



MAEAP Livestock System Verification Standards

(Revised Date: 7/31/14)

A boxed risk level indicates the standard required for environmental assurance verification.

Bold black print indicates a violation of state or federal regulation.

Bold italic blue print indicates a management practice consistent with a specific 2014 Right to Farm (RTF) Generally Accepted Agricultural Management Practice (GAAMPs).

| RISK QUESTION | LOW RISK – 3 (RECOMMENDED) | MEDIUM RISK – 2 (POTENTIAL HAZARD) | HIGH RISK - 1 (SIGNIFICANT HAZARD) | RECORDS OR EVIDENCE FOR MAEAP VERIFICATION | REFERENCE OR GUIDANCE DOCUMENT |
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| Whole Farm Nutrient Balance | | | | | |
| 1.01) Is there adequate land base for all nutrients used on the farm? | There is adequate land base or manure is sold or transferred off site. | Lacks adequate land base but fields test low (< 75 PPM) in phosphorus and manure applications can be balanced on nitrogen basis. | Lacks adequate land base. | Complete Manure Management: Getting Started (see Supplement) or use NRCS farm nutrient balance spreadsheet. | 2014 RTF Manure Management and Utilization GAAMPs, Section V: Manure Application to Land, Manure Nutrient Loading, #33 |
| Farm Site Review | | | | | |
| 2.01) Has there ever been a formal Right to Farm complaint against the farm? | There has never been a Right to Farm complaint, or the concern was not verified, or the concern was resolved. | | There was a formal Right to Farm complaint and the concern was not resolved. | Producer’s verbal indication of complaint history. | |
| 2.02) Do rain, snow (including plowed snow) roof water or surface water come into contact with manure, compost, feed/silage, livestock lots or travel lanes resulting in contaminated runoff? | There is no clean water contact with the listed areas, or contaminated runoff is collected or treated and does not discharge directly to surface water. | | Areas are exposed to rain/snow or surface water, and runoff is not collected or treated. Runoff discharges directly to surface water. | Visual inspection of the farmstead. Visual inspection of flow patterns are most apparent during or shortly after a rainfall event and/or thaw. | NREPA PA 451 of 1994, Part 31: Water Resource Protection Act 2014 RTF Manure Management and Utilization GAAMPs, Section II: Runoff Control and Wastewater Management, Outside Lots, #11 |

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| Farm Site Review (continued) | | | | | |
| 2.03) If surface drains are present around the farmstead, what are they collecting and where does the runoff end up? | Surface drains do not capture contaminated runoff or there are surface drains but runoff is collected or treated and does not discharge directly to surface water. | | Surface drains collect contaminated runoff and discharge directly to surface water or run to low areas and pond. | Visual inspection of the farmstead. Visual inspection of flow patterns are most apparent during or shortly after a rainfall event and/or thaw. | NREPA PA 451 of 1994, Part 31: Water Resource Protection Act <i>2014 RTF Manure Management GAAMPs, Section II: Runoff Control and Wastewater Management, #2</i> |
| Milking Center Wastewater | | | | | |
| 3.02) How is plate cooler water handled? | 100% of plate cooler water is reused for livestock watering or other livestock-related use or permitted for discharge. | Less than 10,000 gal/day are discharged onto ground surface. Discharged water does not intercept surface water. | More than 10,000 gal/day are discharged onto ground surface or intercept surface water without a permit. | Appropriate cooling water management demonstrated. | NREPA PA 451 of 1994, Part 31: Water Resource Protection Act |
| 3.03) What are the parlor cleanup practices? | Milk, milky rinse water, manure, and feed waste are land applied or otherwise appropriately utilized, and are never discharged to septic or other infiltration type treatment systems. | Some milk, milky rinse water, manure, or feed waste is discharged to septic or other infiltration-type treatment systems. Systems are monitored and managed for proper operation. | Significant milk, milky rinse water, manure, or feed waste is discharged to septic or other infiltration-type treatment systems. Wastewater is discharged directly to surface water. | Appropriate milking center cleanup practices demonstrated. | NREPA PA 451 of 1994, Part 31: Water Resource Protection Act |
| 3.04) Is all wastewater collected and stored? | Wastewater is stored, used, hauled daily or passes through a designed treatment system. | Wastewater passes through a properly functioning filtration system. | Wastewater is directly discharged to a lake, drainage ditch, stream or field. | Appropriate wastewater management is demonstrated. No direct discharge. | NREPA PA 451 of 1994, Part 31: Water Resource Protection Act |
| 3.05) Is rejected milk collected and stored? | Rejected milk is stored, hauled out or fed. | | Milk is discharged, put into septic system or put into treatment strip. | Rejected milk is properly managed. | NREPA PA 451 of 1994, Part 31: Water Resource Protection Act |

