced on the farm.

Conservation Plan - field-specific plan describing the structural, vegetative and management measures for the fields where manure and other by-products will be applied.

Dead Animal Disposal Plan - identify the processes and procedures used to safely dispose of the bodies of dead animals (Bodies of Dead Animals Act P.A.-239 of 1994).

APPENDIX A

Michigan Department of Agriculture - Site Review and Verification Process

Siting Request Process:

The GAAMPs for site selection and odor control for new and expanding livestock production facilities are applicable for new and expanding livestock production facilities with a capacity of 50 animal units or greater (see Table 1). Producers seeking nuisance protection under these GAAMPs should contact MDA and begin the site selection review and verification process prior to the construction of new livestock production facilities and the expansion of existing livestock production facilities.

To begin the review and verification process, contact can be made with the Michigan Department of Agriculture Right to Farm Program by calling 877-632-1783. This number is toll free and is operational during normal business hours.

Development of Plans:

A request to begin the site review and verification process can be made by submitting a letter from the responsible party to the MDA Right to Farm Program. This letter should outline the proposed new construction or expansion project, any areas of concern, agencies and individuals the producer is already working with, and the proposed timeline. The responsible party must also submit a completed site plan and a manure management system plan. If special technologies or management practices are to be implemented for the successful operation of the livestock production facility, these must be included in the siting request package.

Producers may also utilize recognized industry, university, and agency professionals in the development of their siting request, site plan and manure management system plan. Structures should be engineered and constructed by competent individuals or companies utilizing generally accepted standards, guidelines and specifications.

MDA Preliminary Site Visit:

MDA will conduct preliminary site visits to proposed new and expanding livestock production facilities. This site visit will take place upon receipt of the complete siting request package and will focus on addressing conformance with the plan components, identifying areas of concern, and verifying information submitted in the siting request. Upon receipt of the siting request package, MDA will notify the local unit of government of that proposed livestock production facility siting request. At the request of the producer, a preliminary site visit could be conducted prior to submission of the complete siting request package.

Review and Verification:

MDA will review completed siting requests upon receipt. The review will verify the following: siting request information submitted; conformance with GAAMPs; completion of Site Plan and Manure Management System Plan; project timetable; local unit of government input; and recognized industry, university, or agency professional involvement. If deficiencies in the siting request are identified, MDA will communicate those to the responsible party for further modification.

MDA will incorporate the activities and involvement of other regulatory agencies and local units of government having authority over components affecting the siting of livestock production facilities. MDA will use the Minnesota Odor Setback Estimator Model, utilizing the 95% odor annoyance free requirement, as another component in the review and verification process.

Approval Status:

Approval of a completed siting request will be determined by MDA. This status will be conveyed to the responsible party on MDA letterhead along with a completed checklist for conformance with these GAAMPs. If approval is not granted, MDA will provide justification for that decision to the responsible party. Approval by MDA ensures that the livestock production facility has conformed with the components of the GAAMPs for Siting and Odor Control for New and Expanding Livestock Production Facilities.

Notification to Local Unit of Government:

MDA will notify the local unit of government of all proposed livestock production facility siting requests and of all determinations made regarding the approval status of a siting request for siting a new or expanding livestock production facility.

Appeal Process:

If either the owner of the proposed livestock production facility or the surrounding neighbors within one mile of the proposed facility disagree with the results of the review and verification process, they may appeal MDA's decision to the Michigan Commission of Agriculture. MDA will review the supporting documentation for the appeal and then will consult with at least three recognized professionals in the siting and management of livestock production facilities and odor control practices as listed below to further evaluate the proposed siting request. Once the professionals have reviewed and reported a recommendation on the proposed siting request to the Commission of Agriculture, no further appeals of that site review and verification decision can be made to the Commission of Agriculture. The final decision rests with the Michigan Commission of Agriculture.

Recognized Professionals:

Recognized professionals in the siting and management of livestock production and odor control practices may include, but are not limited to personnel from the following:

- a. Conservation Districts
- b. Industry Representatives
- c. Michigan Department of Environmental Quality
- d. Professional Consultants and Contractors
- e. Professional Engineers
- f. United States Department of Agriculture Natural Resources Conservation Service
- g. University Agricultural Engineers and other University Specialists

The site review and verification process will be conducted in accordance with MDA procedures and protocol.

APPENDIX B

REFERENCES

The Generally Accepted Agricultural and Management Practices for Manure Management and Utilization.

Jacobsen, Larry and Huiqing Guo. An Odor Setback Estimator for Feedlots (OSEFF). BAE Department. University of Minnesota.

Jacobson, Larry, Huiqing Guo, David Schmidt, Richard Nicolai, Jun Zhu and Kevin Janni. Worksheet for the Odor Rating System to Estimate Setback Distances for Animal Production Sites. Version 1.0. BAE Department. University of Minnesota.

The Michigan Natural Resources and Environmental Protection Act (PA 451 of 1994).

Michigan Right to Farm Act, PA 93 of 1981, as amended.

National Pork Producers Council On-Farm Odor Assessment Program.

United States Department of Agriculture Natural Resources Conservation Service Field Office Technical Guide.

United States Department of Agriculture Natural Resources Conservation Service Agricultural Waste Management Field Handbook.

United States Federal Clean Water Act [Code of Federal Regulations 40 (CFR40)].

COMMITTEE MEMBERS

Listed below are the committee members that developed these Generally Accepted Agricultural and Management Practices for Site Selection and Odor Control for New and Expanding Livestock Production Facilities.

David Bertram
Michigan Townships Assoc.
512 Westshire Dr.
Lansing, MI 48917
(517) 321-6467
(517) 321-8908 - FAX
david@mta-townships.org

Ernie Birchmeier
Michigan Farm Bureau
P. O. Box 30960
Lansing, MI 48909
(517) 323-7000
ebirchmeier@poweruser.com

Gary Boersen, P.E.
Michigan Dept. of Env.
Quality, SWQD
P. O. Box 30273
Lansing, MI 48909
(517) 373-1982
(517) 241-8133 - FAX
boerseng@state.mi.us

Elaine Brown
Inst. Of Water Research
115 Manly Miles Building
1405 S. Harrison Rd.
East Lansing, MI 48823
(517) 355-0216
(517) 353-1812 - FAX
browne@msu.edu

Ben Darling
Michigan Dept. of Agriculture
P. O. Box 30017
Lansing, MI 48909
(517) 335-6544
(517) 334-3329 - FAX
darlingb@state.mi.us

Steve Davis, P.E.
USDA NRCS
3001 Coolidge Rd., Suite 250
East Lansing, MI 48823-6350
(517) 324-5232
(517) 324-5171 - FAX
sdavis@mi.nrcs.usda.gov

Sam Hines
Mich. Pork Producers Assn.
4810 Willoughby
Holt, MI 48842
(517) 699-2145
miporkasso@aol.com

Maynard Hogberg
Michigan State University
Dept. of Animal Science
1290 Anthony Hall
East Lansing, MI 48824-1225
(517) 355-8384
(517) 353-1699 - FAX
hogberg@pilot.msu.edu

Ray Kemmerling
Local Official
P. O. Box 457
Grant, MI 49327
(231) 834-7535
(231) 834-0446 - FAX

Jack Knirk
Michigan Cattlemans Assoc.
168 N. Stringtown
Quincy, MI 49082
(517) 639-4611
(517) 639-4611 - FAX

Jerry Loudenslager
St. Joseph Co. Commissioner
23194 VanResort Dr.
Mendon, MI 49072
(616) 467-7918
(616) 467-7918 - FAX
jerrloud@aol.com

David Maturen
Local Official
1125 E. Milham
Portage, MI 49002
(616) 342-4800
(616) 342-5448 - FAX
indianl@aol.com

Pat Norris
Michigan State University
Dept. of Agricultural
Economics, 211B Ag. Hall
East Lansing, MI 48824
(517) 353-7856
norrisp@msu.edu

Roberta Osborne
Ext. Agr. & NR Agent
Ext. Southwest Region
20 Care Dr. Suite B
Hillsdale, MI 49242
(517) 439-9301
weberr@msue.msu.edu

Howard Person
Michigan State University
Dept. of Agricultural Eng.
225 Farrall Hall
East Lansing, MI 48824
(517) 353-4619
(517) 355-7711 - FAX
person@msu.edu

Vicki Pontz-Teachout
Michigan Dept. of Agriculture
P. O. Box 30017
Lansing, MI 48909
(517) 335-3400
(517) 335-3329 - FAX
pontzv@state.mi.us

Robert von Bernuth
Michigan State University
Dept. of Agricultural Eng.
213 Farrall Hall
East Lansing, MI 48824
(517) 432-6379
vonbern@msu.edu

Wayne Whitman
Michigan Dept. of Agriculture
P. O. Box 30017
Lansing, MI 48909
(517) 335-5849
(517) 335-3329 - FAX
whitmanw@state.mi.us

EXHIBIT

B

OUTSIDE LEGAL COUNSEL PLC
www.olgpc.com

Michigan



Department of
AGRICULTURE
& Rural Development

Michigan Department of
AGRICULTURE
& Rural Development

**Generally Accepted Agricultural
and Management Practices
for Site Selection and Odor
Control for New and Expanding
Livestock Production Facilities**

January 2012

Michigan Commission of Agriculture
& Rural Development

PO Box 30017
Lansing, MI 48909

PH: (517) 373-9797
www.michigan.gov/MDA

TABLE OF CONTENTS

PREFACE iii

I. INTRODUCTION 1

II. DEFINITIONS 3

III. DETERMINING ACCEPTABLE LOCATIONS FOR LIVESTOCK PRODUCTION FACILITIES 4

 Category 1 Sites - Sites normally acceptable for livestock production facilities 6

 Category 2 Sites - Sites where special technologies and/or management practices could be needed to make new and expanding livestock production facilities acceptable 7

 Category 3 Sites - Sites are not acceptable for new and expanding livestock production facilities 9

IV. OFFSITE MANURE STORAGE FACILITIES 11

V. DEVELOPING A SITE PLAN AND A MANURE MANAGEMENT SYSTEM PLAN 11

VI. SITE REVIEW AND VERIFICATION PROCESS 13

 APPENDIX A: Michigan Odor Management Plan 16

 APPENDIX B: Example Dairy Odor Management Plan 19

 APPENDIX C: Comprehensive Nutrient Management Plan 23

 APPENDIX D: Manure Storage Facility Plan 25

VII. REFERENCES 26

In the event of an agricultural pollution emergency such as a chemical/fertilizer spill, manure lagoon breach, etc., the Michigan Department of Agriculture & Rural Development and/or Michigan Department of Environmental Quality should be contacted at the following emergency telephone numbers:

Michigan Department of Agriculture & Rural Development: (800) 405-0101
 Michigan Department of Environmental Quality: (800) 292-4706

If there is not an emergency, but you have questions on the Michigan Right to Farm Act, or items concerning a farm operation, please contact the:

Michigan Department of Agriculture & Rural Development
 Right to Farm Program
 P.O. Box 30017
 Lansing, Michigan 48909
 (517) 373-9797
 (517) 335-3329 FAX
 (Toll Free)
 (877) 632-1783

Authority: Act 93 of 1981, as amended
 TOTAL NUMBER OF COPIES PRINTED: 50
 TOTAL COST: \$99.58 COST PER COPY: \$1.99

PREFACE

The Michigan legislature passed into law the Michigan Right to Farm Act (Act 93 of 1981) which requires the establishment of Generally Accepted Agricultural and Management Practices (GAAMPs). GAAMPs for Site Selection and Odor Control for New and Expanding Livestock Production Facilities are written to fulfill that purpose and to provide uniform, statewide standards and acceptable management practices based on sound science. These practices can serve producers in the various sectors of the industry to compare or improve their own managerial routines. New scientific discoveries and changing economic conditions may require necessary revision of these GAAMPs.

The Generally Accepted Agricultural and Management Practices that have been developed are the following:

- 1) 1988 Manure Management and Utilization
- 2) 1991 Pesticide Utilization and Pest Control
- 3) 1993 Nutrient Utilization
- 4) 1995 Care of Farm Animals
- 5) 1996 Cranberry Production
- 6) 2000 Site Selection and Odor Control for New and Expanding Livestock Production Facilities
- 7) 2003 Irrigation Water Use
- 8) 2010 Farm Markets

These practices were developed with industry, university, and multi-governmental agency input. As agricultural operations continue to change, new practices may be developed to address the concerns of the neighboring community. Agricultural producers who voluntarily follow these practices are provided protection from public or private nuisance litigation under the Right to Farm Act.

This GAAMP does not apply in municipalities with a population of 100,000 or more in which a zoning ordinance has been enacted to allow for agriculture provided that the ordinance designates existing agricultural operations present prior to the ordinance's adoption as legal nonconforming uses as identified by the Right to Farm Act for purposes of scale and type of agricultural use.

The website for the GAAMPs is <http://www.michigan.gov/gaamps>.

I. INTRODUCTION

Generally Accepted Agricultural and Management Practices for Site Selection and Odor Control for New and Expanding Livestock Production Facilities will help determine the suitability of sites for livestock production facilities. These GAAMPs provide a planning process that can be used to properly plan new and expanding facilities and to increase the suitability of a particular site and enhance neighbor relations.

These GAAMPs for Site Selection and Odor Control for New and Expanding Livestock Production Facilities are written to provide uniform, statewide standards and acceptable management practices based on sound science.

FARM PLANNING AND SITE DEVELOPMENT

The GAAMPs for site selection and odor control for new and expanding livestock production facilities are intended to fulfill three primary objectives:

- 1) Environmental Protection
- 2) Social Considerations (neighbor relations)
- 3) Economic Viability

When all three of these objectives are met, the ability of a farm operation to achieve agricultural sustainability is greatly increased.

Farm planning involves three broad phases: Collection and analysis (understanding the problems and opportunities); decision making; and implementation. Collection and analysis includes: determining objectives, inventorying resources, and analyzing data. Decision support includes formulating alternatives, evaluating alternatives, and making decisions. The final step is implementation.

Producers should utilize recognized industry and university professionals in the evaluation of the economic viability and sustainability of constructing new or expanding existing livestock production facilities. This evaluation should be comprehensive enough to consider all aspects of livestock production including economics, resources, operation, waste management, and longevity.

The decision of where to site a livestock production facility can be based on several objectives including: preserving water quality, minimizing odor, working with existing land ownership constraints, future land development patterns, maximizing convenience for the operator, maintaining esthetic character, minimizing conflicts with adjacent land uses, and complying with other applicable local ordinances. The environmental objectives of these GAAMPs focus specifically on water quality protection and odor control, and how environmental and management factors affect the suitability of sites for livestock production. The suitability of a particular site for a livestock production

facility depends upon a number of factors; such as the number of animal units (size); the species of animals; wind directions; land base for use; topography of the surrounding land; adjacent land uses; the availability of Class A roads for feed and product movement; soil types; hydrology; and many others.

Site selection is a complex process, and each site should be assessed individually in terms of its proposed use. These GAAMPs are written in recognition of the importance of site-specificity in siting decisions. While general guidelines apply to all siting decisions, specific criteria are not equally applicable to all types of operations and all locations. In addition to the guidelines provided in these GAAMPs, the United States Department of Agriculture, Natural Resources Conservation Service (USDA-NRCS) technical references, including the Agricultural Waste Management Field Handbook (AWMFH) and the Field Office Technical Guide (FOTG), are excellent sources for information and standards related to the siting of livestock production facilities.

It is recognized that there is potential risk for surface or groundwater pollution, or conflict over excessive odors from a livestock production facility. However, the appropriate use of technologies and management practices can minimize these risks, thus allowing the livestock production facility to operate with minimal potential for excessive odor or environmental degradation. These measures should be incorporated into a Site Plan and a Manure Management System Plan, both as defined in Section IV, which are required for all new and expanding livestock production facilities.

Groundwater and surface water quality issues regarding animal agriculture production are addressed in the current "Generally Accepted Agricultural and Management Practices for Manure Management and Utilization" Michigan Commission of Agriculture & Rural Development (MCARD) and are not duplicated here. The GAAMPs for Manure Management and Utilization cover runoff control and wastewater management, construction design and management for manure storage and treatment facilities, and manure application to land. In addition, the GAAMPs for Manure Management and Utilization stress the importance of each livestock production facility developing a manure management system plan that focuses on management of manure nutrients and management of manure and odors.

These GAAMPs are referenced in Michigan's Natural Resources and Environmental Protection Act (NREPA), PA 451 of 1994, as amended. NREPA protects the waters of the state from the release of pollutants in quantities and/or concentrations that violate established water quality standards. In addition, the GAAMPs utilize the nationally recognized construction and management standard to provide runoff control for a 25-year, 24-hour rainfall event.

Offsite Manure Storage Facility - A manure storage facility constructed at a site that is not adjacent to a livestock production facility.

Pasture Land - Pasture land is land that is primarily used for the production of forage upon which livestock graze. Pasture land is characterized by a pre-dominance of vegetation consisting of desirable forage.

Property Line Setback - Property line setback is the distance from the livestock production facility to the property line measured from the facility to the nearest point of the facility owner's property line. If a producer owns land across a road, the road or right of way does not constitute a property line. Right of way setbacks for public roads, utilities, and easements apply.

Table 1. Animal Units

| Animal Units | 50 | 250 | 500 | 750 | 1,000 |
|-----------------------------|-------------------|--------|--------|--------|---------|
| Animal Type ¹ | Number of Animals | | | | |
| Slaughter and Feeder Cattle | 50 | 250 | 500 | 750 | 1,000 |
| Mature Dairy Cattle | 35 | 175 | 350 | 525 | 700 |
| Swine ² | 125 | 625 | 1,250 | 1,875 | 2,500 |
| Sheep and Lambs | 500 | 2,500 | 5,000 | 7,500 | 10,000 |
| Horses | 25 | 125 | 250 | 375 | 500 |
| Turkeys | 2,750 | 13,750 | 27,500 | 41,250 | 55,000 |
| Laying Hens or Broilers | 5,000 | 25,000 | 50,000 | 75,000 | 100,000 |

¹All other animal classes, types or sizes (eg. Nursery pigs) not in this table, but defined in the Michigan Right to Farm Act or described in Michigan Commission of Agriculture Policy, are to be calculated as one thousand pounds live weight equals one animal unit.

²Weighing over 55 pounds.

III. - DETERMINING ACCEPTABLE LOCATIONS FOR LIVESTOCK PRODUCTION FACILITIES

All potential sites for new and expanding livestock production facilities can be identified by three general categories. These are:

Category 1. These are sites normally acceptable for livestock production facilities and generally defined as areas that are highly agricultural with few non-farm residences.

II. DEFINITIONS

AS REFERENCED IN THESE GAAMPs:

Adjacent Livestock Production Facilities - Any livestock production facility that is within 1,000 feet of a second livestock production facility and where the two facilities are under common ownership.

Adjacent Property - An adjacent property is land owned by someone other than the livestock facility owner that borders the property on which a proposed new or expanding livestock facility will be located.

Animal Units - Animal units are defined as listed in (Table 1) of these GAAMPs.

Distances between a Livestock Production Facility and Non-Farm Residences - The distance from a livestock production facility and a residence is measured from the nearest point of the livestock production facility to the nearest point of the residence.

Expanding Livestock Production Facility - An addition to a facility to increase the holding capacity where animals will be confined at a site that presently has livestock production facilities contiguous to the construction site. A new or expanded manure storage structure built to accommodate an expansion in animal units within three years from construction of the manure storage will also be considered an expanding livestock production facility.

Livestock Farm Residence - A residence on land owned/rented by the livestock farm operation and those residences on farms affiliated by contract or agreement with the livestock production facility.

Livestock Production Facilities - Includes all facilities where farm animals as defined in the Right to Farm Act are confined with a capacity of 50 animal units or greater and/or the associated manure storage facilities. Sites such as loafing areas, confinement areas, or feedlots, which have livestock densities, that preclude a predominance of desirable forage species, are considered part of a livestock facility. Pasture lands are excluded.

Migrant Labor Housing Camp - For purpose of this GAAMP, a migrant labor housing camp owned by a livestock producer applying for Site Selection GAAMP approval will be considered a farm residence.

New Livestock Production Facilities - All facilities where animals will be confined and/or manure storage structures that are built at new sites and are not part of another livestock production facility, including a site that is expanding greater than 100 percent of existing production within any three year time period and the resulting number of animal units will exceed 749.

Non-Farm Residence - A residence that is habitable for human occupation and is not affiliated with the specific livestock production system.

Category 2. These are sites where special technologies and/or management practices could be needed to make new and expanding livestock production facilities acceptable. These areas are predominantly agricultural but also have an increased number of non-farm residences.

Category 3. These are sites that are generally not acceptable for new and expanding livestock production facilities due to environmental concerns or areas that may be predominantly residential.

Category 1 Sites: Sites normally acceptable for livestock production facilities.

Category 1 sites are those sites which have been traditionally used for agricultural purposes and are in an area with a relatively low residential housing density. These sites are located where there are five or fewer non-farm residences within ¼ mile from a new livestock production facility with up to 749 animal units, and within ½ mile from a new livestock production facility with 750 animal units or greater. New and expanding livestock production facilities should only be constructed in areas where local zoning allows for agriculture uses.

If the proposed site is within Category 1, it is recognized that this is a site normally acceptable for livestock production facilities. As shown in Table 2, if the proposed site is within Category 1 and has a capacity of 50 to 499 animal units, MDARD will review and verify the producer's plans at the producer's request. If the proposed site is within Category 1 and has a capacity of 500 or more animal units, the producer must follow the MDARD site selection review and verification process as described in Section V. Category 1 sites with less than 1000 animal units which are able to meet the property line setbacks as listed in Tables 2 and 3, as appropriate, and which meet the other requirements of these GAAMPs, are generally considered as acceptable for Site Selection Verification. An Odor Management Plan (OMP) will not be required for these sites in most circumstances. It is however, recommended that all producers develop and implement an OMP in order to reduce odor concerns for neighboring non-farm residents.

A request to reduce the property line setbacks, as listed in Tables 2 and 3, will require the development of an OMP for verification. All verification requests for Category 1 sites with 1000 animal units or greater will require the development and implementation of an OMP to specify odor management practices that will provide a 95 percent odor annoyance-free level of performance as determined by the Michigan OFFSET odor model. For new livestock production facilities, a property line setback reduction shall only be considered for a proposed site in advance of MDARD site suitability approval. MDARD may grant a property line setback reduction of up to fifty percent of the setback distance in the following table when requested based upon the Odor Management Plan. The minimum setback will be 250 feet for new livestock production facilities. Any reduction beyond this minimum will require a signed variance by the property owners within the original setback distance affected by the reduction. Factors not under direct control of the operator will be considered if an alternative mitigation plan is provided. Local land use zoning maps will be considered by MDARD in granting setback reductions.

Table 2. Category 1 Site Setbacks, Verification and Notification – New Operations

| Total Animal Unit | New Operations Non-Farm Residences within Distance | Property Line Setback ¹ | MDARD Site Review and Verification Process |
|-------------------|--|------------------------------------|--|
| 50-499 | 0-5 within ¼ mile | 250 ft | Upon Producer Request ² |
| 500-749 | 0-5 within ¼ mile | 400 ft | Yes |
| 750-999 | 0-5 within ¼ mile | 400 ft | Yes |
| 1000 or more | 0-5 within ¼ mile | 600 ft | Yes |

¹May be reduced or increased based upon the Odor Management Plan.
²To be afforded nuisance protection under the Right to Farm Act, producers must conform to all requirements of the GAAMPs but are not required to complete the site review and verification process if less than 500 animal units.

For expanding livestock production facilities, a variance for property line setback reduction shall only be considered for a proposed site in advance of MDARD site suitability approval. MDARD may grant a property line setback reduction of up to fifty percent of the setback distance in the following table when requested based upon the Odor Management Plan. The minimum setback will be 125 feet for expanding livestock production facilities. Any reduction beyond this minimum will require a signed variance by the property owners that are within the original setback distance affected by the reduction. Local land use zoning maps will be considered by MDARD in granting setback reductions. Expanding livestock production facilities cannot utilize a property line setback less than the property line setback established by structures constructed before 2000 unless the established property line setback is greater than those distances identified in Table 3, in which case setbacks identified in Table 3 and the process detailed above will be used for determining conformance for new or expanding structures.

Table 3. Category 1 Site Setbacks, Verification and Notification – Expanding Operations

| Total Animal Unit | Expanding Operations Non-Farm Residences within Distance | Property Line Setback ¹ | MDARD Site Review and Verification Process |
|-------------------|--|------------------------------------|--|
| 50-249 | 0-7 within ¼ mile | 125 ft | Upon Producer Request ² |
| 250-499 | 0-7 within ¼ mile | 200 ft | Upon Producer Request ² |
| 500-749 | 0-7 within ¼ mile | 200 ft | Yes |
| 750-999 | 0-7 within ¼ mile | 200 ft | Yes |
| 1000 or more | 0-7 within ¼ mile | 300 ft | Yes |

¹May be reduced or increased based upon the Odor Management Plan.
²To be afforded nuisance protection under these GAAMPs producers must conform to all requirements of the GAAMPs but are not required to complete the site review and verification process if less than 500 animal units.