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| Milking System Septic Systems. If this method is not used, skip to the next section. | | | | | |
| 3.06) Is all milkhouse waste water treated by the septic system? | All milkhouse waste water is treated by septic system. | | Some waste water is not treated or is discharged to tile, inlet or drainage ditch. | Collection and treatment of all wastewater is demonstrated. | NREPA PA 451 of 1994, Part 31: Water Resource Protection Act |
| 3.07) Is the septic system managed adequately to handle the volume of wastewater? | Septic system is <i>managed in a manner to prevent pollution to waters of the state.</i> | | Septic system is not managed adequately and discharges directly to surface waters. | System operating effectively, without evidence of a discharge. | NREPA PA 451 of 1994, Part 31: Water Resource Protection Act <i>2014 RTF Manure Management and Utilization GAAMPs, Section II: Runoff Control and Wastewater Management, #3</i> |
| Application of Wastewater to Vegetated Infiltration System. If this method is not used, skip to next section. | | | | | |
| 3.10) Does the system handle the capacity of milking center wastewater generated? | Infiltration area effectively treats the quantity of wastewater generated. <i>Treatment area is managed to prevent pollution to waters of the state.</i> | Undersized settling tank, lagoon or other pretreatment system. | Infiltration area has excessive erosion, wastewater ponding or burned vegetation. | Properly operating system confirmed by visual inspection of vegetated infiltration system. | <i>2014 RTF Manure Management and Utilization GAAMPs, Section II: Runoff Control And Wastewater Management, #3</i> |
| 3.11) How is the vegetated infiltration system maintained? | <i>Vegetation maintained and harvested at least once per year.</i> Accumulated solids removed, if needed. | Occasional maintenance. | No maintenance. | Vegetation maintained and harvested. Records of maintenance kept. | <i>2014 RTF Manure Management and Utilization GAAMPs, Section II: Runoff Control And Wastewater Management, Infiltration Areas, #7</i> |

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| Direct Discharge to Surface Water | | | | | |
| <p>3.12) Is wastewater directly discharged to a lake, drainage ditch, stream, regulated or natural wetlands or other surface waters? See Comments.</p> | <p><i>Milk parlor and milkhouse wastewater are managed in a manner to prevent discharge into waters of the state.</i></p> | | <p>Milking center wastewater is discharged directly to surface water.</p> | <p>No discharge present. It is acceptable to discharge milk parlor and milkhouse wastewater into constructed wetlands designed and intended to process those wastes. (NRCS practice standard 656 “Constructed wetland”).</p> | <p>NREPA PA 451 of 1994, Part 31: Water Resource Protection Act</p> <p><i>2014 RTF Manure Management and Utilization GAAMPs, Section II. Runoff Control And Wastewater Management, #3</i></p> |
| Manure Storage (Includes all storage systems used for manure, wastewater or runoff containment.) | | | | | |
| <p>4.01) What is the storage capacity of manure systems?</p> | <p>There is six months or greater manure storage or manure is transferred offsite.</p> | <p>There is less than six months storage; adequate land base is available for winter and summer applications.</p> | <p>There is minimal or no manure storage on site. Adequate land base is not available.</p> | <p>Manure Application Risk Index (MARI) shows adequate acres for winter spreading. Records on manure production and storage capacity provided. MAEAP manure storage review sheets or NRCS animal waste management calculations are completed for storages to determine volume. (See FAS 112S.)</p> | <p>NRCS 313, Waste Storage Facility</p> |

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| Liquid Manure Storage Systems | | | | | |
| <p>4.03) What design standards are utilized for liquid manure storage structures?</p> | <p>As-built documentation is available. <i>Construction design for manure storage and treatment facilities meets standards and specifications in accordance with MI NRCS-FOTG, Concrete Manure Storages Handbook (MWPS-36), Circular Concrete Manure Tanks publication TR-9 (Midwest Plan Service, 1998).</i> For steel: Manual of Steel Construction, American Institute of Steel Construction. For concrete: Building Code Requirements for Reinforced Concrete, ACI 318, American Concrete Institute. For earthen storage, the permeability of the earthen liner is known and the earthen storage meets NRCS standard 313: Waste Storage Facility. No evidence of overflow.</p> | <p>The storage was designed and built by professionals, but the as-built design standards are unknown. The storage structure meets the requirements as outlined in Extension Bulletin FAS 112S.</p> | <p>Storage was designed and built without engineering standards.</p> | <p>Appropriate manure storage design and installation demonstrated. Completed MAEAP manure storage review sheets or as-built engineering standards available. (See FAS112S)</p> | <p>NRCS 313, Waste Storage Facility</p> <p>MSU Extension Bulletin FAS112S, Manure Storage Review Worksheets</p> <p><i>2014 RTF Manure Management and Utilization GAAMPs, Section IV: Construction Design and Management for Manure Storage and Treatment Facilities, Construction Design, #26</i></p> <p>Midwest Plan Service, 1998</p> |

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| Liquid Manure Storage Systems (continued) | | | | | |
| 4.04) Are structures properly maintained? | Structure is properly maintained and in good condition. No damage to the liner or breaches are evident. No visible signs of issues with push-off ramps, load-out areas, pumps, piping, etc. | Structure appears to be in good condition. | Lining material integrity broken. Evidence of overflow. Coarse-textured soils, no clay liner. Evidence of extensive cracking, leaning, etc. Structure needs repair. | MAEAP manure storage review sheets completed. (See FAS 112S) Additional Criteria may be required for CNMP development. | NRCS 313, Waste Storage Facility |
| 4.05) Are areas adjacent to manure storage structures properly maintained? | Banks are mowed and inspected regularly for potential problems. No brush, trees or animal burrows present. | Banks are not mowed regularly. Woody plant material present. | Lack of maintenance around storage site and/or numerous areas in need of repair and/or burrows present. | MAEAP manure storage review sheets completed. (See FAS 112S) | NRCS 313, Waste Storage Facility |
| 4.06) Is clean water (i.e. roof and surface runoff) diverted away from the manure storage facility? | Clean water is diverted away from manure storage. | Clean water is not diverted but storage is designed to accommodate the additional water while still maintaining the freeboard. | Potential exists for overflow of manure storage. | MAEAP manure storage review sheets completed. (See FAS 112S) | |
| 4.07) How is freeboard maintained and overflow prevented in storage structures? | Minimum freeboard is known and observed. <i>A minimum freeboard of 12 inches (6 inches for fabricated structures) plus the additional storage volume necessary to contain the precipitation and runoff from a 25-year, 24-hour storm event.</i> Freeboard markers are in place. | No evidence of manure overflowing storage. Safe freeboard level is known but not visibly marked. Freeboard not always maintained. | Evidence that manure overflowed the storage structure. Freeboard level is unknown and unmarked. | Appropriate manure storage management demonstrated. Safe freeboard level indicated on storage. Runoff is calculated. | NRCS 313, Waste Storage Facility <i>2014 RTF Manure Management and Utilization GAAMPs, Section IV: Construction Design and Management For Manure Storage and Treatment Facilities, Management, #28</i> |

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| Solid-bedded Manure Systems and Composted Manure Systems | | | | | |
| 5.01) How are animal facilities with bedded manure packs designed and constructed? | Constructed with a floor of impermeable material or fine-textured soil. Adequate bedding is provided to maintain solid nature of manure. No rainfall or runoff enters the manure area. No waterers in the building. | Medium- to fine-textured soils, limited bedding provided, some rainfall or runoff enters manure area. Waterers in the building. | Building has an earthen floor on coarse-textured soil. Contaminated runoff directly discharges to surface water. | Appropriate manure storage design and management for leachate/runoff control. | NREPA 451 of 1994, Part 31: Water Resource Protection Act |
| 5.02) At the farmstead, where is manure temporarily stacked? | <i>Manure can be temporarily stacked on an impermeable pad with sides. Runoff does not flow onto neighboring property or into surface waters.</i> | <i>Manure stacked on the ground with appropriate management to minimize leaching and prevent runoff flow onto neighboring property or into surface waters - such as rotating locations, complete periodic removal of manure, records documenting timing of removal and location used and seeding of previous location.</i> | Manure is temporarily stacked on the ground without appropriate management to minimize leaching and prevent all runoff such as rotating locations, complete periodic removal of manure, seeding of previous location and records documenting location used. For example: manure is stacked in the same location every year, piles are located within 50 feet of surface water, and/or there is evidence that manure-contaminated runoff flows to surface water or to adjacent property. | Appropriate temporary manure stacking demonstrated at the farmstead for surface water and groundwater protection. | NREPA 451 of 1994, Part 31: Water Resource Protection Act <i>2014 RTF Manure Management and Utilization GAAMPs, Section III: Odor Management, Stacked Solid Manure, #15 (General Guidance)</i> |
| 5.03) At the farmstead, how long is manure temporarily stacked? | Less than 365 days with complete periodic removal of manure. | | Greater than 365 days without complete periodic removal of manure. | Manure not stacked for more than 365 days. Refer to manure application records. | |