Category 2 Sites: Sites where special technologies and/or management practices may be needed to make new and expanding livestock production facilities acceptable.

Category 2 sites are those where site-specific factors may limit the environmental, social, or economic acceptability of the site for livestock production facilities and where structural, vegetative, technological, and management measures may be necessary to address those limiting factors. These measures should be incorporated into a Site Plan and a Manure Management System Plan, both as defined in Section IV, which are required for all new and expanding livestock production facilities seeking verification. New and expanding livestock production facilities should only be constructed in areas where local zoning allows for agriculture uses. Due to the increased density of non-farm residences in Category 2 sites, an OMP is required for all proposed new and expanding livestock production facilities.

Tables 4 and 5 show how Category 2 sites are defined and lists setbacks and verification requirements. As an example, a proposed site for an expanding livestock production facility (Table 5) with 500 animal units and between eight and 20 residences within ¼ mile of the facility, would have a setback of 200 feet from the owner's property line, and would be required to have a site verification request approved by MDARD. For new livestock production facilities, a property line setback reduction shall only be considered for a proposed site in advance of MDARD site suitability approval. MDARD may grant a property line setback reduction of up to fifty percent of the setback distance in the following table when requested based upon the Odor Management Plan. The minimum setback will be 250 feet for new livestock production facilities. Any reduction beyond this minimum will require a signed variance by the property owners that are within the original setback distance affected by the reduction. Local land use zoning maps will be considered by MDARD in granting setback reductions.

Table 4. Category 2 Site Setbacks, Verification and Notification – New Operations

| Total Animal Units | For new Operations Non-Farm Residences Within Distance | Property Line Setback ¹ | MDARD Site Review and Verification Process |
|--------------------|--|------------------------------------|--|
| 50-249 | 6-13 within ¼ mile | 250 ft | Upon Producer Request ² |
| 250-499 | 6-13 within ¼ mile | 300 ft | Yes |
| 500-749 | 6-13 within ¼ mile | 400 ft | Yes |
| 750-999 | 6-13 within ½ mile | 500 ft | Yes |
| 1000 or more | 6-13 within ½ mile | 600 ft | Yes |

¹May be reduced or increased based upon the Odor Management Plan.
²To be afforded nuisance protection under the Right to Farm Act, producers must conform to all applicable GAAMPs but are not required to complete the site review and verification process if less than 250 animal units.

For expanding livestock production facilities, a property line setback reduction shall only be considered for a proposed site in advance of MDARD site suitability approval. MDARD may grant a property line setback reduction of up to fifty percent of the setback distance in the following table when requested based upon the Odor Management Plan. The minimum setback will be 125 feet for expanding livestock production facilities. Any reduction beyond this minimum will require a signed variance by the property owners that are within the original setback distance affected by the reduction. Local land use zoning maps will be considered by MDARD in granting setback reductions. Expanding livestock production facilities cannot utilize a property line setback less than the property line setback established by structures constructed before 2000 unless the established property line setback is greater than those distances identified in Table 5, in which case setbacks identified in Table 5 and the process detailed above will be used for determining conformance for new or expanding structures.

Table 5. Category 2 Site Setbacks, Verification and Notification – Expanding Operations

| Total Animal Units | For Expanding Operations Non-Farm Residences within Distance | Property Line Setback ¹ | MDARD Site Review and Verification Process |
|--------------------|--|------------------------------------|--|
| 50-249 | 8- 20 within ¼ mile | 125 ft | Upon Producer Request ² |
| 250-499 | 8- 20 within ¼ mile | 200 ft | Yes |
| 500-749 | 8- 20 within ¼ mile | 200 ft | Yes |
| 750-999 | 8- 20 within ½ mile | 250 ft | Yes |
| 1000 or more | 8- 20 within ½ mile | 300 ft | Yes |

¹May be reduced or increased based upon the Odor Management Plan.
²To be afforded nuisance protection under the Right to Farm Act, producers must conform to all applicable GAAMPs but are not required to complete the site review and verification process if less than 250 animal units.

Category 3 Sites: Sites generally not appropriate for new and expanding livestock production facilities.

New and expanding livestock production facilities should not be constructed in areas where local zoning does not allow for agriculture uses. Any proposed site with more than the maximum number of non-farm residences specified in Table 4 for a new operation, and Table 5 for an expanding operation is a Category 3 site. New livestock production facilities are inappropriate for that site. However, expanding livestock production facilities may be acceptable if the farm submits an Odor Management Plan and site verification approval is determined by MDARD. In some cases, additional odor reduction and control technologies, and management practices may be necessary to obtain site verification approval. Additionally, the following categories are considered unacceptable for construction of new and expanding livestock production facilities.

1. Wetlands - New and expanding livestock production facilities shall not be constructed within a wetland as defined under MCL 324.30301 (NREPA, PA 451 of 1994, as amended).
2. Floodplain - New and expanding livestock production facilities and manure storage facilities shall not be constructed in an area where the facilities would be inundated with surface water in a 25 year flood event.

The following categories require minimum setback distances in order to be considered acceptable for construction of new livestock production facilities. In addition, review and approval of expansion in these areas is required by the appropriate agency, as indicated.

1. Drinking Water Sources

Groundwater protection - New livestock production facilities shall not be constructed within a ten year time-of-travel zone designated as a wellhead protection area as recognized by the Michigan Department of Environmental Quality (MDEQ), pursuant to programs established under the Michigan Safe Drinking Water Act, PA 399 of 1976, as amended. An expanding livestock production facility may be constructed with review and approval by the local unit of government administering the Wellhead Protection Program.

Where no designated wellhead protection area has been established, construction of new and expanding livestock production facilities shall not be closer than 2000 feet to a Type I or Type IIa public water supply and shall not be closer than 800 feet to a Type IIb or Type III public water supply. A new or expanding livestock production facility may be located closer than these distances, upon obtaining a deviation from well isolation distance through MDEQ or the local health department. New and expanding livestock production facilities should not be constructed within 75 feet of any known existing private domestic water supply (wellhead).

Surface water protection - New and expanding livestock production facilities shall not be constructed within the 100 year flood plain of a stream reach where a community surface water source is located, unless the livestock production facility is located downstream of the surface water intake.

2. High public use areas - Areas of high public use or where a high population density exists, are subject to setbacks to minimize the potential effects of a livestock production facility on the people that use these areas. New livestock production facilities should not be constructed within 1,500 feet of hospitals, churches, licensed commercial elder care facilities, licensed commercial childcare facilities, school buildings, commercial zones, parks, or campgrounds. Existing livestock production facilities may be expanded within 1,500 feet of high public use areas with appropriate MDARD review and verification. The review process will include input from the local unit of government and from people who utilize those high public use areas within the 1,500 foot setback.

3. Residential zones - Areas zoned primarily for residential use will generally have housing at a density that necessitates setback distances for livestock production facilities to prevent conflicts. New livestock production facilities shall not be constructed within 1,500 feet of areas zoned for residential use where agriculture uses are excluded. Existing livestock production facilities may be expanded within 1,500 feet of areas zoned for residential use with approval from the local unit of government.

10

- Basis of livestock production facility design.
- Size and location of structures.
- A soils map of the area where all livestock production facilities are located.
- Location and distance to the non-farm residences within ½ mile.
- Location and distance to the nearest residentially zoned area.
- Topographic map of site and surrounding area.
- Property deed restrictions.

Manure Management System Plan¹

The Manure Management System Plan describes the system of structural, vegetative, and management practices that the owner/operator has chosen to implement on the site for all proposed new and existing facilities. Items to address in the Manure Management System Plan are described in the GAAMPs for Manure Management and Utilization. The Manure Management System Plan for a site verification request will include these additional components:

- Planning and installation of manure management system components to ensure proper function of the entire system.
- Operation and Maintenance Plan: This written plan identifies the major structural components of the manure management system, and includes inspection frequency, areas to address, and regular maintenance records.
- Odor Management: Odor management and control is a primary focus relating to the social consideration objectives of these GAAMPs. For new and expanding livestock production facilities, an Odor Management Plan may be required (refer to Category 1 and Category 2 to determine whether an OMP is required for your facility) as part of the Manure Management System Plan for conformance with these GAAMPs. Appendix A includes a detailed outline for development of an effective OMP.
- Manure Storage Facility Plan: Construction plans detailing the design of manure storage components must be submitted to MDARD for review and approval. Structures should be designed in accordance with appropriate design standards. Construction plans should include the design standards utilized, design storage volume, size, and layout of the structure, materials specifications, soil conditions in the structure area, site suitability, subsurface investigation, elevations, installation requirements, and appropriate safety features. The plans will be reviewed for conformance with appropriate specifications. Structures should be designed and constructed by competent individuals or companies utilizing generally accepted standards, guidelines, and specifications (e.g. NRCS, Midwest Plan Service).

¹ Due to your particular circumstances, a Comprehensive Nutrient Management Plan (CNMP) may be required, as referenced in Appendix C.

12

4. Migrant Labor Housing Camp – New and Expanding livestock production facilities shall be located a minimum of 500 feet from any existing migrant labor housing facilities, unless a variance is obtained from the United States Department of Labor.

IV. - OFFSITE MANURE STORAGE FACILITIES

Table 6. Site Setbacks, Verification, and Notification – New or Expanding Operations

| Storage Surface Area at Operational Volume Elevation, sq. ft. | | Property Line Setback, ft. | MDARD Site Review and Verification Process |
|---|--|----------------------------|--|
| Liquid Manure | | Solid Manure | |
| Pond-type storage | Fabricated structure-type storage, i.e. reinforced concrete or steel | | |
| ≤4,200 | ≤2,000 | ≤26,000 | 250 ¹ |
| >4,200 | >2,000 | >26,000 | TBD ² |
| | | | Upon Producer Request Yes |

¹May be reduced or increased based upon the Odor Management Plan.
²Distance to be determined based upon the Odor Management Plan.

V. DEVELOPING A SITE PLAN AND A MANURE MANAGEMENT SYSTEM PLAN

Site Plan

A Site Plan is a comprehensive layout for a livestock production facility, and includes:

- A site map, including the following features (to scale):
 - ~ Property lines, easements, rights-of-way, and any deed restrictions.
 - ~ Public utilities, overhead power lines, cable, pipelines, and legally established public drains.
 - ~ Positions of buildings, wells, septic systems, culverts, drains and waterways, walls, fences, roads, and other paved areas.
 - ~ Location, type, and size of existing utilities.
 - ~ Location of wetlands, streams, and other bodies of water.
- Existing land uses for contiguous land.
- Names and addresses of adjacent property owners.

11

Other items that may accompany the Manure Management System Plan include the following:

- Emergency Action Plan - Through development of an Emergency Action Plan, identify the actions to take and contacts to be made in the event of a spill or discharge.
- Veterinary Waste Management Plan - Identify the processes and procedures used to safely dispose of livestock-related veterinary wastes produced on the farm.
- Conservation Plan - Field-specific plan describing the structural, vegetative, and management measures for the fields where manure and other by-products will be applied.
- Mortality Management Plan - Identify the processes and procedures used to safely dispose of the bodies of dead animals (Bodies of Dead Animals Act, PA 239 of 1994, as amended).

VI. SITE REVIEW AND VERIFICATION PROCESS

The GAAMPs for Site Selection and Odor Control for New and Expanding Livestock Production Facilities are applicable for producers with new and expanding livestock production facilities with a capacity of 50 animal units or greater (see Table 1), who are seeking nuisance protection under the Right to Farm Act. Producers with facilities that require MDARD verification in categories 1, 2, or 3 should contact the MDARD and begin the site selection review and verification process prior to the construction of new livestock production facilities and expansion of existing livestock production facilities. The references to local unit of government in this section are intended to notify the township and county in which the farm operation is located.

Producers with new and expanding livestock production facilities that have a total capacity less than 50 animal units may request siting verification from MDARD. The MDARD site review and verification process will use criteria applicable to a 50 animal unit facility for these requests.

To begin the review and verification process, contact the Michigan Department of Agriculture & Rural Development, Right to Farm Program at (877) 632-1783. This toll free number is operational during normal business hours.

The following steps outline this process:

- 1) Application for Siting Verification: A request to begin the site review and verification process can be made by submitting a letter from the responsible party to the MDARD, Right to Farm Program. This letter should outline the proposed new construction or expansion project, any areas of concern, agencies and individuals the producer is already working with, and the proposed timeline. The responsible party must also submit a complete site verification request. A request application and a checklist are available at www.michigan.gov/gaamps. The checklist will assist

13

you in identifying environmental or social areas of concern. If special technologies or management practices are to be implemented for the successful operation of the livestock production facility, these must be included in the siting request package.

Producers may also utilize recognized industry, university, and agency professionals in the development of their siting request, site plan, and manure management system plan.

Upon submitting a site verification request to MDARD, the responsible party must individually notify all non-farm residences identified for determining category (see Tables 2-5) and listed in the checklist under "Location of Non-Farm Residences", that the responsible party has made application for site verification with MDARD.

2) Siting Request Review:

Upon receipt of the siting request package, MDARD will send an acknowledgement letter to the producer. This acknowledgement letter will also be sent to the local unit of government to inform them of the proposed livestock production facility siting request.

MDARD will review the completed siting requests upon receipt. The review will determine whether the siting request information submitted conforms to these GAAMPs. MDARD will conduct preliminary site visits to proposed new and expanding livestock production facilities. This site visit will take place upon receipt of the complete siting request package and will focus on addressing conformance with the plan components, identifying areas of concern, and verifying information submitted in the siting request. If deficiencies in the siting request are identified, MDARD will communicate those to the responsible party for further modification. At the request of the producer, a preliminary site visit could be conducted prior to submission of the complete siting request package.

3) Site Suitability Determination:

MDARD will determine if the siting request is in conformance with the GAAMPs for Site Selection and Odor Control for New and Expanding Livestock Production Facilities. This determination will be conveyed to the responsible party on MDARD letterhead and will be known as "Site Suitability Approval." This approval will also be copied to the local unit of government, and construction must begin within five years from the date of approval by MDARD. The start of construction is defined as the physical movement of soil or installation of permanent structures.

4) Construction Plan Submittal and Review:

Design plans for the manure storage structures must be submitted to MDARD for review and approval and should be submitted prior to construction. If the plans are found to be in accordance with the required specifications, a letter indicating "Approval of Design Plans" will be sent to the owner. MDARD will conduct construction site inspections for quality assurance as needed to

14

determine whether the structures are being built according to the accepted plans. The owner should notify MDARD one month prior to beginning the installation of the manure storage facility.

5) Final Inspection:

MDARD will conduct a final inspection, preferably, prior to animal population. The completed project must be reviewed by MDARD to assure conformance with these GAAMPs. The facility must be completed in conformance with the verification request that has been approved by MDARD. Once the facility has been constructed and found in conformance with these GAAMPs, a final verification letter will be sent to the producer. This letter will be copied to the local unit of government.

Site Suitability Approval:

If either the owner of the proposed livestock production facility, any surrounding neighbor within one mile of the proposed facility, or the local unit of government in which the facility is located, disagrees with the site suitability determination, they may request MDARD's decision be reviewed by the Michigan Commission of Agriculture & Rural Development within 45 days of the date this determination is issued. The request shall be in writing and include supporting documentation. MDARD will review the supporting documentation and then will consult with at least three recognized professionals in the siting and management of livestock production facilities and odor control practices, as listed below, to further evaluate the proposed siting request. MDARD will notify the professionals of the request. The professionals shall review and report a recommendation for a response to the requested review, to the Commission of Agriculture & Rural Development, within 45 days of receipt of the written review request. An extension may be granted by the Commission of Agriculture & Rural Development. Upon receipt and review of the professional's recommendation, the Commission of Agriculture & Rural Development will recommend to the Director of the Michigan Department of Agriculture & Rural Development whether to affirm or re-evaluate the site suitability determination. The final decision rests with the Director. This review process is created solely for the purpose of this specific GAAMP, and the Administrative Procedures Act does not apply.

Recognized Professionals:

Recognized professionals in the siting and management of livestock production and odor control practices may include, but are not limited to, personnel from the following:

- a. Conservation Districts,
- b. Industry Representatives,
- c. Michigan Department of Environmental Quality
- d. Professional Consultants and Contractors,
- e. Professional Engineers,
- f. United States Department of Agriculture - Natural Resources Conservation Service,
- g. University Agricultural Engineers, and other University Specialists

The site review and verification process will be conducted in accordance with MDARD procedures and protocol.

15

APPENDIX A

MICHIGAN ODOR MANAGEMENT PLAN

The goal of an effective Odor Management Plan is to identify opportunities and propose practices and actions to reduce the frequency, intensity, duration, and offensiveness of odors that neighbors may experience, in such a way that tends to minimize impact on neighbors and create a positive attitude toward the farm. Because of the subjective nature of human responses to certain odors, recommending appropriate technology and management practices is not an exact science. Resources to help identify appropriate management practices to minimize odors are available at: <http://www.animalagteam.msu.edu>

An Odor Management Plan shall include these six basic components:

1. Identification of potential sources of significant odors.
2. Evaluation of the potential magnitude of each odor source.
3. Application and evaluation of Michigan Odor from Feedlot Setback Estimation Tool (OFFSET – Michigan Odor Print September 2000 version) (i.e. Sept. 2000).
4. Identification of current, planned, and potential odor control practices.
5. A plan to monitor odor impacts and respond to odor complaints.
6. A strategy to develop and maintain good neighbor and community relations.

Note that items 1, 2, and 4 of the Odor Management Plan components may be addressed in tabular format as demonstrated in the example Odor Management Plan (Appendix B).

Component Details:

1. Identify and describe all potential significant sources of odor associated with the farm. Odor sources may include:

- Animal housing
- Manure and wastewater storage and treatment facilities
- Feed storage and management
- Manure transfer and agitation
- Land application areas

2. Evaluate the magnitude of each odor source in relation to potential impact on neighbors and other community members.

Odor magnitude is a factor of both the type and size of the source.

Michigan OFFSET is one means of estimating odor source magnitudes and potential impacts from animal production facilities. Use the Michigan OFFSET odor emission values to rank each potential odor source on your farm. Note that some odor sources are not considered in this tool.

16

For odor sources not addressed by Michigan OFFSET, a subjective potential odor magnitude evaluation of high, medium, or low, relative to other odor sources on the farm should be conducted.

3. Analyze potential odor impact on neighboring residences and other non-farm areas with Michigan OFFSET, utilizing the 95 percent odor annoyance-free level, and evaluate the conclusions as follows:

- Identify specific odor impact on neighboring residences, utilizing OFFSET results and other site-specific odor impact considerations.
- Assess the magnitude of potential odor-based conflict.
- Develop an appropriate conflict abatement strategy for each odor-sensitive area of concern which may include:
- Signed letter from property owner consenting to approval of the new or expanded facility.
- Description of intensified community relations practices for these homes or other odor sensitive areas.
- Explanation of specific variables in Michigan OFFSET that may reduce the concern, such as, variables in terrain, wind velocity, facility layout, variation of facility from typical, and odor management practices not credited in Michigan OFFSET.

4. Identify management systems and practices for odor control including:

- Practices currently being implemented.
- New practices that are planned for implementation.
- Practices that will be considered, if odor concerns arise.

There are numerous odor reduction practices available; however, not all have been proven equally effective. Some practices may reduce odor from one part of the system, but increase it in another. For example, long-term manure storage will reduce the frequency of agitation of the storage thus producing less frequent odor events, but will likely result in greater intensity and offensiveness of each odor event.

Each farm situation is unique and requires site-specific identification and implementation of odor reduction practices to suit the practical and economic limitations of a specific farm. MDARD will consider mitigating factors that are under the direct control of the operator. Factors not under direct control of the operator will be considered if an alternative mitigation plan is provided.

Simple changes in management, such as, but not limited to, improving farmstead drainage, collecting spilled feed, and regular fan maintenance will reduce overall farmstead odor.

"Practices that will be considered, if odor concerns increase" should include only those odor management practices that the producer would seriously consider implementing, if the need arose.

17

Improved management, as well as, the adoption of new technologies to control odor offer a means for reducing odor from livestock production facilities and manure storage facilities, thus broadening the potential area within which livestock production facilities may be appropriately sited. Odor reduction technologies continue to evolve. Current technologies include, but are not limited to, vent bio-filters, manure storage covers, and composting.

Each technology presents different challenges and opportunities. These should be considered during the planning process for a new or expanding animal livestock facility.

- Describe the plan to track odor impact and the response to odor concerns as they arise.
 - Outline how significant odor events will be recognized and tracked including potential impact on neighbors and others. For example, one could record odor events noticed by those working on and/or cooperating with the farm. If odor is noticeable to you, your family, or employees, then it is likely noticeable to others.
 - Explain how an odor complaint will be addressed.
 - Indicate the point at which additional odor control measures will be pursued.

- Identify the strategy to be implemented to establish and maintain a working relationship with neighbors and community members.

Elements of a community relations plan may include:

- Conducting farming practices that result in peak odor generation at times that will be least problematic for neighbors.
- Notifying neighbors of when there will be an increase in odors.
- Hosting an annual neighborhood farm tour to provide information about your farm operation.
- Sending a regular farm newsletter to potentially affected community members.
- Keeping the farmstead esthetically pleasing.
- Supporting community events and causes.

Odor Tracking and Response

Tracking of odor concerns includes two approaches:

- All farm employees and some routine farm service providers will be asked to report noticeable offensive odor events as they come and go from the farm and travel the community.
- The intent is to establish and maintain an effective, open line of communication with immediate neighbors so that they too will be comfortable reporting odor events to example dairy.
- Response to odor complaints or events reported by neighbors will include investigation of the primary odor incident source on the farm. For example, is it associated with storage agitation, field application, or no specific farm activity? The farm will report back to the person reporting the odor event within 24 hours, or as soon as possible thereafter. Included in the response will be the reason for the odor event, an acknowledgement of the concern, steps – if any – to be taken to prevent it in the future, and a thank you for bringing it to the farm’s attention.

If a pattern is identified among odor event complaints by neighbors, an outside observer, such as MSU Extension or MDARD, will be asked to provide an objective analysis of the situation. If the concern is confirmed to be legitimate by a second objective observer, actions will be taken to further control odor per, or comparable to, odor management practices identified in the Odor Management Plan.

Community Relations

In order to develop and maintain a positive relationship with the entire community, the following steps are planned:

- Keeping the farmstead area esthetically pleasing will continue to be a high priority.
- Each spring, a farm newsletter will be sent to all appropriate community members describing farm activities, personnel, and management.
- A community picnic and farm tour will be held at least semi-annually for all in the immediate community and manure application areas.
- Example Dairy Farm will make itself available to local schools for farm visits as field trips or school projects as appropriate.
- We will seek to participate in local community events and youth activities, such as the local town festival and youth athletic teams.
- Additional opportunities to strengthen community relations will be considered whenever they arise.

(The above list of community relations practices may be longer than most farms find necessary, but it provides several examples that farms might consider.)

The Odor Management Plan includes the following text and tables and output from Michigan OFFSET, which is not shown here.

Example Dairy Odor Management Plan

Overview

The existing 1,200 cow facility is expanding to 1,700 cows. The proposed expansion involves the addition of another 500 cow freestall barn, expansion of the primary sand-laden manure storage, and the addition of another earthen storage for milking center wastewater. All of the additional facilities are located to the south and west of the existing facility.

Odor Source Identification & Assessment

Refer to attached Odor Source Assessment table.

Odor Management Practices

Refer to attached Odor Management Practices table.

Potential Odor Impact Analysis

Michigan OFFSET has identified two homes not associated with the farm that are definitely within the odor impact zone prior to the expansion and three additional homes that are likely impacted (see MI-OFFSET output). An additional five homes are added to the odor awareness zone as a result of the proposed expansion.

The potentially odor-impacted homes are at the following addresses:

(List addresses and homeowner names in order of proximity to odor source.)

All homeowners, with the exception of one, have signed a letter acknowledging the proposed expansion and indicating that they do not object to it proceeding. The lone exception is the residence at (list address). This resident was reluctant to sign a letter, but has verbally accepted the expansion. He is also a livestock producer whose odor awareness zone from Michigan OFFSET would likely overlap the dairy farms. He also has a working relationship with the Example Dairy as a producer of corn grain for dairy feed.

Of the other homes in the odor awareness zone, three are currently or very recently have been active dairy farmers themselves. Another is a landlord of property that is rented and included in the farm CNMP/MMSP.