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| Solid-bedded Manure Systems (continued) | | | | | |
| <p>5.04) At the farmstead, what management practices are used to reduce odors and pests from outside <u>temporary</u> stacks or solid manure storage structures?</p> | <p><i>Stockpiled manure is at least 50 feet away from property lines or 150 feet away from non-farm homes and stockpiled manure is covered with a tarp, fleece blanket, straw, woodchips or other materials or additives to reduce odors and pests.</i></p> | <p><i>Stockpiled manure is at least 50 feet away from property lines or 150 feet away from non-farm homes or stockpiled manure is covered with a tarp, fleece blanket, straw, woodchips or other materials or additives to reduce odors and pests.</i></p> | <p>Stockpiled manure is closer than 50 feet to property lines or 150 feet to non-farm homes and stockpiled manure is not covered. No additives are used to reduce odors and pests.</p> | <p>Appropriate manure storage management demonstrated for odor and pest control.</p> | <p><i>2014 RTF Manure Management and Utilization GAAMPs, Section III: Odor Management, Stacked Solid Manure, #15 (General Guidance)</i></p> |
| <p>5.05) At the farmstead, how are solid manure storage structures designed and constructed?</p> | <p>Constructed with a floor of concrete, or equivalent material, and with walls that prevent leachate from entering surrounding soils. Leachate and rainfall/snowmelt runoff discharged into a designed system.</p> | <p>Constructed with floor of compacted asphalt or fine- or medium-textured soils. Leachate will have direct contact with earthen floor or side walls. The permeability of the earthen floor is known and the earthen floor meets NRCS Standard 313. Leachate and rainfall/snowmelt runoff discharged into a designed system.</p> | <p>Earthen floor constructed with coarse-textured soils. Rainfall and leachate will have direct contact with earthen floor or sidewalls. Runoff and leachate are uncontrolled and discharge directly to surface water.</p> | <p>Appropriate manure storage design and management for leachate/runoff control.</p> | <p>NREPA 451 of 1994, Part 31: Water Resource Protection Act</p> |
| <p>5.06) At the farmstead, is runoff from solid manure storage structures directly discharging to surface water or groundwater?</p> | <p><i>Provisions made to control and/or treat runoff from stored manure.</i> And/or a designed and maintained vegetative infiltration area or runoff storage basin effectively handles storage runoff.</p> | <p>Inadequate runoff control. Signs of manure runoff past perimeter of vegetated area or exceeding storage basin capacity.</p> | <p>Manure storage runoff discharges directly to surface water.</p> | <p>Appropriate runoff control from manure storage area(s).</p> | <p>NREPA PA 451 of 1994, Part 31: Water Resource Protection Act</p> <p><i>2014 RTF Manure Management and Utilization GAAMPs, Section II: Runoff Control and Wastewater Management, #4</i></p> |