The three remaining homes are the most distant from the center of the odor awareness zone and furthest from the specific area of the facility expansion.

| Potential Odor Source | Description | Odor Emission Number ¹ | Odor Control Factors ² | | Odor Emission Factors ^{1,3} | | |
|---------------------------|---|-----------------------------------|-----------------------------------|---------|--------------------------------------|---------|-----------|
| | | | current | planned | current | planned | potential |
| Large Manure Storage | Sand Land Manure storage for center-drive through barns (170 x 340) | 13 | 0.5 NV | | 168.9 | | |
| Freestall Barns | Freestall barns (187,704 sq. ft.) | 6 | NV | NV | 112.3 | | |
| Milking Center Wastewater | Earthen storages for milking center wastewater. Is recycled to flush holding and treatment areas (49,600 sq. ft.) | 13 | NV | 0.1 | 50.4 | | 5.0 |
| Run Off Storage | Collects rain runoff from open lot and silage pads (60 x 120) | 13 | NV | | 14 | | |
| Outside Lots | Outside concrete housing lot (16,200 sq. ft.) | 4 | | | 6.5 | | |
| Settling Basins | Holding area flushed material settling area prior to pumping of liquid to milking center wastewater storage (30 x 60) | 28 | NV | NV | 5 | | |
| Bedded Open Housing Barns | Maternity & sick pens (22,620 sq. ft.) | 2 | | | 4.5 | | |
| Open Lot Manure storage | Short-term manure storage (70 x 20) | 13 | 0.5 + | | .9 | | |
| Agitation | Agitation of manure storages | Medium | NV | | M | M | M |
| Land Application | Field application of liquid manure | High | NV | | M | M | M |
| Silage & Feed Storage | Concrete pad and bunker silos (300 x 350) | Medium | NV | | L | L | L |

1. OFFSET value if available or High, Medium, Low for sources not addressed in OFFSET
 2. NV = No Value available in OFFSET; however, a definable odor control factor is applicable per Odor Management Practices table.
 3. Odor Emission Factors are equal to the odor emission number, multiplied by the surface area (ft²) and odor control factor, divided by 10,000.

Comprehensive Nutrient Management Plan

A Comprehensive Nutrient Management Plan (CNMP) is the next step beyond a Manure Management System Plan (MMSP). All efforts put towards an MMSP may be utilized in the development of a CNMP as it is founded on the same eight components as the MMSP, with a few significant differences. Some of the "optional" sub-components of an MMSP are required in a CNMP. Examples include veterinary waste disposal and mortality management. In addition, the "production" component is more detailed regarding management of rainwater, plate cooler water, and milk house wastewater. Thorough calculations are also needed to document animal manure production.

Another difference between an MMSP and a CNMP is in the "Utilization" component. With an MMSP, nutrients need to be applied at agronomic rates and according to realistic yield goals. However, with a CNMP, a more extensive analysis of field application is conducted. This analysis includes the use of the Manure Application Risk Index (MARI) to determine suitability for winter spreading, and the Revised Universal Soil Loss Equation (RUSLE) to determine potential nutrient loss from erosive forces, and other farm specific conservation practices. More detail regarding the timing and method of manure applications and long term cropping system/plans must be documented in a CNMP.

Additional information on potential adverse impacts to surface and groundwater and preventative measures to protect these resources are identified in a CNMP. Although the CNMP provides the framework for consistent documentation of a number of practices, the CNMP is a planning tool not a documentation package.

Odor management is included in both the MMSP and CNMP.

Implementation of an MMSP is ongoing. A CNMP implementation schedule typically includes long-term changes. These often include installation of new structures and/or changes in farm management practices that are usually phased in over a longer period of time. Such changes are outlined in the CNMP implementation schedule, providing a reference to the producer for planning to implement changes within their own constraints.

As is described above, a producer with a sound MMSP is well on their way to developing a CNMP. Time spent developing and using a MMSP will help position the producer to ultimately develop a CNMP on their farm, if they decide to proceed to that level or when they are required to do so.

| Odor Management Practices | | | Odor Management Practices & Reduction Factor | |
|---|--|--|--|--|
| Odor Source | Current | Planned | Potential | |
| Large Manure Storage | 1. Approximately eight months of potential storage results in agitation being required only 2-3 times per year. 2. The natural plant fiber in the manure results in a crusting of the manure. (OCF = 0.5) | 1. Plans include the planting of a tree shelterbelt the length of the freestall barns, parlor, and treatment area. 3. Impermeable synthetic cover (OCF = 0.1) | | |
| Freestall Barns | 1. Fills from bottom 2. Long term storage facilitates minimal disturbance of only about two times per year. | 1. Long-term storage, disturbed only 1-2 times per year | | |
| Milking Center Wastewater Run Off Storage | 1. Cleaned out frequently, about every ten days, minimizing anaerobic production of odors. | 2. Plans include the planting of tree shelterbelt between the basins and the road/property line. | | |
| Outside Lots | 1. Storage is emptied frequently so that anaerobic activity is limited. 2. Storage crusts (OCF = 0.5) | | | |
| Settling Basins | 1. Manure is injected or incorporated whenever field conditions permit. 2. Weekend and holiday application is avoided. | | | |
| Beaded Barns | 1. Silage piles are covered with plastic with clean water diverted off of the pile. 2. Forages harvested at recommended moisture. 3. Concrete pad is mechanically swept at least once per week. | | | |
| Open Lot Manure Storage | | | | |
| Agitation | | | | |
| Land Application | | | | |
| Silage & Feed Storage | | | | |

WHO NEEDS A CNMP?

1. Some livestock production facilities receiving technical and/or financial assistance through USDA-NRCS Farm Bill program contracts.
2. A livestock production facility that a) applies for coverage with the MDEQ's National Pollutant Discharge Elimination System (NPDES) permit, or b) is directed by MDEQ on a case by case basis.
3. A livestock farm that is required to have a CNMP as a result of NPDES permit coverage that desires third party verification in the MDARD's Michigan Agriculture Environmental Assurance Program (MAEAP) Livestock System verification.

For additional information regarding the permit, go to: www.michigan.gov/deg.

For additional information regarding MAEAP, go to: www.maeap.org or telephone 517-373-9797.

APPENDIX D

MANURE STORAGE FACILITY PLAN:

Construction plans detailing the design of manure storage components must be submitted to MDARD for review and approval. Structures must be designed and constructed in accordance with appropriate design standards (e.g. Michigan NRCS FOTG Waste Storage Facility (No.) 313 or Midwest Plan Service MWPS-36 Concrete Manure Storages Handbook), that are current at the time of approval of this GAAMP.

Plans must include the following information:

- Design Standards utilized.
- Design storage volume as justified by nutrient utilization plan, runoff volume, precipitation volume, and freeboard.
- Size of structure, including length, width, and depth.
- Materials to be utilized for the construction of the structure, this should include specifications for concrete mixes, flexible membranes, and soil data, as appropriate.
- Subsurface Investigation information to include an adequate representation of soil borings based upon the surface area of the structure. The borings must extend to a depth of at least two feet below the bottom of the structure, and must indicate the depth to high water and any seeps encountered. The soils must be classified according to the Unified Soil Classification System (ASTM D2487 or ASTM D2488).
- For a compacted earth-lined structure permeability test or Plasticity Index (PI) and Atterberg Limits must be submitted for the soil samples.
- Isolation distance from the structure to the drinking water well and isolation reduction criteria worksheet if applicable.
- Method of solids removal to be utilized.
- Elevation of structure relative to surrounding area must be included.
- Construction requirements.
- Appropriate safety features (e.g. fencing, safety signs, ladders, or ropes).
- If a treatment system (e.g. anaerobic digester or gasification) will be utilized, all associated design plans and specifications must be submitted.
- Where substantial changes to the original plans occurred during construction, as built plans must be submitted for review.

Structures should be designed and constructed by individuals or companies qualified in the appropriate area of expertise for that work.

VII. REFERENCES

Jacobsen, Larry and Huiqing Guo. *An Odor Setback Estimator for Feedlots (OSEFF)*. BAE Department, University of Minnesota. (Minnesota Odor Estimator Model).

Jacobson, Larry; Huiqing Guo; Schmidt, David; Nicolai, Richard; Zhu, Jun; and Janni, Kevin. *Worksheet for the Odor Rating System to Estimate Setback Distances for Animal Production Sites*. Version 1.0. BAE Department. University of Minnesota. (Minnesota Odor Estimator Model).

The Michigan Natural Resources and Environmental Protection Act, PA 451 of 1994, as amended.

MCARD. 2012. Right to Farm. *Generally Accepted Agricultural and Management Practices for Manure Management and Utilization*. Michigan Commission of Agriculture & Rural Development.

Michigan Right to Farm Act, PA 93 of 1981, as amended.

National Pork Producers Council On-Farm Odor Assessment Program.

United States Department of Agriculture, Natural Resources Conservation Service, *Field Office Technical Guide*.

United States Department of Agriculture, Natural Resources Conservation Service, *Agricultural Waste Management Field Handbook*.

REVIEW COMMITTEE

Listed below are the committee members that developed these Generally Accepted Agricultural and Management Practices for Site Selection and Odor Control for New and Expanding Livestock Production Facilities.

Dr. Wendy Powers-Chair
MSU – Dept. of Animal Science
and Biosystems
and Agricultural Engineering
2209G Anthony Hall
East Lansing, MI 48824-1225
(517) 432-3849
wpowers@msu.edu

James Clift
Michigan Environmental Council
119 Pere Marquette Drive, Ste 2A
Lansing, MI 48912
(517) 487-9539
(517) 487-9541 - FAX
james@environmentalcouncil.org

Michelle Crook, P.E.
Michigan Dept. of Agriculture and
Rural Development
P. O. Box 30017
Lansing, MI 48909
(517) 335-2487
(517) 335-3329 - FAX
crookm@michigan.gov

Brian Culham
Michigan Dept. of Environmental
Quality, Air Quality Division
P. O. Box 30473
Lansing, MI 48909 7973
(517) 335-6301
culhamb@michigan.gov

Steve Davis, P.E.
USDA NRCS
3001 Coolidge Rd., Suite 250
East Lansing, MI 48823-6321
(517) 324-5232
(517) 324-5171 - FAX
steve.davis@mi.usda.gov

Sam Hines
Mich. Pork Producers Assn.
4810 Willoughby Road
Holt, MI 48842
(517) 699-2145
hines@micpork.org

Larry (Casey) Jones
Allegan County, District #11
258 Golfview
Plainwell, MI 49080
(269) 664-5362
lcjones@allegancounty.org

Steve Mahoney
Michigan Dept. of Agriculture and
Rural Development
P. O. Box 30017
Lansing, MI 48909
(517) 241-2508
(517) 335-3329 - FAX
mahonevs@michigan.gov

Gerald May
MSU Extension Agriculture &
Natural Resources Educator
214 E. Center Street
Ithaca, MI 48847
(989) 875-5233
(989) 875-5289 - FAX
maya@msu.edu

Scott Miller
Michigan Dept. of Environmental
Quality, Air Quality Division
301 East Louis Glick Highway
Jackson, MI 49201-1556
(517) 780-7481
millers@michigan.gov

Ken Nobis
1531 N. Lowell Road
St. Johns, MI 48879
(989) 224-6170
kennobis@mimintcity.com

Scott Piggott, M.S.
Michigan Farm Bureau
P. O. Box 30960
Lansing, MI 48909
(517) 323-7000
spiggot@michfb.com

William Renn
Michigan Townships Assn.
6206 Campbell Road
Pigeon, MI 48755
(989) 453-3688
(989) 553-4005
(989) 453-2912 – FAX
chanrenn@avci.net

Wayne Whitman
Michigan Dept. of Agriculture
and Rural Development
P. O. Box 30017
Lansing, MI 48909
(517) 335-5849
(517) 335-3329 - FAX
whitmanw@michigan.gov



Michigan Department of **AGRICULTURE** & Rural Development

Generally Accepted Agricultural and Management Practices for Site Selection and Odor Control for New and Expanding Livestock Facilities

April 2014

Michigan Commission of Agriculture
& Rural Development
PO Box 30017
Lansing, MI 48909

PH: (877) 632-1783
www.michigan.gov/MDARD

In the event of an agricultural pollution emergency such as a chemical/fertilizer spill, manure lagoon breach, etc., the Michigan Department of Agriculture & Rural Development and/or Michigan Department of Environmental Quality should be contacted at the following emergency telephone numbers:

Michigan Department of Agriculture & Rural Development: (800) 405-0101
Michigan Department of Environmental Quality: (800) 292-4706

If there is not an emergency, but you have questions on the Michigan Right to Farm Act, or items concerning a farm operation, please contact the:

**Michigan Department of Agriculture & Rural Development (MDARD)
Right to Farm Program (RTF)
P.O. Box 30017
Lansing, Michigan 48909
(517) 284-5619
(517) 335-3329 FAX
(Toll Free)
(877) 632-1783**

TABLE OF CONTENTS

| | |
|---|-----|
| PREFACE | iii |
| I. INTRODUCTION | 1 |
| II. DEFINITIONS | 3 |
| III. DETERMINING ACCEPTABLE LOCATIONS FOR LIVESTOCK FACILITIES | 5 |
| Category 1 Sites - Sites normally acceptable for livestock facilities | 5 |
| Category 2 Sites - Sites where special technologies and/or management practices could be needed to make new and expanding livestock facilities acceptable | 7 |
| Category 3 Sites - Sites generally not acceptable for new and expanding livestock production facilities | 10 |
| Category 4 Sites – Sites not acceptable for New and Expanding Livestock Facilities and Livestock Production Facilities..... | 11 |
| IV. OFFSITE MANURE STORAGE FACILITIES | 12 |
| V. DEVELOPING A SITE PLAN AND A MANURE MANAGEMENT SYSTEM PLAN..... | 12 |
| VI. SITE REVIEW AND VERIFICATION PROCESS | 14 |
| APPENDIX A: Michigan Odor Management Plan..... | 17 |
| APPENDIX B: Example Dairy Odor Management Plan..... | 20 |
| APPENDIX C: Comprehensive Nutrient Management Plan | 24 |
| APPENDIX D: Manure Storage Facility Plan..... | 26 |
| VII. REFERENCES | 27 |

PREFACE

The Michigan legislature passed into law the Michigan Right to Farm Act (Act 93 of 1981) which requires the establishment of Generally Accepted Agricultural and Management Practices (GAAMPs). GAAMPs for Site Selection and Odor Control for New and Expanding Livestock Facilities are written to fulfill that purpose and to provide uniform, statewide standards and acceptable management practices based on sound science. These practices can serve producers in the various sectors of the industry to compare or improve their own managerial routines. New scientific discoveries and changing economic conditions may require necessary revision of these GAAMPs.

The Generally Accepted Agricultural and Management Practices that have been developed are the following:

- 1) 1988 Manure Management and Utilization
- 2) 1991 Pesticide Utilization and Pest Control
- 3) 1993 Nutrient Utilization
- 4) 1995 Care of Farm Animals
- 5) 1996 Cranberry Production
- 6) 2000 Site Selection and Odor Control for New and Expanding Livestock Facilities
- 7) 2003 Irrigation Water Use
- 8) 2010 Farm Markets

These practices were developed with industry, university, and multi-governmental agency input. As agricultural operations continue to change, new practices may be developed to address the concerns of the neighboring community. Agricultural producers who voluntarily follow these practices are provided protection from public or private nuisance litigation under the Right to Farm Act.

This GAAMP does not apply in municipalities with a population of 100,000 or more in which a zoning ordinance has been enacted to allow for agriculture provided that the ordinance designates existing agricultural operations present prior to the ordinance's adoption as legal nonconforming uses as identified by the Right to Farm Act for purposes of scale and type of agricultural use.

The website for the GAAMPs is <http://www.michigan.gov/gaamps>.

I. INTRODUCTION

Generally Accepted Agricultural and Management Practices for Site Selection and Odor Control for New and Expanding Livestock Facilities will help determine the suitability of sites for livestock production facilities and livestock facilities and the suitability of sites to place or keep farm animals. These GAAMPs provide a planning process that can be used to properly plan new and expanding facilities and to increase the suitability of a particular site and enhance neighbor relations.

These GAAMPs for Site Selection and Odor Control for New and Expanding Livestock Facilities are written to provide uniform, statewide standards and acceptable management practices based on sound science. They are intended to provide guidance for the construction of new and expanding livestock facilities and livestock production facilities and/or the associated manure storage facilities for the placement and keeping of any number of farm animals.

FARM PLANNING AND SITE DEVELOPMENT

The GAAMPs for site selection and odor control for new and expanding livestock facilities are intended to fulfill three primary objectives:

- 1) Environmental Protection
- 2) Social Considerations (neighbor relations)
- 3) Economic Viability

When all three of these objectives are met, the ability of a farm operation to achieve agricultural sustainability is greatly increased.

Farm planning involves three broad phases: Collection and analysis (understanding the problems and opportunities); decision making; and implementation. Collection and analysis includes: determining objectives, inventorying resources, and analyzing data. Decision support includes formulating alternatives, evaluating alternatives, and making decisions. The final step is implementation.

Producers should utilize recognized industry and university professionals in the evaluation of the economic viability and sustainability of constructing new or expanding existing livestock production facilities and livestock facilities. This evaluation should be comprehensive enough to consider all aspects of livestock production including economics, resources, operation, waste management, and longevity.

The decision to site a livestock production facility or livestock facility can be based on several objectives including: preserving water quality, minimizing odor, working with existing land ownership constraints, future land development patterns, maximizing convenience for the operator, maintaining esthetic character, minimizing conflicts with adjacent land uses, and complying with other applicable local ordinances. The environmental objectives of these GAAMPs focus specifically on water quality protection and odor control, and how environmental and management factors affect the

suitability of sites for livestock production. The suitability of a particular site for a livestock production facility or livestock facility depends upon a number of factors; such as the number of animal units (size); the species of animals; wind directions; land base for use; topography of the surrounding land; adjacent land uses; the availability of Class A roads for feed and product movement; soil types; hydrology; and many others.

Site selection is a complex process, and each site should be assessed individually in terms of its proposed use. These GAAMPs are written in recognition of the importance of site-specificity in siting decisions. While general guidelines apply to all siting decisions, specific criteria are not equally applicable to all types of operations and all locations. In addition to the guidelines provided in these GAAMPs, the United States Department of Agriculture, Natural Resources Conservation Service (USDA-NRCS) technical references, including the Agricultural Waste Management Field Handbook (AWMFH) and the Field Office Technical Guide (FOTG), are excellent sources for information and standards related to the siting of livestock facilities.

It is recognized that there is potential risk for surface or groundwater pollution, or conflict over excessive odors from a livestock facility. However, the appropriate use of technologies and management practices can minimize these risks, thus allowing the livestock facility to operate with minimal potential for excessive odor or environmental degradation. These measures should be incorporated into a Site Plan and a Manure Management System Plan, both as defined in Section IV, which are required for all new and expanding livestock facilities.

Groundwater and surface water quality issues regarding animal agriculture production are addressed in the current "Generally Accepted Agricultural and Management Practices for Manure Management and Utilization" Michigan Commission of Agriculture & Rural Development (MCARD) and are not duplicated here. The GAAMPs for Manure Management and Utilization cover runoff control and wastewater management, construction design and management for manure storage and treatment facilities, and manure application to land. In addition, the GAAMPs for Manure Management and Utilization stress the importance of each livestock production facility developing a manure management system plan that focuses on management of manure nutrients and management of manure and odors.

These GAAMPs are referenced in Michigan's Natural Resources and Environmental Protection Act (NREPA), PA 451 of 1994, as amended. NREPA protects the waters of the state from the release of pollutants in quantities and/or concentrations that violate established water quality standards. In addition, the GAAMPs utilize the nationally recognized construction and management standard to provide runoff control for a 25-year, 24-hour rainfall event.

There has been a significant increase in interest by individuals in more urban settings to grow their own food, and to grow food for sale. This includes a trend regarding producing protein sources from animals. The Michigan Department of Agriculture and Rural Development supports the expansion of urban agriculture and livestock production across the state. The expansion of agriculture, whether for personal consumption or for local sale/distribution, will provide an opportunity for people to be

closer to local food sources. It also creates an opportunity for the urban agriculture movement to be integrated with any local community's plan for food hubs and /or farm markets, and will be reflected in the differences between communities. The Generally Accepted Agricultural and Management Practices for Site Selection and Odor Control for New and Expanding Livestock Facilities recognize this trend. It also allows for this to continue to grow based on the desires of the local urban community.

II. DEFINITIONS

AS REFERENCED IN THESE GAAMPs:

Adjacent Livestock Production Facilities - Any livestock production facility that is within 1,000 feet of a second livestock production facility and where the two facilities are under common ownership.

Adjacent Property – An adjacent property is land owned by someone other than the livestock facility owner that borders the property on which a proposed new or expanding livestock facility will be located.

Animal Units - Animal units are defined as listed in (Table 1) of these GAAMPs.

Distances between a Livestock Production Facility and Non-Farm Residences - The distance from a livestock production facility and a residence is measured from the nearest point of the livestock production facility to the nearest point of the residence.

Expanding Livestock Production Facility - An addition to a livestock production facility to increase the holding capacity where animals will be confined at a site that presently has livestock production facilities contiguous to the construction site. A new or expanded manure storage structure built to accommodate an expansion in animal units within three years from construction of the manure storage will also be considered an expanding livestock production facility.

Livestock Farm Residence - A residence on land owned/rented by the livestock farm operation and those residences on farms affiliated by contract or agreement with the livestock production facility.

Livestock Facility – Any facility where farm animals as defined in the Right to Farm Act are kept regardless of the number of animals.

Livestock Production Facilities - All facilities where farm animals as defined in the Right to Farm Act are kept with a capacity of 50 animal units or greater and/or the associated manure storage facilities. Sites such as loafing areas, confinement areas, or feedlots, which have livestock densities that preclude a predominance of desirable forage species are considered part of a livestock production facility. This does not include pastureland.

Migrant Labor Housing Camp – For purpose of this GAAMP, a migrant labor housing camp owned by a livestock producer applying for Site Selection GAAMP approval will be considered a farm residence.

New Livestock Production Facilities - All facilities where farm animals will be kept and/or manure storage structures that are built at new sites and are not part of another livestock production facility, including a site that is expanding greater than 100 percent of existing production within any three year time period and the resulting number of animal units will exceed 749.

Non-Farm Residence - A residence that is habitable for human occupation and is not affiliated with the specific livestock production system.

Offsite Manure Storage Facility - A manure storage facility constructed at a site that is not adjacent to a livestock production facility.

Pasture Land - Pasture land is land that is primarily used for the production of forage upon which livestock graze. Pasture land is characterized by a predominance of vegetation consisting of desirable forage.

Primarily Residential – Sites are primarily residential if there are more than 13 non-farm residences within 1/8 mile of the site or have any non-farm residence within 250 feet of the livestock facility.

Property Line Setback – Property line setback is the distance from the livestock production facility to the property line measured from the facility to the nearest point of the facility owner’s property line. If a producer owns land across a road, the road or right of way does not constitute a property line. Right of way setbacks for public roads, utilities, and easements apply.

Table 1. Animal Units

| Animal Units | 50 | 250 | 500 | 750 | 1,000 |
|--------------------------------|--------------------------|--------|--------|--------|---------|
| Animal Type¹ | Number of Animals | | | | |
| Slaughter and Feeder Cattle | 50 | 250 | 500 | 750 | 1,000 |
| Mature Dairy Cattle | 35 | 175 | 350 | 525 | 700 |
| Swine ² | 125 | 625 | 1,250 | 1,875 | 2,500 |
| Sheep and Lambs | 500 | 2,500 | 5,000 | 7,500 | 10,000 |
| Horses | 25 | 125 | 250 | 375 | 500 |
| Turkeys | 2,750 | 13,750 | 27,500 | 41,250 | 55,000 |
| Laying Hens or Broilers | 5,000 | 25,000 | 50,000 | 75,000 | 100,000 |

¹All other animal classes, types or sizes (eg. Nursery pigs) not in this table, but defined in the Michigan Right to Farm Act or described in Michigan Commission of Agriculture and Rural Development Policy, are to be calculated as one thousand pounds live weight equals one animal unit.

²Weighing over 55 pounds.

III. - DETERMINING ACCEPTABLE LOCATIONS FOR LIVESTOCK FACILITIES

All potential sites for new and expanding livestock facilities can be identified by four general categories. These are:

- Category 1. These are sites normally acceptable for livestock facilities and generally defined as areas that are highly agricultural with few non-farm residences.
- Category 2. These are sites where special technologies and/or management practices could be needed to make new and expanding livestock facilities acceptable. These areas are predominantly agricultural but also have an increased number of non-farm residences.
- Category 3. These are sites that are generally not acceptable for new and expanding livestock production facilities due to environmental concerns or other neighboring land uses.
- Category 4. Sites not acceptable for New and Expanding Livestock Facilities and Livestock Production Facilities.

Livestock facilities in Categories 1 or 2 with less than 50 animal units are not required to go through the site review and verification process, and conform to the provisions of these GAAMPs. However, these operations are required to conform to all other applicable GAAMPs.

Category 1 Sites: Sites normally acceptable for livestock facilities.

Category 1 sites are those sites which have been traditionally used for agricultural purposes and are in an area with a relatively low residential housing density. These sites are located where there are five or fewer non-farm residences within $\frac{1}{4}$ mile from a new livestock facility with up to 749 animal units, and within $\frac{1}{2}$ mile from a new livestock facility with 750 animal units or greater. New and expanding livestock facilities should only be constructed in areas where local zoning allows for agricultural uses.

If the proposed site is within Category 1, it is recognized that this is a site normally acceptable for livestock facilities. As shown in Table 2, if the proposed site is within Category 1 and has a capacity of 50 to 499 animal units, MDARD will review and verify the producer's plans at the producer's request. If the proposed site is within Category 1 and has a capacity of 500 or more animal units, the producer must follow the MDARD site selection review and verification process as described in Section V. Category 1 sites with less than 1000 animal units which are able to meet the property line setbacks as listed in Tables 2 and 3, as appropriate, and which meet the other requirements of these GAAMPs, are generally considered as acceptable for Site Selection Verification. An Odor Management Plan (OMP) will not be required for these sites in most circumstances. It is however, recommended that all producers develop and implement an OMP in order to reduce odor concerns for neighboring non-farm residents.

A request to reduce the property line setbacks, as listed in Tables 2 and 3, will require the development of an OMP for verification. All verification requests for Category 1 sites with 1000 animal units or greater will require the development and implementation of an OMP to specify odor management practices that will provide a 95 percent odor annoyance-free level of performance as determined by the Michigan OFFSET odor model. For new livestock facilities, a property line setback reduction shall only be considered for a proposed site in advance of MDARD site suitability approval. MDARD may grant a property line setback reduction of up to fifty percent of the setback distance in the following table when requested based upon the Odor Management Plan. The minimum setback will be 250 feet for new livestock facilities. Any reduction beyond this minimum will require a signed variance by the property owners within the original setback distance affected by the reduction. Factors not under direct control of the operator will be considered if an alternative mitigation plan is provided. Local land use zoning maps will be considered by MDARD in granting setback reductions.

Table 2. Category 1 Site Setbacks, Verification and Notification – New Operations

| Total Animal Units ¹ | New Operations Non-Farm Residences within Distance | Property Line Setback² | MDARD Site Review and Verification Process ³ |
|--|---|--|--|
| 50-499 | 0-5 within ¼ mile | 250 ft | Upon Producer Request ⁴ |
| 500-749 | 0-5 within ¼ mile | 400 ft | Yes |
| 750-999 | 0-5 within ½ mile | 400 ft | Yes |
| 1000 or more | 0-5 within ½ mile | 600 ft | Yes |

¹ Facilities in Category 1 with less than 50 animal units are not required to go through the site review and verification process to be considered in conformance with the provisions of these GAAMPs.

² May be reduced or increased based upon the Odor Management Plan.

³ To achieve approval and MDARD verification, all livestock facilities must conform to these and all other applicable GAAMPs.

⁴ For the construction of facilities housing less than 500 animal units, producers may self-assess to determine if the proposed livestock production facility meets the applicable standards in these GAAMPs. See the Verification checklist at: www.michigan.gov/gaamps to ensure your property meets these standards. More information on the verification process is provided on page 14.

For expanding livestock facilities, a variance for property line setback reduction shall only be considered for a proposed site in advance of MDARD site suitability approval. MDARD may grant a property line setback reduction of up to fifty percent of the setback distance in the following table when requested based upon the Odor Management Plan. The minimum setback will be 125 feet for expanding livestock facilities. Any reduction beyond this minimum will require a signed variance by the property owners that are

within the original setback distance affected by the reduction. Local land use zoning maps will be considered by MDARD in granting setback reductions. Expanding livestock facilities cannot utilize a property line setback less than the property line setback established by structures constructed before 2000 unless the established property line setback is greater than those distances identified in Table 3, in which case setbacks identified in Table 3 and the process detailed above will be used for determining conformance for new or expanding structures.

Table 3. Category 1 Site Setbacks, Verification and Notification – Expanding Operations

| Total Animal Units¹ | Expanding Operations Non-Farm Residences within Distance | Property Line Setback² | MDARD Site Review and Verification Process³ |
|---------------------------------------|---|--|---|
| 50-249 | 0-7 within ¼ mile | 125 ft | Upon Producer Request ⁴ |
| 250-499 | 0-7 within ¼ mile | 200 ft | Upon Producer Request ⁴ |
| 500-749 | 0-7 within ¼ mile | 200 ft | Yes |
| 750-999 | 0-7 within ½ mile | 200 ft | Yes |
| 1000 or more | 0-7 within ½ mile | 300 ft | Yes |

¹ Facilities in Category 1 with less than 50 animal units are not required to go through the site review and verification process to be considered in conformance with the provisions of these GAAMPs.

² May be reduced or increased based upon the Odor Management Plan.

³ To achieve approval and MDARD verification, all livestock facilities must conform to these and all other applicable GAAMPs.

⁴ For the construction of facilities housing less than 500 animal units, producers may self-assess to determine if the proposed livestock production facility meets the applicable standards in these GAAMPs. See the Verification checklist at: www.michigan.gov/gaamps to ensure your property meets these standards. More information on the verification process is provided on page 14.

Category 2 Sites: Sites where special technologies and/or management practices may be needed to make new and expanding livestock facilities acceptable.

Category 2 sites are those where site-specific factors may limit the environmental, social, or economic acceptability of the site for livestock facilities and where structural, vegetative, technological, and management measures may be necessary to address those limiting factors. These measures should be incorporated into a Site Plan and a Manure Management System Plan, both as defined in Section IV, which are required for all new and expanding livestock production facilities seeking verification. New and expanding livestock facilities should only be constructed in areas where local zoning

allows for agricultural uses. Due to the increased density of non-farm residences in Category 2 sites, an OMP is required for all proposed new and expanding livestock production facilities with 50 animal units or more.

Tables 4 and 5 show how Category 2 sites are defined and lists setbacks and verification requirements. As an example, a proposed site for an expanding livestock facility (Table 5) with 500 animal units and between eight and 20 residences within ¼ mile of the facility, would have a setback of 200 feet from the owner’s property line, and would be required to have a site verification request approved by MDARD. For new livestock facilities, a property line setback reduction shall only be considered for a proposed site in advance of MDARD site suitability approval. MDARD may grant a property line setback reduction of up to fifty percent of the setback distance in the following table when requested based upon the Odor Management Plan. The minimum setback will be 250 feet for new livestock facilities. Any reduction beyond this minimum will require a signed variance by the property owners that are within the original setback distance affected by the reduction. Local land use zoning maps will be considered by MDARD in granting setback reductions.

Table 4. Category 2 Site Setbacks, Verification and Notification – New Operations

| Total Animal Units¹ | For new Operations Non-Farm Residences Within Distance | Property Line Setback² | MDARD Site Review and Verification Process³ |
|---------------------------------------|---|--|---|
| 50-249 | 6-13 within ¼ mile | 250 ft | Upon Producer Request ⁴ |
| 250-499 | 6-13 within ¼ mile | 300 ft | Yes |
| 500-749 | 6-13 within ¼ mile | 400 ft | Yes |
| 750-999 | 6-13 within ½ mile | 500 ft | Yes |
| 1000 or more | 6-13 within ½ mile | 600 ft | Yes |

¹ Facilities in Category 2 with less than 50 animal units are not required to go through the site review and verification process to be considered in conformance with the provisions of these GAAMPs.

² May be reduced or increased based upon the Odor Management Plan.

³ To achieve approval and MDARD verification, all livestock facilities must conform to these and all other applicable GAAMPs.

⁴ For the construction of facilities housing less than 250 animal units, producers may self-assess to determine if the proposed livestock production facility meets the applicable standards in these GAAMPs. See the Verification checklist at: www.michigan.gov/gaamps to ensure your property meets these standards. More information on the verification process is provided on page 14.

For expanding livestock facilities, a property line setback reduction shall only be considered for a proposed site in advance of MDARD site suitability approval. MDARD may grant a property line setback reduction of up to fifty percent of the setback distance in the following table when requested based upon the Odor Management Plan. The minimum setback will be 125 feet for expanding livestock facilities. Any reduction beyond this minimum will require a signed variance by the property owners that are within the original setback distance affected by the reduction. Local land use zoning maps will be considered by MDARD in granting setback reductions. Expanding livestock facilities cannot utilize a property line setback less than the property line setback established by structures constructed before 2000 unless the established property line setback is greater than those distances identified in Table 5, in which case setbacks identified in Table 5 and the process detailed above will be used for determining conformance for new or expanding structures.

Table 5. Category 2 Site Setbacks, Verification and Notification – Expanding Operations

| Total Animal Units ¹ | For Expanding Operations Non-Farm Residences within Distance | Property Line Setback ² | MDARD Site Review and Verification Process ³ |
|--|---|---|--|
| 50-249 | 8- 20 within ¼ mile | 125 ft | Upon Producer Request ⁴ |
| 250-499 | 8- 20 within ¼ mile | 200 ft | Yes |
| 500-749 | 8- 20 within ¼ mile | 200 ft | Yes |
| 750-999 | 8- 20 within ½ mile | 250 ft | Yes |
| 1000 or more | 8- 20 within ½ mile | 300 ft | Yes |

¹ Facilities in Category 2 with less than 50 animal units are not required to go through the site review and verification process to be considered in conformance with the provisions of these GAAMPs.

² May be reduced or increased based upon the Odor Management Plan.

³ To achieve approval and MDARD verification, all livestock facilities must conform to these and all other applicable GAAMPs.

⁴ For the construction of facilities housing less than 250 animal units, producers may self-assess to determine if the proposed livestock production facility meets the applicable standards in these GAAMPs. See the Verification checklist at: www.michigan.gov/gaamps to ensure your property meets these standards. More information on the verification process is provided on page 14.

Category 3 Sites: Sites generally not acceptable for new and expanding livestock production facilities.

Category 3 sites may be zoned for agriculture, but are generally not suitable for livestock production facilities. They may be suitable for livestock facilities with less than 50 animal units. Any proposed site with more than the maximum number of non-farm residences specified in Table 4 for a new operation, and Table 5 for an expanding operation is a Category 3 or a Category 4 site. New livestock production facilities are not acceptable for that site. However, expanding livestock production facilities may be acceptable if the farm submits an Odor Management Plan and site verification approval is determined by MDARD. In some cases, additional odor reduction and control technologies, and management practices may be necessary to obtain site verification approval.

Additionally, the following land conditions or neighboring land uses constitute conditions that are consistent with Category 3 sites, and are considered unacceptable for construction of new and expanding livestock production facilities.

1. Wetlands - New and expanding livestock production facilities shall not be constructed within a wetland as defined under MCL 324.30301 (NREPA, PA 451 of 1994, as amended).
2. Floodplain - New and expanding livestock production facilities and manure storage facilities shall not be constructed in an area where the facilities would be inundated with surface water in a 25 year flood event.

The following categories require minimum setback distances in order to be considered acceptable for construction of new livestock production facilities. In addition, review and approval of expansion in these areas is required by the appropriate agency, as indicated.

1. Drinking Water Sources

Groundwater protection - New livestock production facilities shall not be constructed within a ten year time-of-travel zone designated as a wellhead protection area as recognized by the Michigan Department of Environmental Quality (MDEQ), pursuant to programs established under the Michigan Safe Drinking Water Act, PA 399 of 1976, as amended. An expanding livestock production facility may be constructed with review and approval by the local unit of government administering the Wellhead Protection Program.

Where no designated wellhead protection area has been established, construction of new and expanding livestock production facilities shall not be closer than 2000 feet to a Type I or Type IIa public water supply and shall not be closer than 800 feet to a Type IIb or Type III public water supply. A new or expanding livestock production facility may be located closer than these distances, upon obtaining a deviation from well isolation distance through MDEQ or the local health department. New and expanding livestock

production facilities should not be constructed within 75 feet of any known existing private domestic water supply (wellhead).

Surface water protection - New and expanding livestock production facilities shall not be constructed within the 100 year flood plain of a stream reach where a community surface water source is located, unless the livestock production facility is located downstream of the surface water intake.

2. High public use areas - Areas of high public use or where a high population density exists, are subject to setbacks to minimize the potential effects of a livestock production facility on the people that use these areas. New livestock production facilities should not be constructed within 1,500 feet of hospitals, churches, licensed commercial elder care facilities, licensed commercial childcare facilities, school buildings, commercial zones, parks, or campgrounds. Existing livestock production facilities may be expanded within 1,500 feet of high public use areas with appropriate MDARD review and verification. The review process will include input from the local unit of government and from people who utilize those high public use areas within the 1,500 foot setback.
3. Proximity to Residential zones – Agriculturally zoned areas in close proximity to areas that are primarily residential and do not allow agricultural uses by right will generally have housing at a density that necessitates setback distances for livestock production facilities to prevent conflicts. New livestock production facilities shall not be constructed within 1,500 feet of areas zoned for residential use where agricultural uses are excluded. Existing livestock production facilities may be expanded within 1,500 feet of areas zoned for residential use with approval from the local unit of government.
4. Migrant Labor Housing Camp – New and Expanding livestock production facilities shall be located a minimum of 500 feet from any existing migrant labor housing facilities, unless a variance is obtained from the United States Department of Labor.

Category 4 Sites: Sites not acceptable for New and Expanding Livestock Facilities and Livestock Production Facilities under the Siting GAAMPs.

Category 4 Sites are locations that are primarily residential and do not allow agricultural uses by right and are not acceptable under the Siting GAAMPs for livestock facilities or livestock production facilities regardless of the number of animal units. However, the possession and raising of animals may be authorized in such areas pursuant to a local ordinance designed for that purpose.

IV. - OFFSITE MANURE STORAGE FACILITIES

Table 6. Site Setbacks, Verification, and Notification – New or Expanding Operations

| Storage Surface Area at Operational Volume Elevation, sq. ft. | | Property Line Setback, ft. | MDARD Site Review and Verification Process |
|---|--|----------------------------|--|
| Liquid Manure | | Solid Manure | |
| Pond-type storage | Fabricated structure-type storage, i.e. reinforced concrete or steel | | |
| ≤4,200 | ≤2,000 | ≤26,000 | 250 ¹ |
| >4,200 | >2,000 | >26,000 | TBD ² |
| | | | Upon Producer Request |
| | | | Yes |

¹May be reduced or increased based upon the Odor Management Plan.

²Distance to be determined based upon the Odor Management Plan.

V. DEVELOPING A SITE PLAN AND A MANURE MANAGEMENT SYSTEM PLAN

Site Plan

A Site Plan is a comprehensive layout for a livestock production facility, and includes:

- A site map, including the following features (to scale):
 - ~ Property lines, easements, rights-of-way, and any deed restrictions.
 - ~ Public utilities, overhead power lines, cable, pipelines, and legally established public drains.
 - ~ Positions of buildings, wells, septic systems, culverts, drains and waterways, walls, fences, roads, and other paved areas.
 - ~ Location, type, and size of existing utilities.
 - ~ Location of wetlands, streams, and other bodies of water.
- Existing land uses for contiguous land.
- Names and addresses of adjacent property owners.
- Basis of livestock production facility design.
- Size and location of structures.
- A soils map of the area where all livestock production facilities are located.
- Location and distance to the non-farm residences within ½ mile.
- Location and distance to the nearest residentially zoned area.
- Topographic map of site and surrounding area.
- Property deed restrictions.

Manure Management System Plan¹

The Manure Management System Plan describes the system of structural, vegetative, and management practices that the owner/operator has chosen to implement on the site for all proposed new and existing facilities. Items to address in the Manure Management System Plan are described in the GAAMPs for Manure Management and Utilization. The Manure Management System Plan for a site verification request will include these additional components:

- Planning and installation of manure management system components to ensure proper function of the entire system.
- Operation and Maintenance Plan: This written plan identifies the major structural components of the manure management system, and includes inspection frequency, areas to address, and regular maintenance records.
- Odor Management: Odor management and control is a primary focus relating to the social consideration objectives of these GAAMPs. For new and expanding livestock production facilities, an Odor Management Plan may be required (refer to Category 1 and Category 2 to determine whether an OMP is required for your facility) as part of the Manure Management System Plan for conformance with these GAAMPs. Appendix A includes a detailed outline for development of an effective OMP.
- Manure Storage Facility Plan: Construction plans detailing the design of manure storage components must be submitted to MDARD for review and approval. Structures should be designed in accordance with appropriate design standards. Construction plans should include the design standards utilized, design storage volume, size, and layout of the structure, materials specifications, soil conditions in the structure area, site suitability, subsurface investigation, elevations, installation requirements, and appropriate safety features. The plans will be reviewed for conformance with appropriate specifications. Structures should be designed and constructed by competent individuals or companies utilizing generally accepted standards, guidelines, and specifications (e.g. NRCS, Midwest Plan Service.).

Other items that may accompany the Manure Management System Plan include the following:

- Emergency Action Plan - Through development of an Emergency Action Plan, identify the actions to take and contacts to be made in the event of a spill or discharge.
- Veterinary Waste Management Plan - Identify the processes and procedures used to safely dispose of livestock-related veterinary wastes produced on the farm.

¹ Due to your particular circumstances, a Comprehensive Nutrient Management Plan (CNMP) may be required, as referenced in Appendix C.

- Conservation Plan - Field-specific plan describing the structural, vegetative and management measures for the fields where manure and other by-products will be applied.
- Mortality Management Plan - Identify the processes and procedures used to safely dispose of the bodies of dead animals (Bodies of Dead Animals Act, PA 239 of 1994, as amended).

VI. SITE REVIEW AND VERIFICATION PROCESS

Producers with facilities that require MDARD verification in Categories 1, 2, or 3 should contact the MDARD and begin the site selection review and verification process prior to the construction of new livestock facilities or livestock production facilities, and expansion of existing livestock facilities or livestock production facilities. The references to local unit of government in this section are intended to notify the township and county in which the farm operation is located.

Producers with new and expanding livestock facilities that have a total capacity less than 50 animal units may request siting verification from MDARD. The MDARD site review and verification process will use criteria applicable to a 50 animal unit facility for these requests.

To begin the review and verification process, contact the Michigan Department of Agriculture & Rural Development, Right to Farm Program at (877) 632-1783. This toll free number is operational during normal business hours. The following steps outline this process:

1) Application for Siting Verification:

A request to begin the site review and verification process can be made by submitting a letter from the responsible party to the MDARD, Right to Farm Program. This letter should outline the proposed new construction or expansion project, any areas of concern, agencies and individuals the producer is already working with, and the proposed timeline. The responsible party must also submit a complete site verification request. A request application and a checklist are available at www.michigan.gov/gaamps. The checklist will assist you in identifying environmental or social areas of concern. If special technologies or management practices are to be implemented for the successful operation of the livestock production facility, these must be included in the siting request package.

Producers may also utilize recognized industry, university, and agency professionals in the development of their siting request, site plan, and manure management system plan.

Upon submitting a site verification request to MDARD, the responsible party must individually notify all non-farm residences identified for determining category (see Tables 2-5) and listed in the checklist under "Location of Non-Farm Residences", that the responsible party has made application for site verification with MDARD.

2) Siting Request Review:

Upon receipt of the siting request package, MDARD will send an acknowledgement letter to the producer. This acknowledgement letter will also be sent to the local unit of government to inform them of the proposed livestock production facility siting request.

For purposes of the Siting GAAMPs, an environmental complaint or proactive request for a GAAMPs determination by a landowner will result in a program review of zoning for the location in question. If the site is primarily residential and zoning does not allow agricultural uses, then the site will be identified as Category 4 and not acceptable for a livestock facility under the Siting GAAMPs. However, if zoning identifies an agricultural use or a mixed use that includes agricultural use as its zoning designation (e.g., many locations use an agriculture/residential zoning designation), MDARD will evaluate whether the site complies with the other requirements of the Siting GAAMPs.

MDARD will review the completed siting requests upon receipt. The review will determine whether the siting request information submitted conforms to these GAAMPs. MDARD will conduct preliminary site visits to proposed new and expanding livestock production facilities. This site visit will take place upon receipt of the complete siting request package and will focus on addressing conformance with the plan components, identifying areas of concern, and verifying information submitted in the siting request. If deficiencies in the siting request are identified, MDARD will communicate those to the responsible party for further modification. At the request of the producer, a preliminary site visit could be conducted prior to submission of the complete siting request package.

3) Site Suitability Determination:

MDARD will determine if the siting request is in conformance with the GAAMPs for Site Selection and Odor Control for New and Expanding Livestock Production Facilities. This determination will be conveyed to the responsible party on MDARD letterhead and will be known as "Site Suitability Approval." This approval will also be copied to the local unit of government, and construction must begin within three years from the date of approval by MDARD. The start of construction is defined as the physical movement of soil or installation of permanent structures. An additional two year extension to begin construction after three years from the date of the initial approval may be requested in writing to MDARD.

4) Construction Plan Submittal and Review:

Design plans for the manure storage structures must be submitted to MDARD for review and approval and should be submitted prior to construction. If the plans are found to be in accordance with the required specifications, a letter indicating "Approval of Design Plans" will be sent to the owner. MDARD will conduct construction site inspections for quality assurance as needed to determine whether the structures are being built according to the accepted

plans. The owner should notify MDARD one month prior to beginning the installation of the manure storage facility.

5) Final Inspection:

MDARD will conduct a final inspection, preferably, prior to animal population. The completed project must be reviewed by MDARD to assure conformance with these GAAMPs. The facility must be completed in conformance with the verification request that has been approved by MDARD. Once the facility has been constructed and found in conformance with these GAAMPs, a final verification letter will be sent to the producer. This letter will be copied to the local unit of government.

Site Suitability Approval:

If either the owner of the proposed livestock production facility, any surrounding neighbor within one mile of the proposed facility, or the local unit of government in which the facility is located, disagrees with the site suitability determination, they may request MDARD's decision be reviewed by the Michigan Commission of Agriculture & Rural Development within 45 days of the date this determination is issued. The request shall be in writing and include supporting documentation. MDARD will review the supporting documentation and then will consult with at least three recognized professionals in the siting and management of livestock production facilities and odor control practices, as listed below, to further evaluate the proposed siting request.

MDARD will notify the professionals of the request. The professionals shall review and report a recommendation for a response to the requested review, to the Commission of Agriculture & Rural Development, within 45 days of receipt of the written review request.

An extension may be granted by the Commission of Agriculture & Rural Development. Upon receipt and review of the professional's recommendation, the Commission of Agriculture & Rural Development will recommend to the Director of the Michigan Department of Agriculture & Rural Development whether to affirm or re-evaluate the site suitability determination. The final decision rests with the Director. This review process is created solely for the purpose of this specific GAAMP, and the Administrative Procedures Act does not apply.

Recognized Professionals:

Recognized professionals in the siting and management of livestock production and odor control practices may include, but are not limited to, personnel from the following:

- a. Conservation Districts,
- b. Industry Representatives,
- c. Michigan Department of Environmental Quality
- d. Professional Consultants and Contractors,
- e. Professional Engineers,
- f. United States Department of Agriculture - Natural Resources Conservation Service,
- g. University Agricultural Engineers, and other University Specialists

The site review and verification process will be conducted in accordance with MDARD procedures and protocol.

APPENDIX A

MICHIGAN ODOR MANAGEMENT PLAN

The goal of an effective Odor Management Plan is to identify opportunities and propose practices and actions to reduce the frequency, intensity, duration, and offensiveness of odors that neighbors may experience, in such a way that tends to minimize impact on neighbors and create a positive attitude toward the farm. Because of the subjective nature of human responses to certain odors, recommending appropriate technology and management practices is not an exact science. Resources to help identify appropriate management practices to minimize odors are available at: <http://www.animalagteam.msu.edu>

An Odor Management Plan shall include these six basic components:

1. Identification of potential sources of significant odors.
2. Evaluation of the potential magnitude of each odor source.
3. Application and evaluation of Michigan Odor from Feedlot Setback Estimation Tool (OFFSET – Michigan Odor Print September 2000 version) (i.e. Sept. 2000).
4. Identification of current, planned, and potential odor control practices.
5. A plan to monitor odor impacts and respond to odor complaints.
6. A strategy to develop and maintain good neighbor and community relations.

Note that items 1, 2, and 4 of the Odor Management Plan components may be addressed in tabular format as demonstrated in the example Odor Management Plan (Appendix B).

Component Details:

1. Identify and describe all potential significant sources of odor associated with the farm. Odor sources may include:
 - Animal housing
 - Manure and wastewater storage and treatment facilities
 - Feed storage and management
 - Manure transfer and agitation
 - Land application areas
2. Evaluate the magnitude of each odor source in relation to potential impact on neighbors and other community members.

Odor magnitude is a factor of both the type and size of the source.

Michigan OFFSET is one means of estimating odor source magnitudes and potential impacts from animal production facilities. Use the Michigan OFFSET odor emission values to rank each potential odor source on your farm. Note that some odor sources are not considered in this tool.

For odor sources not addressed by Michigan OFFSET, a subjective potential odor magnitude evaluation of high, medium, or low, relative to other odor sources on the farm should be conducted.

3. Analyze potential odor impact on neighboring residences and other non-farm areas with Michigan OFFSET, utilizing the 95 percent odor annoyance-free level, and evaluate the conclusions as follows:
 - Identify specific odor impact on neighboring residences, utilizing OFFSET results and other site-specific odor impact considerations.
 - Assess the magnitude of potential odor-based conflict.
 - Develop an appropriate conflict abatement strategy for each odor-sensitive area of concern which may include:
 - Signed letter from property owner consenting to approval of the new or expanded facility.
 - Description of intensified community relations practices for these homes or other odor sensitive areas.
 - Explanation of specific variables in Michigan OFFSET that may reduce the concern, such as, variables in terrain, wind velocity, facility layout, variation of facility from typical, and odor management practices not credited in Michigan OFFSET.
4. Identify management systems and practices for odor control including:
 - Practices currently being implemented.
 - New practices that are planned for implementation.
 - Practices that will be considered, if odor concerns arise.

There are numerous odor reduction practices available; however, not all have been proven equally effective. Some practices may reduce odor from one part of the system, but increase it in another. For example, long-term manure storage will reduce the frequency of agitation of the storage thus producing less frequent odor events, but will likely result in greater intensity and offensiveness of each odor event.

Each farm situation is unique and requires site-specific identification and implementation of odor reduction practices to suit the practical and economic limitations of a specific farm. MDARD will consider mitigating factors that are under the direct control of the operator. Factors not under direct control of the operator will be considered if an alternative mitigation plan is provided.

Simple changes in management, such as, but not limited to, improving farmstead drainage, collecting spilled feed, and regular fan maintenance will reduce overall farmstead odor.

“Practices that will be considered, if odor concerns increase” should include only those odor management practices that the producer would seriously consider implementing, if the need arose.

Improved management, as well as, the adoption of new technologies to control odor offer a means for reducing odor from livestock production facilities and manure storage facilities, thus broadening the potential area within which livestock production facilities may be appropriately sited. Odor reduction technologies continue to evolve. Current technologies include, but are not limited to, vent bio-filters, manure storage covers, and composting.

Each technology presents different challenges and opportunities. These should be considered during the planning process for a new or expanding animal livestock facility.

5. Describe the plan to track odor impact and the response to odor concerns as they arise.
 - Outline how significant odor events will be recognized and tracked including potential impact on neighbors and others. For example, one could record odor events noticed by those working on and/or cooperating with the farm. If odor is noticeable to you, your family, or employees, then it is likely noticeable to others.
 - Explain how an odor complaint will be addressed.
 - Indicate the point at which additional odor control measures will be pursued.
6. Identify the strategy to be implemented to establish and maintain a working relationship with neighbors and community members.

Elements of a community relations plan may include:

- Conducting farming practices that result in peak odor generation at times that will be least problematic for neighbors.
- Notifying neighbors of when there will be an increase in odors.
- Hosting an annual neighborhood farm tour to provide information about your farm operation.
- Sending a regular farm newsletter to potentially affected community members.
- Keeping the farmstead esthetically pleasing.
- Supporting community events and causes.

APPENDIX B

The Odor Management Plan includes the following text and tables and output from Michigan OFFSET, which is not shown here.

Example Dairy Odor Management Plan

Overview

The existing 1,200 cow facility is expanding to 1,700 cows. The proposed expansion involves the addition of another 500 cow freestall barn, expansion of the primary sand-laden manure storage, and the addition of another earthen storage for milking center wastewater. All of the additional facilities are located to the south and west of the existing facility.

Odor Source Identification & Assessment

Refer to attached Odor Source Assessment table.

Odor Management Practices

Refer to attached Odor Management Practices table.

Potential Odor Impact Analysis

Michigan OFFSET has identified two homes not associated with the farm that are definitely within the odor impact zone prior to the expansion and three additional homes that are likely impacted (see MI-OFFSET output). An additional five homes are added to the odor awareness zone as a result of the proposed expansion.

The potentially odor-impacted homes are at the following addresses:

(List addresses and homeowner names in order of proximity to odor source.)

All homeowners, with the exception of one, have signed a letter acknowledging the proposed expansion and indicating that they do not object to it proceeding. The lone exception is the residence at *(list address)*. This resident was reluctant to sign a letter, but has verbally accepted the expansion. He is also a livestock producer whose odor awareness zone from Michigan OFFSET would likely overlap the dairy farms. He also has a working relationship with the Example Dairy as a producer of corn grain for dairy feed.

Of the other homes in the odor awareness zone, three are currently or very recently have been active dairy farmers themselves. Another is a landlord of property that is rented and included in the farm CNMP/MMSP.

The three remaining homes are the most distant from the center of the odor awareness zone and furthest from the specific area of the facility expansion.

Odor Tracking and Response

Tracking of odor concerns includes two approaches:

1. All farm employees and some routine farm service providers will be asked to report noticeable offensive odor events as they come and go from the farm and travel the community.
2. The intent is to establish and maintain an effective, open line of communication with immediate neighbors so that they too will be comfortable reporting odor events to example dairy.
3. Response to odor complaints or events reported by neighbors will include investigation of the primary odor incident source on the farm. For example, is it associated with storage agitation, field application, or no specific farm activity? The farm will report back to the person reporting the odor event within 24 hours, or as soon as possible thereafter. Included in the response will be the reason for the odor event, an acknowledgement of the concern, steps – if any – to be taken to prevent it in the future, and a thank you for bringing it to the farm's attention.

If a pattern is identified among odor event complaints by neighbors, an outside observer, such as MSU Extension or MDARD, will be asked to provide an objective analysis of the situation. If the concern is confirmed to be legitimate by a second objective observer, actions will be taken to further control odor per, or comparable to, odor management practices identified in the Odor Management Plan.

Community Relations

In order to develop and maintain a positive relationship with the entire community, the following steps are planned:

1. Keeping the farmstead area esthetically pleasing will continue to be a high priority.
2. Each spring, a farm newsletter will be sent to all appropriate community members describing farm activities, personnel, and management.
3. A community picnic and farm tour will be held at least semi-annually for all in the immediate community and manure application areas.
4. Example Dairy Farm will make itself available to local schools for farm visits as field trips or school projects as appropriate.
5. We will seek to participate in local community events and youth activities, such as the local town festival and youth athletic teams.
6. Additional opportunities to strengthen community relations will be considered whenever they arise.
7. Notify potentially impacted neighboring residences at least 24 hours in advance of manure application.

(The above list of community relations practices may be longer than most farms find necessary, but it provides several examples that farms might consider.)

Odor Source Assessment – proposed facility

| Potential Odor Source | Description | Odor Emission Number ¹ | Odor Control Factors ² | | | Odor Emission Factors ^{1,3} | | |
|---------------------------|---|-----------------------------------|-----------------------------------|---------|-----------|--------------------------------------|---------|-----------|
| | | | current | planned | potential | current | planned | potential |
| Large Manure Storage | Sand Land Manure storage for center-drive through barns (170 x 340) | 13 | 0.5 + NV | | | 168.9 | | |
| Freestall Barns | Freestall barns (187,104 sq. ft.) | 6 | | NV | | 112.3 | | |
| Milking Center Wastewater | Earthen storages for milking center wastewater. Is recycled to flush holding and treatment areas (49,600 sq. ft.) | 13 | NV | | 0.1 | 50.4 | | 5.0 |
| Run Off Storage | Collects rain runoff from open lot and silage pads (90 x 120) | 13 | NV | | | 14 | | |
| Outside Lots | Outside concrete housing lot (16,200 sq. ft.) | 4 | | | NV | 6.5 | | |
| Settling Basins | Holding area flushed material settling area prior to pumping of liquid to milking center wastewater storage (30 x 60) | 28 | NV | NV | NV | 5 | | |
| Bedded Open Housing Barns | Maternity & sick pens (22,620 sq. ft.) | 2 | | | | 4.5 | | |
| Open Lot Manure storage | Short-term manure storage (70 x 20) | 13 | 0.5 + NV | | | .9 | | |
| Agitation | Agitation of manure storages | Medium | | | | M | M | M |
| Land Application | Field application of liquid manure | High | NV | | | M | M | M |
| Silage & Feed Storage | Concrete pad and bunker silos (300 x 350) | Medium | NV | | | L | L | L |

1. OFFSET value if available or High, Medium, Low for sources not addressed in OFFSET

2. NV = No Value available in OFFSET; however, a defensible odor control factor is applicable per Odor Management Practices table.

3. Odor Emission Factors are equal to the odor emission number, multiplied by the surface area (ft²) and odor control factor, divided by 10,000.

Odor Management Practices

| Odor Source | Odor Management Practices & Reduction Factor | | |
|---------------------------|--|--|--|
| | Current | Planned | Potential |
| Large Manure Storage | <ol style="list-style-type: none"> 1. Approximately eight months of potential storage results in agitation being required only 2-3 times per year. 2. The natural plant fiber in the manure results in a crusting of the manure. (OCF = 0.5) | | |
| Freestall Barns | | <ol style="list-style-type: none"> 1. Plans include the planting of a tree shelterbelt the length of the freestall barns, parlor, and treatment area. | |
| Milking Center Wastewater | <ol style="list-style-type: none"> 1. Fills from bottom 2. Long term storage facilitates minimal disturbance of only about two times per year. | | <ol style="list-style-type: none"> 3. Impermeable synthetic cover (OCF = 0.1) |
| Run Off Storage | <ol style="list-style-type: none"> 1. Long-term storage, disturbed only 1-2 times per year | | |
| Outside Lots | | | <ol style="list-style-type: none"> 1. Lot could be reduced in size. |
| Settling Basins | <ol style="list-style-type: none"> 1. Cleaned out frequently, about every ten days, minimizing anaerobic production of odors. | <ol style="list-style-type: none"> 2. Plans include the planting of tree shelterbelt between the basins and the road/property line. | |
| Bedded Barns | | | |
| Open Lot Manure Storage | <ol style="list-style-type: none"> 1. Storage is emptied frequently so that anaerobic activity is limited. 2. Storage crusts (OCF = 0.5) | | |
| Agitation | | | |
| Land Application | <ol style="list-style-type: none"> 1. Manure is injected or incorporated whenever field conditions permit. 2. Weekend and holiday application is avoided. | | |
| Silage & Feed Storage | <ol style="list-style-type: none"> 1. Silage piles are covered with plastic with clean water diverted off of the pile. 2. Forages harvested at recommended moisture. 3. Concrete pad is mechanically swept at least once per week. | | |

APPENDIX C

Comprehensive Nutrient Management Plan

A Comprehensive Nutrient Management Plan (CNMP) is the next step beyond a Manure Management System Plan (MMSP). All efforts put towards an MMSP may be utilized in the development of a CNMP as it is founded on the same eight components as the MMSP, with a few significant differences. Some of the “optional” sub-components of an MMSP are required in a CNMP. Examples include veterinary waste disposal and mortality management. In addition, the “production” component is more detailed regarding management of rainwater, plate cooler water, and milk house wastewater. Thorough calculations are also needed to document animal manure production.

Another difference between an MMSP and a CNMP is in the “Utilization” component. With an MMSP, nutrients need to be applied at agronomic rates and according to realistic yield goals. However, with a CNMP, a more extensive analysis of field application is conducted. This analysis includes the use of the Manure Application Risk Index (MARI) to determine suitability for winter spreading, and the Revised Universal Soil Loss Equation (RUSLE) to determine potential nutrient loss from erosive forces, and other farm specific conservation practices. More detail regarding the timing and method of manure applications and long term cropping system/plans must be documented in a CNMP.

Additional information on potential adverse impacts to surface and groundwater and preventative measures to protect these resources are identified in a CNMP. Although the CNMP provides the framework for consistent documentation of a number of practices, the CNMP is a planning tool not a documentation package.

Odor management is included in both the MMSP and CNMP.

Implementation of an MMSP is ongoing. A CNMP implementation schedule typically includes long-term changes. These often include installation of new structures and/or changes in farm management practices that are usually phased in over a longer period of time. Such changes are outlined in the CNMP implementation schedule, providing a reference to the producer for planning to implement changes within their own constraints.

As is described above, a producer with a sound MMSP is well on their way to developing a CNMP. Time spent developing and using a MMSP will help position the producer to ultimately develop a CNMP on their farm, if they decide to proceed to that level or when they are required to do so.

WHO NEEDS A CNMP?

1. Some livestock production facilities receiving technical and/or financial assistance through USDA-NRCS Farm Bill program contracts.
2. A livestock production facility that a) applies for coverage with the MDEQ's National Pollutant Discharge Elimination System (NPDES) permit, or b) is directed by MDEQ on a case by case basis.
3. A livestock farm that is required to have a CNMP as a result of NPDES permit coverage that desires third party verification in the MDARD's Michigan Agriculture Environmental Assurance Program (MAEAP) Livestock System verification.

For additional information regarding the permit, go to: www.michigan.gov/deq.

For additional information regarding MAEAP, go to: www.maeap.org or telephone 517-284-5609.

APPENDIX D

MANURE STORAGE FACILITY PLAN:

Construction plans detailing the design of manure storage components must be submitted to MDARD for review and approval. Structures must be designed and constructed in accordance with appropriate design standards (e.g. Michigan NRCS FOTG Waste Storage Facility (No.) 313 or Midwest Plan Service MWPS-36 Concrete Manure Storages Handbook), that are current at the time of approval of this GAAMP.

Plans must include the following information:

- Design Standards utilized.
- Design storage volume as justified by nutrient utilization plan, runoff volume, precipitation volume, and freeboard.
- Size of structure, including length, width, and depth.
- Materials to be utilized for the construction of the structure, this should include specifications for concrete mixes, flexible membranes, and soil data, as appropriate.
- Subsurface Investigation information to include an adequate representation of soil borings based upon the surface area of the structure. The borings must extend to a depth of at least two feet below the bottom of the structure, and must indicate the depth to high water and any seeps encountered. The soils must be classified according to the Unified Soil Classification System (ASTM D2487 or ASTM D2488).
- For a compacted earth-lined structure permeability test or Plasticity Index (PI) and Atterberg Limits must be submitted for the soil samples.
- Isolation distance from the structure to the drinking water well and isolation reduction criteria worksheet if applicable.
- Method of solids removal to be utilized.
- Elevation of structure relative to surrounding area must be included.
- Construction requirements.
- Appropriate safety features (e.g. fencing, safety signs, ladders, or ropes).
- If a treatment system (e.g. anaerobic digester or gasification) will be utilized, all associated design plans and specifications must be submitted.
- Where substantial changes to the original plans occurred during construction, as built plans must be submitted for review.

Structures should be designed and constructed by individuals or companies qualified in the appropriate area of expertise for that work.

VII. REFERENCES

Jacobsen, Larry and Huiqing Guo. *An Odor Setback Estimator for Feedlots (OSEFF)*. BAE Department, University of Minnesota. (Minnesota Odor Estimator Model).

Jacobson, Larry; Huiqing Guo; Schmidt, David; Nicolai, Richard; Zhu, Jun; and Janni, Kevin. *Worksheet for the Odor Rating System to Estimate Setback Distances for Animal Production Sites*. Version 1.0. BAE Department. University of Minnesota. (Minnesota Odor Estimator Model).

The Michigan Natural Resources and Environmental Protection Act, PA 451 of 1994, as amended.

MCARD. 2012. Right to Farm. *Generally Accepted Agricultural and Management Practices for Manure Management and Utilization*. Michigan Commission of Agriculture & Rural Development.

Michigan Right to Farm Act, PA 93 of 1981, as amended.

National Pork Producers Council On-Farm Odor Assessment Program.

United States Department of Agriculture, Natural Resources Conservation Service, *Field Office Technical Guide*.

United States Department of Agriculture, Natural Resources Conservation Service, *Agricultural Waste Management Field Handbook*.

REVIEW COMMITTEE

Listed below are the committee members that developed these Generally Accepted Agricultural and Management Practices for Site Selection and Odor Control for New and Expanding Livestock Production Facilities.

Dr. Wendy Powers-Chair
MSU – Dept. of Animal Science
and Biosystems
and Agricultural Engineering
2209G Anthony Hall
East Lansing, MI 48824-1225
(517) 614-8207
wpowers@msu.edu

Judy Allen
Michigan Township's Association
512 Westshire Drive
Lansing, MI 48917
(517) 321-6467
(517) 321-8908 – FAX
Judy@michigantownships.org

James Cliff
Michigan Environmental Council
602 West Ionia Street
Lansing, MI 48933
(517) 487-9539
(517) 487-9541 - FAX
james@environmentalcouncil.org

Michelle Crook, P.E.
Michigan Dept. of Agriculture and
Rural Development
P. O. Box 30017
Lansing, MI 48909
(517) 284-5625
(517) 335-3329 - FAX
crookm@michigan.gov

Brian Culham
Michigan Dept. of Environmental
Quality, Air Quality Division
P. O. Box 30473
Lansing, MI 48909 7973
(517) 284-6633
culhamb@michigan.gov

Suzanne Reamer
NRCS - Environmental Engineer
3001 Coolidge Rd., Suite 250
East Lansing, MI 48823-6321
cell: 517-290-6145
suzanne.reamer@mi.usda.gov

Samuel C. Hines
Executive Vice President
Michigan Pork Producers Assn.
3515 West Road, Suite B
East Lansing, MI 48823
517/853-3782
hines@mipork.org

Matthew Kapp
Michigan Farm Bureau
P. O. Box 30960
Lansing, MI 48909
(517) 323-7000
mkapp@michfb.com

Steve Mahoney
Michigan Dept. of Agriculture and
Rural Development
P. O. Box 30017
Lansing, MI 48909
(517) 284-5620
(517) 335-3329 - FAX
mahoneys@michigan.gov

Gerald May
MSU Extension Agriculture &
Natural Resources Educator
214 E. Center Street
Ithaca, MI 48847
(989) 875-5233
(989) 875-5289 - FAX
mayg@msu.edu

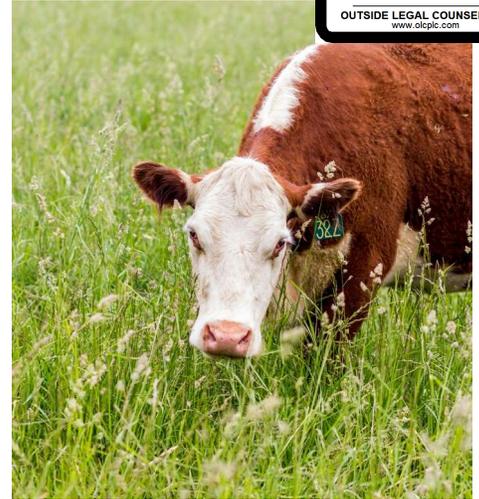
Ken Nobis
Mich. Milk Producers Assn.
1531 N. Lowell Road
St. Johns, MI 48879
(989) 224-6170
nobis@mimilk.com

William Renn
Michigan Township's Assn.
6206 Campbell Road
Pigeon, MI 48755
(989) 553-4005
chanrenn@avci.net

Bruce Washburn
Michigan Dept. of
Environmental Quality,
Water Resource Division
7953 Adobe Road
Kalamazoo, MI 49009-5025
(269) 567-3500
(269) 567-9440 – FAX
washburnb2@michigan.gov

Andy Welden
County Government
1900 E. Hastings Lake Road
Jonesville, MI 49250
(517) 398-0973
andywelden@comcast.net

Wayne Whitman
Michigan Dept. of Agriculture
and Rural Development
P. O. Box 30017
Lansing, MI 48909
(517) 284-5618
(517) 335-3329 - FAX
whitmanw@michigan.gov



Generally Accepted Agricultural and Management Practices for Site Selection and Odor Control for New and Expanding Livestock Facilities

January 2021

Michigan Commission of Agriculture & Rural
Development
PO BOX 30017
Lansing, MI 48909

In the event of an agricultural pollution emergency such as a chemical/fertilizer spill, manure lagoon breach, etc., the Michigan Department of Agriculture and Rural Development and/or Michigan Department of Environment, Great Lakes, and Energy should be contacted at the following emergency telephone numbers:

Michigan Department of Agriculture & Rural Development: 800-405-0101

Michigan Department of Environment, Great Lakes, and Energy: 800-292-4706

If there is not an emergency, but you have questions on the Michigan Right to Farm Act, or items concerning a farm operation, please contact the:

**Michigan Department of Agriculture & Rural Development (MDARD) Right to Farm
Program (RTF)**

P.O. Box 30017 Lansing, Michigan 48909

517-284-5619

517-335-3329 FAX

(Toll Free) 877- 632-1783

TABLE OF CONTENTS

| | |
|--|------------|
| PREFACE | iii |
| INTRODUCTION | 1 |
| DEFINITIONS | 3 |
| DETERMINING ACCEPTABLE LOCATIONS FOR LIVESTOCK FACILITIES | 5 |
| Additional Considerations for all Livestock Facilities | 11 |
| Additional Considerations for all Livestock Production Facilities | 11 |
| MANURE STORAGE STRUCTURE CHANGE OR INSTALLATION | 12 |
| OFFSITE MANURE STORAGE FACILITIES | 13 |
| DEVELOPING A SITE PLAN AND A MANURE MANAGEMENT SYSTEM PLAN | 14 |
| SITE REVIEW AND VERIFICATION PROCESS | 16 |
| APPENDICES | 19 |
| Appendix A: Michigan Odor Management Plan | 19 |
| Appendix B: Example Dairy Odor Management Plan | 22 |
| Appendix C: Comprehensive Nutrient Management Plan | 26 |
| Appendix D: Manure Storage Facility Plan | 28 |
| Appendix E: Michigan Commission of Agriculture and Rural Development Policy No. 12 | 29 |
| REFERENCES | 32 |
| ADVISORY COMMITTEE | 33 |

PREFACE

The Michigan legislature passed into law the Michigan Right to Farm Act (Act 93 of 1981) which requires the establishment of Generally Accepted Agricultural and Management Practices (GAAMPs). GAAMPs for Site Selection and Odor Control for New and Expanding Livestock Facilities are written to fulfill that purpose and to provide uniform, statewide standards and acceptable management practices based on sound science. These practices can serve producers in the various sectors of the industry to compare or improve their own managerial routines. New scientific discoveries and changing economic conditions may require necessary revision of these GAAMPs.

The GAAMPs that have been developed are as follows:

- 1) 1988 Manure Management and Utilization
- 2) 1991 Pesticide Utilization and Pest Control
- 3) 1993 Nutrient Utilization
- 4) 1995 Care of Farm Animals
- 5) 1996 Cranberry Production
- 6) 2000 Site Selection and Odor Control for New and Expanding Livestock Facilities
- 7) 2003 Irrigation Water Use
- 8) 2010 Farm Markets

These practices were developed with industry, university, and multi-governmental agency input. As agricultural operations continue to change, new practices may be developed to address the concerns of the neighboring community. Agricultural producers who voluntarily follow these practices are provided protection from public or private nuisance litigation under the Right to Farm Act.

This GAAMP does not apply in municipalities with a population of 100,000 or more in which a zoning ordinance has been enacted to allow for agriculture provided that the ordinance designates existing agricultural operations present prior to the ordinance's adoption as legal nonconforming uses as identified by the Right to Farm Act for purposes of scale and type of agricultural use.

The website for the GAAMPs is <http://www.michigan.gov/righttofarm>.

INTRODUCTION

Generally Accepted Agricultural and Management Practices for Site Selection and Odor Control for New and Expanding Livestock Facilities will help determine the suitability of sites for livestock production facilities and livestock facilities and the suitability of sites to place or keep livestock. These GAAMPs provide a planning process that can be used to properly plan new and expanding facilities and to increase the suitability of a particular site thus enhancing neighbor relations.

These GAAMPs for Site Selection and Odor Control for New and Expanding Livestock Facilities are written to provide uniform, statewide standards and acceptable management practices based on sound science. They are intended to provide guidance for the construction of new and expanding livestock facilities and livestock production facilities and/or the associated manure storage facilities for the placement and keeping of any number of livestock.

FARM PLANNING AND SITE DEVELOPMENT

The GAAMPs for site selection and odor control for new and expanding livestock facilities are intended to fulfill three primary objectives:

- 1) Environmental Protection
- 2) Social Considerations (neighbor relations)
- 3) Economic Viability

When all three of these objectives are met, the ability of a farm operation to achieve agricultural sustainability is greatly increased.

Farm planning involves three broad phases: Collection and analysis (understanding the problems and opportunities); decision making; and implementation. Collection and analysis includes: determining objectives, inventorying resources, and analyzing data. Decision support includes formulating alternatives, evaluating alternatives, and making decisions. The final step is implementation.

Producers should utilize recognized industry and university professionals in the evaluation of the economic viability and sustainability of constructing new or expanding existing livestock production facilities and livestock facilities. This evaluation should be comprehensive enough to consider all aspects of livestock production including economics, resources, operation, waste management, and longevity.

The decision to site a livestock production facility or livestock facility can be based on several objectives including: preserving water quality, minimizing odor, working within existing land ownership constraints, future land development patterns, maximizing convenience for the operator, maintaining esthetic character, minimizing conflicts with adjacent land uses, and complying with other applicable local ordinances.

The environmental objectives of these GAAMPs focus specifically on water quality protection and odor control, and how environmental and management factors affect the suitability of sites for livestock production. The suitability of a particular site for a livestock production facility or livestock facility depends upon a number of factors; such as the number of animal units (size); the species of animals; predominant wind directions; land base for use; topography of the surrounding land; adjacent land uses; the availability of Class A roads for feed and product movement; soil types; hydrology; and many others.

Site selection is a complex process, and each site should be assessed individually in terms of its proposed use. These GAAMPs are written in recognition of the importance of site-specificity in siting decisions. While general guidelines apply to all siting decisions, specific criteria are not equally applicable to all types of operations and all locations. In addition to the guidelines provided in these GAAMPs, the United States Department of Agriculture, Natural Resources Conservation Service (USDA-NRCS) technical references, including the Agricultural Waste Management Field Handbook (AWMFH) and the electronic Field Office Technical Guide (eFOTG), are excellent sources for information and standards related to the siting of livestock facilities.

It is recognized that there is potential risk for surface or groundwater pollution, or conflict over excessive odors from a livestock facility. However, the appropriate use of technologies and management practices can minimize these risks, thus allowing the livestock facility to operate with minimal potential for excessive odor or environmental degradation. These measures should be incorporated into a Site Plan and a Manure Management System Plan, both as defined in Section V, which are required for all new and expanding livestock facilities.

Groundwater and surface water quality issues regarding animal agriculture production are addressed in the current "Generally Accepted Agricultural and Management Practices for Manure Management and Utilization" as adopted by Michigan Commission of Agriculture & Rural Development (MCARD) and are not duplicated here. The GAAMPs for Manure Management and Utilization cover runoff control and wastewater management, construction design and management for manure storage and treatment facilities, and manure application to land. In addition, the GAAMPs for Manure Management and Utilization stress the importance of each livestock production facility developing a manure management system plan that focuses on management of manure nutrients and management of manure and odors.

These GAAMPs are referenced in Michigan's Natural Resources and Environmental Protection Act (NREPA), PA 451 of 1994, as amended. NREPA protects the waters of the state from the release of pollutants in quantities and/or concentrations that violate established water quality standards. In addition, the GAAMPs utilize the nationally recognized construction and management standard to provide runoff control for a 25- year, 24-hour rainfall event.

While these GAAMPs establish basic set-back standards for livestock facilities of all sizes, existing land uses, development patterns, the cost-benefit of an investment in animal housing, as well as the sustainability of farm animal production should all be analyzed before construction of a livestock facility and bringing farm animals to a site.

DEFINITIONS

AS REFERENCED IN THESE GAAMPs:

Adjacent Property – Land owned by someone other than the livestock facility owner that borders the property on which a proposed new or expanding livestock facility will be located.

Animal Unit – Defined in Table 1. For those instances not defined in Table 1, one animal unit is defined as one-thousand pounds of live weight.

Distances between a Livestock Facility or Livestock Production Facility and Non-Farm Residences - The span from a livestock facility or livestock production facility and a non-farm residence is measured from the nearest point of the livestock facility or livestock production facility to the nearest point of the non-farm residence.

Existing Livestock Facility – A livestock facility or livestock production facility that has not increased animal unit capacity within the last three years where animals are confined.

Expanding Livestock Facility -A contiguous addition to an existing livestock facility to increase the animal unit capacity. A manure storage structure change or installation to accommodate an increase in animal unit capacity within three years from the construction of the manure storage is an expanding livestock facility. Manure storage structure change or installation at an existing livestock facility to accommodate already existing animal unit capacity is not an expanding livestock facility.

Institutional Controls - Land or resource use restrictions required by state or federal environmental laws to reduce or restrict exposure to hazardous substances, to eliminate a potential exposure pathway, to assure the effectiveness and integrity of contaminant or exposure barriers, to provide for access, or to otherwise assure the effectiveness and integrity or response activities taken in response to environmental contamination. Institutional controls include, but are not limited to, local ordinances or state laws and regulations that limit or prohibit the use of contaminated groundwater, prohibit the raising of livestock, prohibit development in certain locations, or restrict property to certain uses.

Livestock – For purposes of the Site Selection GAAMPs, livestock means those species of farm animals used for human food, fiber, fur, recreation and (or) service to humans(e.g. horse and oxen to pull farm equipment). Livestock includes, but is not limited to, cattle, sheep, new world camelids, goats, bison, privately owned cervids, ratites, swine, equine, poultry, and rabbits. For the purpose of the Site Selection GAAMPs, livestock does not include dogs and cats. Site Selection GAAMPs do not apply to aquaculture and bees.

Livestock Farm Residence - A residential structure owned/rented by the livestock farm operation and those residential structures affiliated by contract or agreement with the livestock facility.

Livestock Facility – Any place where livestock are kept or manure is stored regardless of the number of animals. This does not include pasture land.

Livestock Production Facility - Any place where livestock are kept with a capacity of 50 animal units or greater and/or the associated manure storage structures. Sites such as loafing areas, confinement areas, or feedlots, which have livestock densities that preclude a predominance of desirable forage species as vegetation, are considered part of a livestock production facility. This does not include pastureland. Any livestock production facility within 1,000 feet of another livestock production facility, and under common ownership, constitutes a single livestock production facility.

Manure Storage Structure Change or Installation - An alteration or addition to manure storage at a livestock facility. Size is based on the greater of total animal units housed or animal units served by the facility's manure storage structures.

Migrant Labor Housing Camp – Agricultural employee housing that is licensable by MDARD. For purpose of this GAAMP, a migrant labor housing camp owned by a livestock producer applying for Site Selection GAAMP approval will be considered a livestock farm residence.

New Livestock Production Facility - A place where livestock will be kept and/or manure storage structure that will be built at a new site and is not part of another livestock production facility. A new livestock production facility also is a place that is 1) expanding the animal unit capacity for livestock by 100 percent or greater and the resulting holding animal unit capacity will exceed 749 animal units, or 2) any construction to expand animal unit capacity within three years of completion of an existing facility documented in an MDARD final verification letter and the resulting animal unit capacity will exceed 749 animal units.

Non-Farm Residence - A residential structure that is habitable for human occupation and is not affiliated with the specific livestock facility.

Offsite Manure Storage Facility - A manure storage facility constructed at a site that is not adjacent to a livestock production facility.

Pasture Land - Land primarily used for the production of forage, upon which livestock graze. Pasture land is characterized by a predominance of vegetation consisting of desirable forage. Heavy-use areas within pastures are part of the pasture land. Examples of heavy-use areas include animal travel lanes and small areas immediately adjacent to shade, feed, water, supplement or rubbing stations.

Primarily Residential – Sites are primarily residential if there are more than 13 non-farm residences within 1/8 mile of the site or have any non-farm residence within 250 feet of the livestock facility.

Property Line Setback –The distance from the livestock production facility to the property line as measured from the nearest point of the livestock production facility to the nearest point of the livestock production facility owner's property line. If a producer owns land across a road, the road or right of way does not constitute a property line. Right of way setbacks for public roads, utilities, and easements apply.

Table 1. Animal Units

| Animal Units | 50 | 250 | 500 | 750 | 1,000 |
|--------------------------------|--------------------------|--------|--------|--------|---------|
| Animal Type¹ | Number of Animals | | | | |
| Slaughter and Feeder Cattle | 50 | 250 | 500 | 750 | 1,000 |
| Mature Dairy Cattle | 35 | 175 | 350 | 525 | 700 |
| Swine ² | 125 | 625 | 1,250 | 1,875 | 2,500 |
| Sheep and Lambs | 500 | 2,500 | 5,000 | 7,500 | 10,000 |
| Horses | 25 | 125 | 250 | 375 | 500 |
| Turkeys | 2,750 | 13,750 | 27,500 | 41,250 | 55,000 |
| Laying Hens or Broilers | 5,000 | 25,000 | 50,000 | 75,000 | 100,000 |

¹All other animal classes, types or sizes (eg. Nursery pigs) not in this table, but defined in the Michigan Right to Farm Act or described in Michigan Commission of Agriculture and Rural Development Policy, are to be calculated as one thousand pounds live weight equals one animal unit.

²Weighing over 55 pounds.

DETERMINING ACCEPTABLE LOCATIONS FOR LIVESTOCK FACILITIES

All potential sites for new and expanding livestock facilities can be identified by four general categories. These are:

- Category 1. These are sites normally acceptable for livestock facilities and generally defined as areas that are highly agricultural with few non-farm residences.
- Category 2. These are sites where special technologies and/or management practices could be needed to make new and expanding livestock facilities acceptable. These areas are predominantly agricultural but also have an increased number of non-farm residences.
- Category 3. These are sites that are generally not acceptable for new and expanding livestock production facilities due to environmental concerns or other neighboring land uses.
- Category 4. These are sites that are not acceptable for new and expanding livestock facilities and livestock production facilities.

Livestock facilities in Categories 1, 2 or 3 with less than 50 animal units are not required to go through the site review and verification process, and conform to the provisions of these GAAMPs. However, these operations are required to conform to all other applicable GAAMPs.

Existing livestock facilities installing new, altering, or adding manure storage that is not related to an increase in animal unit capacity are not required to go through the site review and verification process, but must meet the applicable setback criteria under Manure Storage Structure Change or Installation section for this storage to conform to the provisions of Siting GAAMPs.

Category 1 Sites: Sites normally acceptable for livestock facilities.

Category 1 sites are those sites which have been traditionally used for agricultural purposes and are in an area with a relatively low residential housing density. These sites are located where there are five or fewer non-farm residences within $\frac{1}{4}$ mile from a new livestock facility with up to 749 animal units, and within $\frac{1}{2}$ mile from a new livestock facility with 750 animal units or greater.

If the proposed site is within Category 1, it is recognized that this is a site normally acceptable for livestock facilities. If the proposed site is within Category 1 and has a capacity of 50 or more animal units, the producer must follow the MDARD site selection review and verification process as described in Section V. Category 1 sites with less than 1,000 animal units which are able to meet the property line setbacks as listed in Tables 2 and 3, as appropriate, and which meet the other requirements of these GAAMPs, are generally considered as acceptable for Site Selection Verification. An Odor Management Plan (OMP) will not be required for these sites in most circumstances. It is however, recommended that all producers develop and implement an OMP in order to reduce odor concerns for neighboring non-farm residents.

A request to reduce the property line setbacks, as listed in Tables 2 and 3, will require the development of an OMP for verification. All verification requests for Category 1 sites with 1,000 animal units or greater will require the development and implementation of an OMP to specify odor management practices that will provide a 95 percent odor annoyance-free level of performance as determined by the Michigan Revised OFFSET 2018 odor model (Kiefer, 2018). For new livestock facilities, a property line setback reduction shall only be considered for a proposed site in advance of MDARD site suitability approval. MDARD may grant a property line setback reduction of up to fifty percent of the applicable setback distance (Tables 2 and 3) when requested based upon the Odor Management Plan. In all cases, the minimum property line setback will be 250 feet for new livestock facilities. Any reduction beyond this minimum will require a signed variance by the property owners within the original setback distance affected by the reduction. Factors not under direct control of the operator will be considered if an alternative mitigation plan is provided. Local land use may be considered by MDARD in granting setback reductions.

Table 2. Category 1 Site Setbacks, Verification and Notification – New Operations

| Total Animal Units ¹ | Number of Non-Farm Residences within Specified Distance | Property Line Setback² | MDARD Site Review and Verification Process ³ |
|--|--|--|--|
| 50-499 | 0-5 within ¼ mile | 250 ft | Yes |
| 500-749 | 0-5 within ¼ mile | 400 ft | Yes |
| 750-999 | 0-5 within ½ mile | 400 ft | Yes |
| 1000 or more | 0-5 within ½ mile | 600 ft | Yes |

¹ Facilities in Category 1 with less than 50 animal units are not required to go through the site review and verification process to be considered in conformance with the provisions of these GAAMPs.

² May be reduced or increased based upon the Odor Management Plan.

³ To achieve approval and MDARD verification, all livestock facilities must conform to these and all other applicable GAAMPs.

For expanding livestock facilities, a variance for property line setback reduction shall only be considered for a proposed site in advance of MDARD site suitability approval. MDARD may grant a property line setback reduction of up to 50 percent of the setback distance in the following table when requested based upon the Odor Management Plan. The minimum setback will be 125 feet for expanding livestock facilities. Any reduction beyond this minimum will require a signed variance by the property owners that are within the original setback distance affected by the reduction. Local land use may be considered by MDARD in granting setback reductions. Expanding livestock facilities cannot utilize a property line setback less than the property line setback established by structures constructed before 2000 unless the established property line setback is greater than those distances identified in Table 3, in which case setbacks identified in Table 3 and the process detailed above will be used for determining conformance for new or expanding livestock facilities.

Table 3. Category 1 Site Setbacks, Verification and Notification – Expanding Operations

| Total Animal Units ¹ | Number of Non-Farm Residences within Specified Distance | Property Line Setback² | MDARD Site Review and Verification Process ³ |
|--|--|--|--|
| 50-249 | 0-7 within ¼ mile | 125 ft | Yes |
| 250-499 | 0-7 within ¼ mile | 200 ft | Yes |
| 500-749 | 0-7 within ¼ mile | 200 ft | Yes |
| 750-999 | 0-7 within ½ mile | 200 ft | Yes |
| 1000 or more | 0-7 within ½ mile | 300 ft | Yes |

¹ Facilities in Category 1 with less than 50 animal units are not required to go through the site review and verification process to be considered in conformance with the provisions of these GAAMPs.

² May be reduced or increased based upon the Odor Management Plan.

³ To achieve approval and MDARD verification, all livestock facilities must conform to these and all other applicable GAAMPs.

Category 2 Sites: Sites where special technologies and/or management practices may be needed to make new and expanding livestock facilities acceptable.

Category 2 sites are those where site-specific factors may limit the environmental, social, or economic acceptability of the site for livestock facilities and where structural, vegetative, technological, and/or management measures may be necessary to address those limiting factors. These measures should be incorporated into the Site Plan, Odor Management Plan and Manure Management System Plan, which are defined in Section V, and are required for all new and expanding livestock production facilities seeking verification within a Category 2 site.

Tables 4 and 5 show how Category 2 sites are defined and lists property line setbacks and verification requirements. As an example, a proposed site for an expanding livestock production facility (Table 5) with 500 animal units and between 8 and 20 residences within ¼ mile of the facility, would have a setback of 200 feet from the owner’s property line, and would be required to have a site verification request approved by MDARD.

For new livestock facilities, a property line setback reduction shall only be considered for a proposed site in advance of MDARD site suitability approval. MDARD may grant a property line setback reduction of up to fifty percent of the property line setback distance (Table 4) when requested, based upon the Odor Management Plan. The minimum property line setback will be 250 feet for new livestock facilities. Any reduction beyond this minimum will require a signed variance by the property owners that are within the original property line setback distance affected by the reduction. Local land use may be considered by MDARD in granting property line setback reductions.

Table 4. Category 2 Site Setbacks, Verification and Notification – New Operations

| Total Animal Units¹ | Number of Non-Farm Residences within Specified Distance | Property Line Setback ² | MDARD Site Review and Verification Process ³ |
|---------------------------------------|--|---|--|
| 50-249 | 6-13 within ¼ mile | 250 ft | Yes |
| 250-499 | 6-13 within ¼ mile | 300 ft | Yes |
| 500-749 | 6-13 within ¼ mile | 400 ft | Yes |
| 750-999 | 6-13 within ½ mile | 500 ft | Yes |
| 1000 or more | 6-13 within ½ mile | 600 ft | Yes |

¹ Facilities in Category 2 with less than 50 animal units are not required to go through the site review and verification process to be considered in conformance with the provisions of these GAAMPs.

² May be reduced or increased based upon the Odor Management Plan.

³ To achieve approval and MDARD verification, all livestock facilities must conform to these and all other applicable GAAMPs.

For expanding livestock facilities, a property line setback reduction shall only be considered for a proposed site in advance of MDARD site suitability approval. MDARD may grant a property line setback reduction of up to 50 percent of the setback distance in the following table when requested based upon the Odor Management Plan. The minimum setback will be 125 feet for expanding livestock facilities. Any reduction beyond this minimum will require a signed variance by the property owners that are within the original setback distance affected by the reduction. Local land use may be considered by MDARD in granting setback reductions. Expanding livestock facilities cannot utilize a property line setback less than the property line setback established by structures constructed before 2000 unless the established property line setback is greater than those distances identified in Table 5, in which case setbacks identified in Table 5 and the process detailed above will be used for determining conformance for new or expanding structures.

Table 5. Category 2 Site Setbacks, Verification and Notification – Expanding Operations

| Total Animal Units ¹ | Number of Non-Farm Residences within Specified Distance | Property Line Setback ² | MDARD Site Review and Verification Process ³ |
|--|--|---|--|
| 50-249 | 8- 20 within ¼ mile | 125 ft | Yes |
| 250-499 | 8- 20 within ¼ mile | 200 ft | Yes |
| 500-749 | 8- 20 within ¼ mile | 200 ft | Yes |
| 750-999 | 8- 20 within ½ mile | 250 ft | Yes |
| 1000 or more | 8- 20 within ½ mile | 300 ft | Yes |

¹ Facilities in Category 2 with less than 50 animal units are not required to go through the site review and verification process to be considered in conformance with the provisions of these GAAMPs.

² May be reduced or increased based upon the Odor Management Plan.

³ To achieve approval and MDARD verification, all livestock facilities must conform to these and all other applicable GAAMPs.

Category 3 Sites: Sites generally not acceptable for new and expanding livestock production facilities.

Category 3 sites are generally not suitable for livestock production facilities. They may be suitable for livestock facilities with less than 50 animal units. Any proposed site with more than the maximum number of non-farm residences specified in Table 4 for a new operation, and Table 5 for an expanding operation is a Category 3 or a Category 4 site. New livestock production facilities are not acceptable for that site. However, expanding livestock production facilities may be acceptable if the farm submits an Odor Management Plan and site verification approval is determined by MDARD. Additional odor reduction and control technologies and (or) management practices may be necessary to obtain site verification approval.

Category 4 Sites: Sites not acceptable for new and expanding livestock facilities and livestock production facilities under the Siting GAAMPs.

Sites that are primarily residential in current land use are not acceptable under the Siting GAAMPs for livestock facilities or livestock production facilities regardless of the number of animal units. The placement or keeping of any number of livestock on those sites does not conform to the Siting GAAMPs.

Additional Considerations for all Livestock Facilities

1. Sites where institutional controls have been adopted to prohibit livestock agriculture are not acceptable for new and expanding livestock facilities if all of these are true:
 - a) The institutional controls were approved by the Michigan Department of Environment, Great Lakes, and Energy pursuant to the Natural Resources and Environmental Protection Act (NREPA), MCL 324.101 et seq., or the United States Environmental Protection Agency pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act or the Resource Conservation and Recovery Act; and
 - b) The institutional controls are necessary to protect human or animal health; and
 - c) Unacceptability has been confirmed by a vote of the Michigan Commission of Agriculture and Rural Development.

Additional Considerations for all Livestock Production Facilities

The following circumstances or neighboring land uses constitute conditions that are considered unacceptable for construction of new and expanding livestock production facilities or may require additional setback distances or approval from the appropriate agency, as indicated, to be considered acceptable.

1. Wetlands - New and expanding livestock production facilities and manure storage facilities shall not be constructed within a wetland as defined under MCL 324.30301 (NREPA, PA 451 of 1994, as amended).
2. Floodplain - New and expanding livestock production facilities and manure storage facilities shall not be constructed in an area where the facilities would be inundated with surface water in a 25-year flood event.

The following circumstances require minimum setback distances in order to be considered acceptable for construction of new livestock production facilities in category 1, 2 or 3 sites. In addition, review and approval of expansion in these areas is required by the appropriate agency, as indicated.

3. Drinking Water Sources

Groundwater protection - New livestock production facilities shall not be constructed within a ten-year time-of-travel zone designated as a wellhead protection area as recognized by the Michigan Department of Environment, Great Lakes, and Energy (EGLE), pursuant to programs established under the Michigan Safe Drinking Water Act, PA 399 of 1976, as amended.

An expanding livestock production facility may be constructed with review and approval by the local unit of government administering the Wellhead Protection Program.

For sites where no designated wellhead protection area has been established, construction of new and expanding livestock production facilities shall not be closer than 2000 feet to a Type I or Type II a public water supply and shall not be closer than 800 feet to a Type IIb or Type III public water supply. A new or expanding livestock production facility may be located closer than these distances, upon obtaining a deviation from well isolation distance through EGLE or the local health department. New and expanding livestock production facilities should not be constructed within 75 feet of any known wellhead of an existing private domestic water supply.

Surface water protection - New and expanding livestock production facilities shall not be constructed within the 100-year flood plain of a stream reach where a community surface water source is located, unless the livestock production facility is located downstream of the surface water intake.

4. High public use areas - Areas of high public use or where a high population density exists, are subject to setbacks to minimize the potential effects of a livestock production facility on the people that use these areas. New livestock production facilities should not be constructed within 1,500 feet of hospitals; churches; licensed commercial elder care facilities; licensed commercial childcare facilities; school, government, commercial, professional, office or retail buildings; publicly accessible parks or campgrounds (excluding terrestrial and aquatic trails). Existing livestock production facilities may be expanded within 1,500 feet of high public use areas with appropriate MDARD review and verification. The review process will include input from the local unit of government and from people who utilize those high public use areas within the 1,500 foot setback.
5. Migrant Labor Housing Camp – New and expanding livestock production facilities shall be constructed a minimum of 500 feet from any existing migrant labor housing camp, unless a variance is obtained from the United States Department of Labor.

MANURE STORAGE STRUCTURE CHANGE OR INSTALLATION

All manure storage structure changes and installations at existing livestock facilities must be at least 250 feet from non-farm residences or no closer than the established setback distance.

For manure storage structure changes or installations setback distances at an existing livestock facility with 50 Animal Units or more, the minimum setback distances from property lines are shown in Table 6, effective with the release of this GAAMP in 2021. All setback distances should be maximized to the extent possible to minimize odor impacts on neighbors.

Table 6 – Property Line Setbacks for Manure Storage Structure Change or Installation

| Total Animal Units (AU) ¹ | Property Line Setback Distances |
|--------------------------------------|---------------------------------|
| 50 - 249 | 125 ft or ESD ² |
| 250-749 | 200 ft or ESD |
| 750-999 | 250 ft or ESD |
| 1,000 or more | 300 ft or ESD |

¹AU- Animal Units as defined in Table 1

²Established Setback Distance – An established animal production structure exists (a lot or pasture fence line is not considered part of this criterion)

Manure storage structure changes or installations at livestock facilities < 50 animal units (AU) are exempt from the setbacks in Table 6.

Any reduction to the established property line setbacks for a manure storage structure change or installation will require a signed variance by the property owners that are within the original setback distance affected by the reduction.

Manure storage structure changes or installations must be in conformance with the Manure Management and Utilization GAAMPs; Construction Design and Management for Manure Storage and Treatment Facilities section.

OFFSITE MANURE STORAGE FACILITIES

Table 6. Site Setbacks, Verification, and Notification – New or Expanding Operations

| Storage Surface Area at Operational Volume Elevation, sq. ft. | | Property Line Setback, ft. | MDARD Site Review and Verification Process | |
|---|--|----------------------------|--|-----------------------|
| Liquid Manure | | Solid Manure | | |
| Pond-type storage | Fabricated structure-type storage, i.e. reinforced concrete or steel | | | |
| ≤4,200 | ≤2,000 | ≤26,000 | 250 ¹ | Upon Producer Request |
| >4,200 | >2,000 | >26,000 | TBD ² | Yes |

¹May be reduced up to 50% or increased based upon the Odor Management Plan.

²Distance to be determined based upon the Odor Management Plan but no less than 250 feet.

DEVELOPING A SITE PLAN AND A MANURE MANAGEMENT SYSTEM PLAN

Site Plan

A Site Plan is a comprehensive review of a proposed location for a livestock production facility, and includes at a minimum:

- A site map, including the following features (to scale):
 - ~ Property lines, easements, rights-of-way, and any deed restrictions.
 - ~ Public utilities, overhead power lines, cable, pipelines, and legally established public drains.
 - ~ Positions of buildings, wells, septic systems, culverts, drains and waterways, walls, fences, roads, and other paved areas.
 - ~ Location, type, and size of existing utilities.
 - ~ Location of wetlands, streams, and other bodies of water.
- Existing land uses for contiguous land.
- Names and addresses of adjacent property owners.
- Basis of livestock production facility design.
- Size and location of structures.

- A soils map of the area where all livestock production facilities are located.
- Location and distance to the non-farm residences within ½ mile.
- Location and distance to the nearest primarily residential area.
- Topographic map of site and surrounding area.
- Property deed restrictions.

Manure Management System Plan¹

The Manure Management System Plan (MMSP) describes the system of structural, vegetative, and management practices that the owner/operator has chosen to implement on the site for all proposed new and existing facilities. Items to address in the MMSP are described in the GAAMPs for Manure Management and Utilization. The MMSP for a site verification request will include these additional components:

- Planning and installation of manure management system components to ensure proper function of the entire system.
- Operation and Maintenance Plan: This written plan identifies the major structural components of the manure management system, and includes inspection frequency, areas to address, and regular maintenance records.
- Odor Management: Odor management and control is a primary focus relating to the social consideration objectives of these GAAMPs. For new and expanding livestock production facilities, an Odor Management Plan may be required (refer to Category 1 and Category 2 to determine whether an OMP is required for your facility) as part of the Manure Management System Plan for conformance with these GAAMPs. Appendix A includes a detailed outline for development of an effective OMP.
- Manure Storage Facility Plan: Construction plans detailing the design of manure storage components must be submitted to MDARD for review and approval. Structures should be designed in accordance with appropriate design standards. Construction plans should include the design standards utilized, design storage volume, size, and layout of the structure, materials specifications, soil conditions in the structure area, site suitability, subsurface investigation, elevations, installation requirements, and appropriate safety features. The plans will be reviewed for conformance with appropriate specifications. Structures should be designed and constructed by competent individuals or companies utilizing generally accepted standards, guidelines, and specifications (e.g. NRCS, Midwest Plan Service.).

¹ Due to your particular circumstances, a Comprehensive Nutrient Management Plan (CNMP) may be required, as referenced in Appendix C.

Other items that may accompany the Manure Management System Plan include the following:

- Emergency Action Plan - Through development of an Emergency Action Plan, identify the actions to take and contacts to be made in the event of a spill or discharge.
- Veterinary Waste Management Plan - Identify the processes and procedures used to safely dispose of livestock-related veterinary wastes produced on the farm.
- Conservation Plan - Field-specific plan describing the structural, vegetative and management measures for the fields where manure and other by-products will be applied.
- Mortality Management Plan - Identify the processes and procedures used to safely dispose of the bodies of dead animals (Bodies of Dead Animals Act, PA 239 of 1994, as amended).

SITE REVIEW AND VERIFICATION PROCESS

Producers with facilities that require MDARD verification in Categories 1, 2, or 3 should contact the MDARD and begin the site selection review and verification process prior to the construction of new livestock facilities and expansion of existing livestock facilities. Producers with new and expanding livestock facilities that have a total animal unit capacity of less than 50 animal units may request siting verification from MDARD. They are not required to do so. The MDARD site review and verification process will use criteria applicable to the animal unit capacity for the number of animal units of the proposed facility. The references to local unit of government in this section are intended to notify the township and county in which the farm operation is located.

To begin the review and verification process, contact the Michigan Department of Agriculture and Rural Development, Right to Farm Program at 877-632-1783. This toll free number is operational during normal business hours. The following steps outline this process:

1) Application for Siting Verification:

A request to begin the site review and verification process can be made by submitting a letter from the responsible party to the MDARD, Right to Farm Program. This letter should outline the proposed new construction or expansion project, any areas of concern, agencies and individuals the producer is already working with, and the proposed timeline. The responsible party must also submit a complete site verification request. A request application and a checklist are available at www.michigan.gov/gaamps. The checklist will assist you in identifying environmental or social areas of concern. If special technologies or management practices are to be implemented for the successful operation of the livestock production facility, these must be included in the siting request package.

Producers may also utilize recognized industry, university, and agency professionals in the development of their siting request, site plan, and manure management system plan.

Upon submitting a site verification request to MDARD, the producer must individually notify all non-farm residences identified in Tables 2 through 5 and listed in the Site Selection GAAMPs verification checklist (available at: http://www.michigan.gov/documents/MDA_SitingChecklist_116499_7.pdf) under Appendix A “Certification of Notification of Non-Farm residences that the producer has made application for site verification with MDARD. Documentation that notification has occurred is required as part of the site verification request application.

2) Siting Request Review:

Upon receipt of the siting request package, MDARD will send an acknowledgement letter to the producer. This acknowledgement letter will also be sent to the local unit of government to inform them of the proposed livestock production facility siting request.

For purposes of the Siting GAAMPs, a formal complaint or a request by a livestock facility for a GAAMPs determination will result in a program review of adjacent land uses for the site in question. If the site is primarily residential, then the site is not acceptable for a livestock facility under the Siting GAAMPs.

MDARD will review the completed siting requests upon receipt. The review will determine whether the siting request information submitted conforms to these GAAMPs. MDARD will conduct preliminary site visits to proposed new and expanding livestock production facilities. This site visit will take place upon receipt of the complete siting request package and will focus on addressing conformance with the plan components, identifying areas of concern, and verifying information submitted in the siting request. If deficiencies in the siting request are identified, MDARD will communicate those to the producer for further modification. At the request of the producer, a preliminary site visit could be conducted prior to submission of the complete siting request package.

3) Site Suitability Determination:

MDARD will determine if the siting request is in conformance with the GAAMPs for Site Selection and Odor Control for New and Expanding Livestock Production Facilities. This determination will be conveyed to the responsible party on MDARD letterhead and will be known as “Site Suitability Approval.” This approval will also be copied to the local unit of government, and construction must begin within three years from the date of approval by MDARD. The start of construction is defined as the physical movement of soil or installation of permanent structures. An additional two-year extension to begin construction after three years from the date of the initial approval may be requested in writing to MDARD.

4) Construction Plan Submittal and Review:

Design plans for the manure storage structures must be submitted to MDARD for review and approval and should be submitted prior to construction.

If the plans are found to be in accordance with the required specifications, a letter indicating “Approval of Design Plans” will be sent to the owner. MDARD

will conduct construction site inspections for quality assurance as needed to determine whether the structures are being built according to the accepted plans. The owner should notify MDARD one month prior to beginning the installation of the manure storage facility.

5) Final Inspection:

MDARD will conduct a final inspection, preferably, prior to animal population. The completed project must be reviewed by MDARD to assure conformance with these GAAMPs. The facility must be completed in conformance with the verification request that has been approved by MDARD. Once the facility has been constructed and found in conformance with these GAAMPs, a final verification letter will be sent to the producer. This letter will be copied to the local unit of government.

Appeal of Site Suitability Approval Determination:

The Site Suitability Determination decision by the Michigan Department of Agriculture and Rural Development may be appealed as per Michigan Department of Agriculture and Rural Development Commission Policy number 12. This policy can be found at http://www.michigan.gov/mdard/0,4610,7-125-1572_2878---,00.html or in Appendix E.

APPENDICES

Appendix A: Michigan Odor Management Plan

The goal of an effective Odor Management Plan is to identify opportunities and propose practices and actions to reduce the frequency, intensity, duration, and offensiveness of odors that neighbors may experience, in such a way that tends to minimize impact on neighbors and create a positive attitude toward the farm. Because of the subjective nature of human responses to certain odors, recommending appropriate technology and management practices is not an exact science. Resources to help identify appropriate management practices to minimize odors are available at: <http://www.animalagteam.msu.edu>

An Odor Management Plan shall include these six basic components:

1. Identification of potential sources of significant odors.
2. Evaluation of the potential magnitude of each odor source.
3. Application and evaluation of odor nuisance potential using Michigan Revised OFFSET 2018 (Kiefer, 2018).
4. Identification of current, planned, and potential odor control practices.
5. A plan to monitor odor impacts and respond to odor complaints.
6. A strategy to develop and maintain good neighbor and community relations.

Note that items 1, 2, and 4 of the Odor Management Plan components may be addressed in tabular format as demonstrated in the example Odor Management Plan (Appendix B).

Component Details:

1. Identify and describe all potential significant sources of odor associated with the farm. Odor sources may include:
 - Animal housing
 - Manure and wastewater storage and treatment facilities
 - Feed storage and management
 - Manure transfer and agitation

Land application areas are addressed in the MMSP.

2. Evaluate the magnitude of each odor source in relation to potential impact on neighbors and other community members.

Odor magnitude is a factor of both the type and size of the source.

Michigan Revised OFFSET 2018 is one means of estimating odor source magnitudes and potential impacts from animal production facilities. Use the Michigan Revised OFFSET 2018 odor emission values to rank each potential odor source on your farm. Note that some odor sources are not considered in this tool.

For odor sources not addressed by Michigan Revised OFFSET 2018, a subjective potential odor magnitude evaluation of high, medium, or low, relative to other odor sources on the farm should be conducted.

3. Analyze potential odor impact on neighboring residences and other non-farm areas with Michigan Revised OFFSET 2018, utilizing the 95 percent odor annoyance-free level. The intent of utilizing the model is to have no non-farm residences for new facilities or no new non-farm residences for expanding facilities to fall within the 5 percent odor footprint. Evaluate the conclusions as follows:
 - Identify specific odor impact on neighboring residences, utilizing Michigan Revised OFFSET 2018 results and other site-specific odor impact considerations.
 - Assess the magnitude of potential odor-based conflict.
 - Develop an appropriate conflict abatement strategy for each odor-sensitive area of concern which may include:
 - Signed letter from property owner consenting to approval of the new or expanded facility.
 - Description of intensified community relations practices for these homes or other odor sensitive areas.
 - Explanation of specific variables in Michigan Revised OFFSET 2018 that may reduce the concern, such as, variables in terrain, wind velocity, facility layout, variation of facility from typical, and odor management practices not credited in Michigan Revised OFFSET 2018.
4. Identify management systems and practices for odor control including:
 - Practices currently being implemented.
 - New practices that are planned for implementation.
 - Practices that will be considered, if odor concerns arise.

There are numerous odor reduction practices available; however, not all have been proven equally effective. Some practices may reduce odor from one part of the system, but increase it in another. For example, long-term manure storage will reduce the frequency of agitation of the storage thus producing less frequent odor events, but will likely result in greater intensity and offensiveness of each odor event.

Each farm situation is unique and requires site-specific identification and implementation of odor reduction practices to suit the practical and economic limitations of a specific farm. MDARD will consider mitigating factors that are under the direct control of the operator. Factors not under direct control of the operator will be considered if an alternative mitigation plan is provided.

Simple changes in management, such as, but not limited to, improving farmstead drainage, collecting spilled feed, and regular fan maintenance will reduce overall farmstead odor.

“Practices that will be considered, if odor concerns increase” should include only those odor management practices that the producer would seriously consider implementing, if the need arose.

Improved management, as well as, the adoption of new technologies to control odor offer a means for reducing odor from livestock production facilities and manure storage facilities, thus broadening the potential area within which livestock production facilities may be appropriately sited. Odor reduction technologies continue to evolve. Current technologies include, but are not limited to, vent bio-filters, manure storage covers, and composting.

Each technology presents different challenges and opportunities. These should be considered during the planning process for a new or expanding animal livestock facility.

5. Describe the plan to track odor impact and the response to odor concerns as they arise.
 - Outline how significant odor events will be recognized and tracked including potential impact on neighbors and others. For example, one could record odor events noticed by those working on and/or cooperating with the farm. If odor is noticeable to you, your family, or employees, then it is likely noticeable to others.
 - Explain how an odor complaint will be addressed.
 - Indicate the point at which additional odor control measures will be pursued.
6. Identify the strategy to be implemented to establish and maintain a working relationship with neighbors and community members.

Elements of a community relations plan may include:

- Conducting farming practices that result in peak odor generation at times that will be least problematic for neighbors.
- Notifying neighbors of when there will be an increase in odors.
- Hosting an annual neighborhood farm tour to provide information about your farm operation.
- Sending a regular farm newsletter to potentially affected community members.
- Keeping the farmstead esthetically pleasing.
- Supporting community events and causes.

Appendix B: Example Dairy Odor Management Plan

The Odor Management Plan includes the following text and tables and output from Michigan Revised OFFSET, which is not shown here.

Overview

The existing 1,200 cow facility is expanding to 1,700 cows. The proposed expansion involves the addition of another 500 cow freestall barn, expansion of the primary sand- laden manure storage, and the addition of another earthen storage for milking center wastewater. All of the additional facilities are located to the south and west of the existing facility.

Odor Source Identification & Assessment

Refer to attached Odor Source Assessment table.

Odor Management Practices

Refer to attached Odor Management Practices table.

Potential Odor Impact Analysis

Michigan Revised OFFSET 2018 has identified two non-farm residences that are definitely within the odor impact zone prior to the expansion and three additional homes that are likely impacted (see Michigan Revised OFFSET 2018 output). An additional five homes are added to the odor awareness zone as a result of the proposed expansion.

The potentially odor-impacted homes are at the following addresses:

(List addresses and homeowner names in order of proximity to odor source.)

All homeowners, with the exception of one, have signed a letter acknowledging the proposed expansion and indicating that they do not object to it proceeding. The lone exception is the residence at (*list address*). This resident was reluctant to sign a letter, but has verbally accepted the expansion. He is also a livestock producer whose odor awareness zone from Michigan Revised OFFSET 2018 would likely overlap the dairy farms. He also has a working relationship with the Example Dairy as a producer of corn grain for dairy feed.

Of the other homes in the odor awareness zone, three are currently or very recently have been active dairy farmers themselves. Another is a landlord of property that is rented and included in the farm CNMP/MMSP.

The three remaining homes are the most distant from the center of the odor awareness zone and furthest from the specific area of the facility expansion.

Odor Tracking and Response

Tracking of odor concerns includes two approaches:

1. All farm employees and some routine farm service providers will be asked to report noticeable offensive odor events as they come and go from the farm and travel the community.
2. The intent is to establish and maintain an effective, open line of communication with immediate neighbors so that they too will be comfortable reporting odor events to example dairy.
3. Response to odor complaints or events reported by neighbors will include investigation of the primary odor incident source on the farm. For example, is it associated with storage agitation, field application, or no specific farm activity? The farm will report back to the person reporting the odor event within 24 hours, or as soon as possible thereafter. Included in the response will be the reason for the odor event, an acknowledgement of the concern, steps – if any – to be taken to prevent it in the future, and a thank you for bringing it to the farm's attention.

If a pattern is identified among odor event complaints by neighbors, an outside observer, such as MSU Extension or MDARD, will be asked to provide an objective analysis of the situation. If the concern is confirmed to be legitimate by a second objective observer, actions will be taken to further control odor per, or comparable to, odor management practices identified in the Odor Management Plan.

Community Relations

In order to develop and maintain a positive relationship with the entire community, the following steps are planned:

1. Keeping the farmstead area esthetically pleasing will continue to be a high priority.
2. Each spring, a farm newsletter will be sent to all appropriate community members describing farm activities, personnel, and management.
3. A community picnic and farm tour will be held at least semi-annually for all in the immediate community and manure application areas.
4. Example Dairy Farm will make itself available to local schools for farm visits as field trips or school projects as appropriate.
5. We will seek to participate in local community events and youth activities, such as the local town festival and youth athletic teams.
6. Additional opportunities to strengthen community relations will be considered whenever they arise.
7. Notify potentially impacted neighboring residences at least 24 hours in advance of manure application.

(The above list of community relations practices may be longer than most farms find necessary, but it provides several examples that farms might consider.)

Odor Source Assessment – proposed facility

| Potential Odor Source | Description | Odor Emission Number ¹ | Odor Control Factors ² | | | Odor Emission Factors ^{1,3} | | |
|---------------------------|---|-----------------------------------|-----------------------------------|---------|-----------|--------------------------------------|---------|-----------|
| | | | current | planned | potential | current | planned | potential |
| Large Manure Storage | Sand Land Manure storage for center-drive through barns (170 x 340) | 13 | 0.5 + NV | | | 168.9 | | |
| Freestall Barns | Freestall barns (187,104 sq. ft.) | 6 | | NV | | 112.3 | | |
| Milking Center Wastewater | Earthen storages for milking center wastewater. Is recycled to flush holding and treatment areas (49,600 sq. ft.) | 13 | NV | | 0.1 | 50.4 | | 5.0 |
| Run Off Storage | Collects rain runoff from open lot and silage pads (90 x 120) | 13 | NV | | | 14 | | |
| Outside Lots | Outside concrete housing lot (16,200 sq. ft.) | 4 | | | NV | 6.5 | | |
| Settling Basins | Holding area flushed material settling area prior to pumping of liquid to milking center wastewater storage (30 x 60) | 28 | NV | NV | NV | 5 | | |
| Bedded Open Housing Barns | Maternity & sick pens (22,620 sq. ft.) | 2 | | | | 4.5 | | |
| Open Lot Manure storage | Short-term manure storage (70 x 20) | 13 | 0.5 + NV | | | .9 | | |
| Agitation | Agitation of manure storages | Medium | | | | M | M | M |
| Land Application | Field application of liquid manure | High | NV | | | M | M | M |
| Silage & Feed Storage | Concrete pad and bunker silos (300 x 350) | Medium | NV | | | L | L | L |

1. Michigan Revised OFFSET value if available or High, Medium, Low for sources not addressed in Michigan Revised OFFSET

2. NV = No Value available in Michigan Revised OFFSET; however, a defensible odor control factor is applicable per Odor Management Practices table.

3. Odor Emission Factors are equal to the odor emission number, multiplied by the surface area (ft²) and odor control factor, divided by 10,000.

Odor Management Practices

| Odor Source | Odor Management Practices & Reduction Factor | | |
|---------------------------|--|--|--|
| | Current | Planned | Potential |
| Large Manure Storage | <ol style="list-style-type: none"> 1. Approximately eight months of potential storage results in agitation being required only 2-3 times per year. 2. The natural plant fiber in the manure results in a crusting of the manure. (OCF = 0.5) | | |
| Freestall Barns | | <ol style="list-style-type: none"> 1. Plans include the planting of a tree shelterbelt the length of the freestall barns, parlor, and treatment area. | |
| Milking Center Wastewater | <ol style="list-style-type: none"> 1. Fills from bottom 2. Long term storage facilitates minimal disturbance of only about two times per year. | | <ol style="list-style-type: none"> 3. Impermeable synthetic cover (OCF = 0.1) |
| Run Off Storage | <ol style="list-style-type: none"> 1. Long-term storage, disturbed only 1-2 times per year | | |
| Outside Lots | | | <ol style="list-style-type: none"> 1. Lot could be reduced in size. |
| Settling Basins | <ol style="list-style-type: none"> 1. Cleaned out frequently, about every ten days, minimizing anaerobic production of odors. | <ol style="list-style-type: none"> 2. Plans include the planting of tree shelterbelt between the basins and the road/property line. | |
| Bedded Barns | | | |
| Open Lot Manure Storage | <ol style="list-style-type: none"> 1. Storage is emptied frequently so that anaerobic activity is limited. 2. Storage crusts (OCF = 0.5) | | |
| Agitation | | | |
| Land Application | <ol style="list-style-type: none"> 1. Manure is injected or incorporated whenever field conditions permit. 2. Weekend and holiday application is avoided. | | |
| Silage & Feed Storage | <ol style="list-style-type: none"> 1. Silage piles are covered with plastic with clean water diverted off of the pile. 2. Forages harvested at recommended moisture. 3. Concrete pad is mechanically swept at least once per week. | | |

Appendix C: Comprehensive Nutrient Management Plan

A Comprehensive Nutrient Management Plan (CNMP) is the next step beyond a Manure Management System Plan (MMSP). All efforts put towards an MMSP may be utilized in the development of a CNMP as it is founded on the same eight components as the MMSP, with a few significant differences. Some of the “optional” sub-components of an MMSP are required in a CNMP. Examples include veterinary waste disposal and mortality management. In addition, the “production” component is more detailed regarding management of rainwater, plate cooler water, and milk house wastewater.

Thorough calculations are also needed to document animal manure production.

Another difference between an MMSP and a CNMP is in the “Utilization” component. With an MMSP, nutrients need to be applied at agronomic rates and according to realistic yield goals. However, with a CNMP, a more extensive analysis of field application is conducted. This analysis includes the use of the Manure Application Risk Index (MARI) to determine suitability for winter spreading, and the Revised Universal Soil Loss Equation (RUSLE) to determine potential nutrient loss from erosive forces, and other farm specific conservation practices. More detail regarding the timing and method of manure applications and long term cropping system/plans must be documented in a CNMP.

Additional information on potential adverse impacts to surface and groundwater and preventative measures to protect these resources are identified in a CNMP. Although the CNMP provides the framework for consistent documentation of a number of practices, the CNMP is a planning tool not a documentation package.

Odor management is included in both the MMSP and CNMP.

Implementation of an MMSP is ongoing. A CNMP implementation schedule typically includes long-term changes. These often include installation of new structures and/or changes in farm management practices that are usually phased in over a longer period of time. Such changes are outlined in the CNMP implementation schedule, providing a reference to the producer for planning to implement changes within their own constraints.

As is described above, a producer with a sound MMSP is well on their way to developing a CNMP. Time spent developing and using a MMSP will help position the producer to ultimately develop a CNMP on their farm, if they decide to proceed to that level or when they are required to do so.

WHO NEEDS A CNMP?

1. Some livestock production facilities receiving technical and/or financial assistance through USDA-NRCS Farm Bill program contracts.
2. A livestock production facility that a) applies for coverage with the EGLE's National Pollutant Discharge Elimination System (NPDES) permit, or b) is directed by EGLE on a case by case basis.
3. A livestock farm that is required to have a CNMP as a result of NPDES permit coverage that desires third party verification in the MDARD's Michigan Agriculture Environmental Assurance Program (MAEAP) Livestock System verification.

For additional information regarding the permit, go to: www.michigan.gov/EGLE.

For additional information regarding MAEAP, go to: www.maeap.org or telephone 517-284-5609.

Appendix D: Manure Storage Facility Plan

Construction plans detailing the design of manure storage components must be submitted to MDARD for review and approval. Structures must be designed and constructed in accordance with appropriate design standards (e.g. Michigan NRCS eFOTG Waste Storage Facility (No.) 313 or Midwest Plan Service MWPS-36 Concrete Manure Storages Handbook), that are current at the time of approval of this GAAMP.

Plans must include the following information:

- Design Standards utilized.
- Design storage volume as justified by nutrient utilization plan, runoff volume, precipitation volume, and freeboard.
- Size of structure, including length, width, and depth.
- Materials to be utilized for the construction of the structure, this should include specifications for concrete mixes, flexible membranes, and soil data, as appropriate.
- Subsurface Investigation information to include an adequate representation of soil borings based upon the surface area of the structure. The borings must extend to a depth of at least two feet below the bottom of the structure, and must indicate the depth to high water and any seeps encountered. The soils must be classified according to the Unified Soil Classification System (ASTM D2487 or ASTM D2488).
- For a compacted earth-lined structure permeability test or Plasticity Index (PI) and Atterberg Limits must be submitted for the soil samples.
- Isolation distance from the structure to the drinking water well and isolation reduction criteria worksheet if applicable.
- Method of solids removal to be utilized.
- Elevation of structure relative to surrounding area must be included.
- Construction requirements.
- Appropriate safety features (e.g. fencing, safety signs, ladders, or ropes).
- If a treatment system (e.g. anaerobic digester or gasification) will be utilized, all associated design plans and specifications must be submitted.
- Where substantial changes to the original plans occurred during construction, as built plans must be submitted for review.

Structures should be designed and constructed by individuals or companies qualified in the appropriate area of expertise for that work.

Appendix E: Michigan Commission of Agriculture and Rural Development Policy No. 12

Policy Title: **APPEALS FROM MDARD'S SITE SUITABILITY DETERMINATIONS**

Under the Generally Accepted Agricultural and Management Practices for Site Selection and Odor Control for New and Expanding Livestock Facilities (Site Selection GAAMP), farms may request a site suitability determination from MDARD. MDARD's site suitability determinations are sent to the farmer and the local unit of government and posted on MDARD's RTF website. MDARD's site suitability determination can be appealed to MDARD's Director as provided below.

A. Who can request to appeal MDARD's site suitability determination?

The following people or entities can request to appeal MDARD's site suitability determination:

- The owner of the proposed livestock facility.
- A person with property within one-half mile of the site of the proposed livestock facility.
- The local unit of government in which the site for the proposed livestock facility is located.
- Local unit of government which is within one-half mile of the proposed livestock facility.

B. Timing of a request to appeal

A request to appeal must be filed within 30 days from the date MDARD's site suitability determination is posted on MDARD's Right to Farm Siting website.

C. Contents of a request to appeal

A request to appeal MDARD's site suitability determination is made by sending a written description of the appeal including all documentation supporting the appeal to MDARD's Director through the Commission email at MDA-Ag-Commission@michigan.gov.

The request to appeal must identify with specificity the section or requirement in the Site Selection GAAMPs that the requestor believes MDARD failed to or improperly applied when it made its site suitability determination.

The request for appeal must include relevant facts, data, analysis, and supporting documentation for the appellant's position.

A request to appeal that does not identify with specificity the manner in which MDARD failed to or improperly applied the Site Selection GAAMPs or does not provide supporting documentation will be denied. The Director will notify the Site Selection GAAMPs Chair, as well as the Commission of Agriculture and Rural Development of this decision. MDARD will send a letter to the entity who submitted the request to appeal stating the reason the request has been denied. A denial of a request to appeal is a final agency decision on MDARD's site suitability determination.

A request to appeal that meets the requirements of this section will be approved and will proceed through the appeal process outlined below. MDARD shall make all determinations regarding requests to appeal within 14 days after the close of the 30- day appeal window.

D. Appeal process

Once MDARD approves a request to appeal, the following process will be initiated:

1. MDARD will ask the Chairperson of the Site Selection GAAMPs Committee to convene a panel of recognized professionals to review MDARD's site suitability determination. The panel of recognized professionals may include, but are not limited to, personnel from the following: conservation districts, industry representatives, Michigan Department of Environment, Great Lakes, and Energy, professional consultants and contractors, professional engineers, the United States Department of Agriculture - Natural Resources Conservation Service, university agricultural engineers, and other university specialists and shall contain no less than three recognized professionals.
2. Within 28 days, the panel of recognized professionals shall review MDARD's site suitability determination and consider the information provided by the Appellant. The panel of recognized professionals shall create a written report to be considered at the Commission's next scheduled public meeting.
3. The Commission will consider the panel of recognized professionals report, oral or written comments from the appellant(s), and other public comments regarding MDARD's site suitability determination.
4. The Commission shall make a recommendation to the MDARD Director. The Commission's recommendation can take one of three forms: (i) approve MDARD's site suitability determination; (ii) reverse MDARD's site suitability determination; or (iii) send the case back to the panel of recognized professionals or MDARD staff with instructions to consider certain factors or issues that were not sufficiently considered during the panel's initial review, including a timeframe for providing the information to the Commission. In the event of a tie vote by the Commission, the matter

shall be submitted to the Director without a recommendation from the Commission.

5. The Director shall issue a written final decision regarding the site suitability determination within 14 days of the Commission's recommendation/ submission.
6. Following the Director's final decision, the farmer, appellant, and local unit of government will be sent MDARD's final decision and the final decision will be posted on the MDARD RTF Siting website.

Approved in St. Johns, Michigan

May 15, 2019

REFERENCES

Jacobsen, Larry and Huiqing Guo. *An Odor Setback Estimator for Feedlots (OSEFF)*. BAE Department, University of Minnesota. (Minnesota Odor Estimator Model).

Jacobson, Larry; Huiqing Guo; Schmidt, David; Nicolai, Richard; Zhu, Jun; and Janni, Kevin. *Worksheet for the Odor Rating System to Estimate Setback Distances for Animal Production Sites*. Version 1.0. BAE Department. University of Minnesota. (Minnesota Odor Estimator Model).

Kiefer, M.T. 2018. Michigan Revised OFFSET 2018 User's Guide: Fundamental Principles, Development History, and User Manual.

The Michigan Natural Resources and Environmental Protection Act, PA 451 of 1994, as amended.

MCARD. 2016. Right to Farm. *Generally Accepted Agricultural and Management Practices for Manure Management and Utilization*. Michigan Commission of Agriculture & Rural Development.

Michigan Right to Farm Act, PA 93 of 1981, as amended.

National Pork Producers Council On-Farm Odor Assessment Program.

United States Department of Agriculture, Natural Resources Conservation Service, *Field Office Technical Guide*.

United States Department of Agriculture, Natural Resources Conservation Service, *Agricultural Waste Management Field Handbook*.

ADVISORY COMMITTEE

Listed below are the advisory committee members for the Generally Accepted Agricultural and Management Practices for Site Selection and Odor Control for New and Expanding Livestock Facilities.

Dale Rozeboom, Chair
Department of Animal
Science

474 S. Shaw Lane
2209 Anthony Hall
Michigan State
University East
Lansing, MI 48824
517-355-8398
rozeboom@msu.edu

Doug Chapin
Michigan Milk Producers
Assn.
5619 60th Ave.
Remus, MI 49340
231-349-4059
dchapin@mimilk.com

Erica Rogers
Michigan State University
Extension
219 N State St.
Alma, MI 48801
roger392@anr.msu.edu

Greg Alexander
Sanilac County Drain
Office
60 W. Sanilac Ave.,
Room 201 Sandusky, MI
48471 810-404-8506
810- 648-5460 – FAX
draincommr@sanilaccounty.net

Jeff Andresen
Department of
Geography, Environment
and Spatial Sciences
Room 236 Geography
Bldg. 673 Auditorium Rd.
Michigan State University
East Lansing, MI 48824
517-432-4756
andresen@msu.edu

Laura Doud
Michigan Dept. of
Agriculture and Rural
Development
P. O. Box 30017
Lansing, MI 48909
517-284- 5626
517-335-3329 –FAX
doudl@michigan.gov

Mary Kelpinski
Michigan Pork Producers
Assn. 3515 West Rd.,
Suite B
East Lansing, MI 48823
517-853-3782
kelpinski@mipork.org

Matthew Kapp
Michigan Farm Bureau
P. O. Box 30960
Lansing, MI 48909
517- 679-5338_
mkapp@michfb.com

Steve Mahoney
Michigan Dept. of
Agriculture and Rural
Development
P. O. Box 30017
Lansing, MI 48909
517- 284- 5620
517- 335-3329 - FAX
mahoneys@michigan.gov

Gerald May
4361 SW County Line
Rd. St. Louis, MI 48880
989-506-0373
mayg@msu.edu

Catherine Mullhaupt
Michigan Townships Assn.
512 Westshire Dr.
Lansing, MI 48917
517-321-6467
517- 321-8908 – FAX
catherine@michigantownships.org

Cody Yazzie
Michigan Dept. of
Environment, Great Lakes,
and Energy
Air Quality Division
7953 Adobe Rd.
Kalamazoo, MI 49009
269-567-3554
YazzieC@michigan.gov

Suzanne Reamer
MI- NRCS
3001 Coolidge Rd.
Suite 250
East Lansing, MI 48823-
6321 517-290-6145
Suzanne.reamer@mi.usda.gov

Bruce Washburn Michigan
Dept. of Environment, Great
Lakes, and Energy Water
Resources Division
7953 Adobe Rd.
Kalamazoo, MI 49009
269- 330-6079
269-567-9440 – FAX
washburnb2@michigan.gov

Tom Zimnicki
Michigan Environmental
Council
602 West Ionia St.
Lansing, MI 48933
517-487-9539
517-487-9541 - FAX
tom@environmentalcouncil.org

Wayne Whitman
Independent
Consultant Holt, MI
48842
517-282-1104
whitmanww13@gmail.co
m

If this opinion indicates that it is “FOR PUBLICATION,” it is subject to revision until final publication in the Michigan Appeals Reports.



STATE OF MICHIGAN
COURT OF APPEALS

TOWNSHIP OF FRASER,

Plaintiff-Appellee,

UNPUBLISHED
July 09, 2025
11:52 AM
APPROVED FOR
PUBLICATION
August 08, 2025
11:48 AM

v

HARVEY HANEY,

Defendant-Appellant.

No. 368834
Bay Circuit Court
LC No. 16-003272-CH

Before: O’BRIEN, P.J., and M. J. KELLY and KOROBKIN, JJ.

KOROBKIN, J.

This is a nuisance abatement action to enjoin a piggery owned by defendant, Harvey Haney, on real property within the boundaries of plaintiff, Township of Fraser, under its zoning ordinance. Defendant contended that he should be permitted to continue raising his pigs under the Right to Farm Act (RTFA), MCL 286.471 *et seq.*, and the equitable doctrines of laches and equitable estoppel. After a bench trial, the trial court entered judgment in favor of plaintiff, and defendant appeals.¹ As explained below, the trial court erred as a matter of law in concluding that the RTFA defense was unavailable on nonretroactivity grounds, and did not make the additional factual findings necessary under the RTFA to enable further appellate review. The trial court did not err, however, in deciding that laches and equitable estoppel do not bar the action. We vacate and remand.

¹ This case previously climbed the appellate ladder on a threshold issue concerning whether plaintiff’s action was time-barred under the statute of limitations, and our Supreme Court held that it was not. *Twp of Fraser v Haney*, 509 Mich 18; 983 NW2d 309 (2022).

I. BACKGROUND AND FACTS

Defendant purchased most of his property in 1986. The property has always been zoned commercial, and raising livestock has never been an allowed use of the property under plaintiff's zoning ordinance, which has been in place since the 1970s. According to defendant's testimony, he decided to begin a farm in 1989, and the township supervisor at the time told defendant that although his property was just under the required acreage, it was "close enough." Believing that he had the township's approval, defendant began raising deer and elk. He obtained a permit from the state, but he inaccurately indicated in his application that the property was zoned agricultural rather than commercial. The state ultimately revoked defendant's license for his captive cervidae facility in protracted proceedings that ended with defendant removing the animals in 2016.

Defendant testified that he started raising mule foot hogs, a type of pig, on his property in 2006. In 2009, the state sent a letter to plaintiff's zoning administrator noting its enforcement actions as to the 300 deer and 50 elk on defendant's property, and that it had also observed 50 "wild boars." Defendant denied ever having wild boar, but he admitted that a layperson would probably not appreciate the distinction between wild boar, which became illegal to possess in 2012, and pigs. Plaintiff contends that it first became aware that defendant had pigs on his property after the deer farm was shut down in 2016, and that it commenced this action shortly thereafter.

The trial court held that defendant's pig operation was in violation of plaintiff's zoning ordinance and granted plaintiff's complaint for injunctive relief. Defendant now appeals by right.

II. STANDARDS OF REVIEW

"We review the trial court's findings of fact in a bench trial for clear error and conduct a review de novo of the court's conclusions of law." *Chapdelaine v Sochocki*, 247 Mich App 167, 169; 635 NW2d 339 (2001). "A finding is clearly erroneous where, after reviewing the entire record, this Court is left with a definite and firm conviction that a mistake has been made. This Court is especially deferential to the trial court's superior ability to judge of the relative credibility of witnesses." *Astemborski v Manetta*, 341 Mich App 190, 195; 988 NW2d 857 (2022) (quotation marks, brackets, and citation omitted). "Although equity cases are themselves reviewed de novo, as are the applicability and interpretation of equitable doctrines, the propriety of the actual relief granted by the trial court is strictly discretionary and depends on the facts of the particular case." *Davis v Secretary of State*, 346 Mich App 445, 459; 12 NW3d 653 (2023). "A trial court abuses its discretion when it chooses an outcome falling outside the range of principled outcomes." *Id.* "A trial court necessarily abuses its discretion when it makes an error of law." *Woodman v Dep't of Corrections*, 511 Mich 427, 439-440; 999 NW2d 463 (2023).

III. ANALYSIS

A. RIGHT TO FARM ACT

Defendant first argues that the trial court erred because the RTFA allows him to continue his pig operation. We agree with defendant that the trial court erred as a matter of law by holding that the RTFA defense was unavailable to him because the RTFA did not apply "retroactively,"

but we are unable to evaluate whether defendant otherwise satisfied the elements of an RTFA defense without further findings from the trial court. Accordingly, we vacate and remand.

“The RTFA was enacted in 1981 to establish circumstances under which a farm and its operation may not be deemed a public or private nuisance.” *Twp of Williamstown v Sandalwood Ranch, LLC*, 325 Mich App 541, 548; 927 NW2d 262 (2018).

The Legislature undoubtedly realized that, as residential and commercial development expands outward from our state’s urban centers and into our agricultural communities, farming operations are often threatened by local zoning ordinances and irate neighbors. It, therefore, enacted the Right to Farm Act to protect farmers from the threat of extinction caused by nuisance suits arising out of alleged violations of local zoning ordinances and other local land use regulations as well as from the threat of private nuisance suits. [*Northville Twp v Coyne*, 170 Mich App 446, 448-449; 429 NW2d 185 (1988).]

“The RTFA provides an affirmative defense to a nuisance action if a defendant can prove two conditions: (1) the challenged condition or activity constitutes a ‘farm’ or ‘farm operation’ and (2) the farm or farm operation conforms to the generally accepted agricultural and management practices [(GAAMPs)].” *James Twp v Rice*, 509 Mich 363, 370-371; 984 NW2d 71 (2022). The burden is on the defendant to prove those two requirements by a preponderance of the evidence. See *Lima Twp v Bateson*, 302 Mich App 483, 495-496; 838 NW2d 898 (2013). A “farm” or a “farm operation” requires “commercial production of a farm product,” meaning that the product must be “intended to be marketed and sold at a profit.” *Id.* at 495, 497-498 (quotation marks and citation omitted).

“In addition, the RTFA was amended, effective March 10, 2000, to include MCL 286.474(6), which preempts local ordinances such that a farmer’s activities falling within the purview of the act cannot be barred by ordinance.” *James Twp*, 509 Mich at 371. As amended, MCL 286.474(6) states in relevant part that after June 1, 2000, “a local unit of government shall not enact, maintain, or enforce an ordinance, regulation, or resolution that conflicts in any manner with this act or [GAAMPs] developed under this act.” If a farm or farm operation “conforms to [GAAMPs] according to a policy determined by the Michigan commission of agriculture,” it cannot “be found to be a public or private nuisance.” MCL 286.473(1).

Defendant first argues that the trial court erred by holding that plaintiff could enforce its zoning ordinance on grounds that the RTFA is not retroactive. We agree. The trial court cited *Travis v Preston (On Rehearing)*, 249 Mich App 338, 345-346; 643 NW2d 235 (2002), to support its holding that the 2000 amendment to the RTFA does not apply retroactively. In that case, however, the hog-farming operation at issue began in 1996, and the trial court entered judgment in 1999. Additionally, the plaintiffs in the case sought only damages, not injunctive relief. In other words, all of the relevant events in *Travis* occurred before the effective date of the 2000 amendment to the RTFA. In this case, plaintiff’s zoning ordinance has not changed since the 1970s, so under *Travis* the 2000 amendment to the RTFA did not retroactively invalidate that ordinance as applied to pre-2000 activity. But defendant began his pig farming operation after 2000, and plaintiff seeks only injunctive—not retrospective—relief. MCL 286.474(6), by providing that “a local unit of government shall not enact, *maintain*, or *enforce* an ordinance,

regulation, or resolution that conflicts in any manner with this act or [GAAMPs]” (emphasis added), prohibits prospective enforcement of a zoning ordinance that is contrary to the RTFA and GAAMPs, even if the enactment of the ordinance itself predated the 2000 amendment to the RTFA. Therefore, the trial court erred as a matter of law by holding that defendant’s MCL 286.474(6) defense to plaintiff’s nuisance abatement action was barred under *Travis*.

Because plaintiff’s zoning ordinance must yield to the RTFA and GAAMPs, we turn to whether defendant has raised a meritorious RTFA defense. To do so, defendant must show that (1) his activities constitute a farm or farm operation and (2) that the farm or farm operation conforms to the GAAMPs. *James Twp*, 509 Mich at 370-371. The trial court determined that it was undisputed that defendant had a farm operation. We discern no error, much less clear error, in classifying defendant’s activities as a farm operation. Defendant testified that he initially raised elk and deer, and later approximately 50 pigs, for profit. He also testified that he would sell variable amounts of pigs for hunting at \$400 to \$450 apiece and would sell approximately twenty pigs per year at auction where they would fetch \$150 to \$250 each. “There is no minimum level of sales that much be reached before the RTFA is applicable.” *Shelby Charter Twp v Papesch*, 267 Mich App 92, 101 n 4; 704 NW2d 92 (2005). Defendant therefore met his burden to show that he was engaged in the “commercial production of a farm product,” because he cultivated animals that were “intended to be marketed and sold at a profit.” *Lima Twp*, 302 Mich App at 495, 497-498 (quotation marks and citation omitted).

However, because the trial court held that the RTFA did not apply, it did not make any factual findings or a legal determination regarding the second element of the RTFA defense: whether defendant’s farm operation conformed to “all applicable GAAMPs.” *Shelby Charter Twp*, 267 Mich App at 105. “In actions tried on the facts without a jury . . . , the [trial] court [must] find the facts specially, state separately its conclusions of law, and direct entry of the appropriate judgment.” MCR 2.517(A)(1). The trial court’s failure to make factual findings regarding defendant’s compliance with applicable GAAMPs inhibits appellate review of this issue, and requires a remand for the trial court to make such findings in the first instance. See *Lima Twp*, 302 Mich App at 500-501 (remanding for trial court to make findings on compliance with GAAMPs).

On remand, the trial court should make the appropriate findings on the existing trial record, as defendant “bear[s] the burden to prove compliance with the GAAMPs by a preponderance of the evidence,” *id.* at 501, and identified no error by the trial court in excluding evidence he sought to introduce for that purpose. The trial court must also determine, in the first instance, which GAAMPs, if any, are applicable. See, e.g., *Shelby Charter Twp*, 267 Mich App at 104 (observing that “it is unclear from this record whether the site selection GAAMPs even apply to defendants. Site selection GAAMPs were promulgated in 2000 and only apply to new and expanding farms.”). If the trial court finds that the record supports defendant’s compliance with applicable GAAMPs

by a preponderance of the evidence, then judgment must be entered in defendant's favor. If it does not, then judgment may be reinstated in favor of plaintiff.²

B. LACHES

Defendant next argues that plaintiff's nuisance abatement action was barred by the doctrine of laches. We disagree.

"Laches is an equitable tool that may be used to remedy the inconvenience or prejudice to a party caused by an improper delay in asserting a right." *Davis*, 346 Mich App at 462. "Laches can be applied to bar an attempt to abate a zoning ordinance violation." *Twp of Yankee Springs v Fox*, 264 Mich App 604, 612; 692 NW2d 728 (2004). For laches to apply, the enforcing party must have unreasonably delayed its enforcement efforts and that delay must have caused prejudice to the other party. *Id.* at 611-612. Stated differently, the defendant must prove that the plaintiff's lack of due diligence prejudiced them. *Id.* at 612. In general, "due diligence means undertaking reasonable, good-faith measures under the circumstances, not necessarily undertaking everything possible." *Ickes v Korte*, 331 Mich App 436, 443; 951 NW2d 699 (2020).

Here, defendant has not shown that the trial court erred by holding that plaintiff acted diligently. Defendant testified that he began raising pigs on the property in 2006, but the trial court did not credit this testimony, instead crediting the testimony of the township supervisor that plaintiff discovered the mule foot hogs in 2016. We must defer to the trial court's credibility determinations. See *In re Medina*, 317 Mich App 219, 227; 894 NW 2d 653 (2016). Although defendant argues that plaintiff was on notice of the pigs at least by 2009 when the state notified plaintiff about its enforcement efforts related to the deer farm, the state's letter to plaintiff specified that defendant had "wild boars." The complaint, instead, seeks to abate defendant's *domestic hogs*. Defendant claimed that he never had wild boars but admitted that a layperson would not be able to observe a difference between boars and pigs. Indeed, the township supervisor who testified at trial could not explain the difference. Therefore, the letter does not conclusively establish that plaintiff was on notice of pigs such that the trial court clearly erred in its factual findings. Further, the state outlawed wild boar in 2012, which plaintiff believed ended the matter concerning the boars. According to testimony at trial, plaintiff believed that the state had ordered defendant to remove all of his animals, and it filed suit promptly when it discovered for the first time that there were pigs on the property in 2016. Defendant also had no answer when asked how plaintiff would

² Plaintiff makes an alternative argument that GAAMPs are unconstitutional under Const 1963, art 7, § 17 and conflict with the Michigan Zoning Enabling Act, MCL 125.3101 *et seq.* Plaintiff argues that there has never been a legislative act approving GAAMPs; however, the text of the RTFA explicitly delegates the formulation of GAAMPs to the Department of Agriculture. MCL 286.473. Because plaintiff otherwise fails to develop this argument with analysis or citation to authority, it is waived. See *Sherman v Sea Ray Boats, Inc*, 251 Mich App 41, 57; 649 NW2d 783 (2002) ("A party may not leave it to this Court to search for authority to sustain or reject its position."). Therefore, we will not further address it.

notice a relatively small number of pigs among hundreds of deer and elk when all of the animals coexisted on his property until 2016.

The trial court's finding of no undue delay was in part a credibility assessment to which this Court must defer. See *Astemborski*, 341 Mich App at 195. And because defendant has not undermined the trial court's conclusion that plaintiff promptly sought abatement of the pig nuisance, the trial court did not err by holding that laches did not bar the suit. See *Yankee Springs*, 264 Mich App at 611-612.

C. EQUITABLE ESTOPPEL

Finally, defendant argues that plaintiff is equitably estopped from obtaining an injunction on the basis of supposed permission granted by a previous township supervisor. Again, we disagree.

“Equitable estoppel may preclude the enforcement of a zoning ordinance if a party reasonably relies to its prejudice on a representation made by the municipality.” *Reaume v Twp of Spring Lake*, 328 Mich App 321, 326-327; 937 NW2d 734 (2019), aff'd in part and vacated in part on other grounds 505 Mich 1108 (2020). A municipality may be estopped from enforcing its zoning ordinance if it grants official permission to do something that is not actually allowed under its ordinance, and it then waits to correct its error until after the permittee has relied in good faith on that permit and expended significant resources constructing specialty facilities that cannot be put to any other use. *Pittsfield Twp v Malcolm*, 375 Mich 135, 148; 134 NW2d 166 (1965). Similarly, a governmental entity may be estopped from suddenly enforcing its rights against an innocent third party if its officials formally, even if illegally, spent almost two decades affirmatively acting as if it had no rights to enforce while the innocent parties expended significant resources relying on the governmental entity's conduct. *Oliphant v State*, 381 Mich 630, 635-638; 167 NW2d 280 (1969). Generally, however, townships “will not be estopped from enforcing their ordinance absent exceptional circumstances.” *Twp of Williamstown*, 325 Mich App at 553 (quotation marks and citation omitted). “Casual private advice offered by township officials does not constitute exceptional circumstances.” *Reaume*, 328 Mich App at 328 (quotation marks and citation omitted).

No such exceptional circumstances exist here, as we agree with the trial court's determination that defendant did not establish that he received official or formal permission from plaintiff. Instead, under defendant's recitation of the facts, the individual township supervisor only told defendant that his acreage was “close enough” and did not tell him that raising deer or pigs was forbidden. In other words, the supervisor did not tell defendant that the farm was formally approved, cf. *Pittsfield Twp*, 375 Mich at 148, or affirmatively act as if defendant's farm was approved, cf. *Oliphant*, 381 Mich at 635-638. We disagree with defendant's argument that the township official's actions constituted approval that imbued him with a vested property right to operate a farm. At most, defendant received “casual private advice” from an individual official, which “does not constitute exceptional circumstances” justifying equitable estoppel. See *Reaume*, 328 Mich App at 328. Even if it could be said that the supervisor's statements blessed defendant's plan, “[a] municipality cannot be estopped from enforcing a zoning ordinance because of the unauthorized action of its agents and administrative employees in granting permissive authority

contrary to the terms of the ordinance.” *Blackman Twp v Koller*, 357 Mich 186, 189; 98 NW2d 538 (1959).

Defendant contends that his farming operation should have been apparent to anyone nearby, but, even if that is true, merely failing to enforce an ordinance is insufficient to give rise to equitable estoppel. *Lyon Charter Twp*, 317 Mich App at 489 (“[A] historical failure to enforce a particular zoning ordinance, standing alone, is insufficient to preclude enforcement in the present.”)

Furthermore, the trial court found defendant’s testimony that he believed he had permission to start his deer farm not credible, which is a finding to which this Court must defer. *Astemborski*, 341 Mich App at 195. Defendant accurately observes that his testimony was unrebutted, but the trial court is permitted to draw credibility determinations at a bench trial. See *id.* A trier of fact is entitled to disbelieve any part of the evidence presented. *Bank of America, NA v Fidelity Nat’l Title Ins Co*, 316 Mich App 480, 512; 892 NW2d 467 (2016). A trial court’s findings at a bench trial are entitled to less deference on appeal than the findings of a jury, *Beason v Beason*, 435 Mich 791, 804; 460 NW2d 207 (1990), but defendant does not cite any caselaw holding that the trial court at a bench trial is required to accept unrebutted testimony.

In sum, we conclude that the trial court did not err in rejecting defendant’s equitable estoppel defense.

IV. CONCLUSION

The trial court erred as a matter of law in holding that defendant could not pursue a defense under the RTFA on grounds that the statute does not apply retroactively. Defendant has established that his activities constitute a “farm” or “farm operation” under the RTFA, and we remand for the trial court to make findings concerning whether defendant complied with applicable GAAMPs. The trial court did not err in rejecting the defenses of laches and equitable estoppel.

The judgment in favor of plaintiff is vacated, and the case remanded for further proceedings consistent with this opinion. We do not retain jurisdiction.

/s/ Daniel S. Korobkin

/s/ Colleen A. O’Brien

/s/ Michael J. Kelly