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| Solid-bedded Manure Systems (continued) | | | | | |
| 5.07) In the field, how is manure temporarily stockpiled in relation to surface water? | <i>Manure stockpiles are kept a least 150 feet from surface waters or areas subject to flooding unless conservation practices are used to protect against runoff and erosion losses to surface waters.</i> | | Manure stockpiles are closer than 150 feet to surface waters or areas subject to flooding, and conservation practices are not used to protect against runoff and erosion losses to surface waters. | Appropriate temporary manure stacking demonstrated in the field for surface water protection. | NREPA PA 451 of 1994, Part 31: Water Resource Protection Act <i>2014 RTF Manure Management and Utilization GAAMPs, Section III: Odor Management, Stacked Solid Manure, #15 (General Guidance)</i> |
| 5.08) In the field, what management practices are used to reduce odors and pests from manure temporarily stockpiled? | <i>Stockpiled manure is at least 150 feet away from non-farm homes and stockpiled manure is covered with a tarp, straw or other materials or additives are used to reduce odors and pests.</i> | <i>Stockpiled manure is at least 150 feet away from non-farm homes.</i> | Stockpiled manure is closer than 150 feet to non-farm homes. | Appropriate manure stockpiling demonstrated for odor and pest control. | <i>2014 RTF Manure Management and Utilization GAAMPs, Section III: Odor Management, Stacked Solid Manure, #15 (General Guidance)</i> |
| 5.09) In the field, how long is manure temporarily stockpiled? | <i>Manure is spread as soon as field and weather conditions allow, and does not exceed six months; or if covered with an impermeable cover, twelve months.</i> | | Manure stockpiled for more than six months without a cover, or more than 12 months with an impermeable cover. | Manure not stockpiled for more than 365 days. Refer to manure application records. For CNMP's manure may be stockpiled in the field for 20 days on soils with a High N Leaching index and 90 days on soils with a Medium N Leaching index. NRCS standard 634. | <i>2014 RTF Manure Management and Utilization GAAMPs, Section III: Odor Management, Stacked Solid Manure, #15 (General Guidance)</i> |

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| Outside Livestock Lot Management | | | | | |
| 6.01) How far is the livestock lot from surface water? | Livestock lot is more than 300 feet from surface water and <i>runoff control protects neighboring land areas and prevents direct discharge to surface waters or groundwater.</i> | Livestock lot is less than 300 feet from surface water and <i>runoff control protects neighboring land areas and prevents direct discharge to surface waters or groundwater.</i> | Evidence that manure-contaminated runoff flows from lot and discharges directly to surface water or to adjacent property. | Appropriate livestock isolation distance from surface water. | NREPA PA 451 of 1994, Part 31: Water Resource Protection Act <i>2014 RTF Manure Management and Utilization GAAMPs, Section II: Runoff Control and Wastewater Management, Outside Lots, #11</i> |
| 6.02) What efforts are made to divert unwanted drainage from upslope watersheds and roof water from becoming contaminated with manure? | <i>Provisions are made to collect, store, utilize and/or treat manure accumulations and contaminated runoff from outside open lot(s) used for raising livestock.</i> Clean water is diverted away from the livestock lot(s). | Most roof water and upslope watershed drainage are diverted around livestock lot(s). Water that contacts manure is treated or contained and applied to cropland. | No clean water system in place. Most roof water and upslope watershed drainage runs through lot(s). | Appropriate clean water management for livestock lot(s). | <i>2014 RTF Manure Management and Utilization GAAMPs, Section II: Runoff Control and Wastewater Management, #2 and Outside Lots, #11</i> |
| 6.03) How is livestock lot runoff managed to protect surface water, groundwater and/or neighboring properties? | All lot runoff is directed to a properly designed and maintained runoff storage basin, or runoff is directed to a designed settling basin and vegetated infiltration area where vegetation is annually harvested. <i>No evidence of runoff to surface water, groundwater and/or neighboring properties,</i> or ponding in low areas. | <i>No evidence of runoff flow to surface water</i> or ponding in low areas. Vegetation or cropland that is annually harvested exists between lot and surface water. | Evidence of runoff flow discharging directly to surface water or intermittent waterway. | Appropriate site management for livestock lot(s). Producer records of manure scraping/collection should be kept and evaluated to assess risk reduction. | NREPA PA 451 of 1994, Part 31: Water Resource Protection Act <i>2014 RTF Manure Management and Utilization GAAMPs, Section II: Runoff Control and Wastewater Management, #2</i> |

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| Outside Livestock Lot Management (continued) | | | | | |
| 6.04) How often is manure scraped and removed from livestock lot(s)? | <i>Manure is scraped and removed periodically from livestock lot(s) or other heavy use areas.</i> | | Manure is seldom scraped and removed from lot and feeding and watering areas. | Appropriate manure management in livestock lot(s). | <i>2014 RTF Manure Management and Utilization GAAMPs, Section II: Runoff Control And Wastewater Management, Outside Lots, #11 (General Guidance)</i> |
| 6.05) What type of floor or base does the livestock lot(s) have? | Properly maintained concrete, compacted asphalt, or other equivalent material. | Continuous-use, compacted dirt or compacted gravel. Minimal plant material growing. | Poorly compacted dirt or gravel layer as indicated by plant growth. | Appropriate floor or base in livestock lot(s). | |
| Pasture Management | | | | | |
| 7.01) Are there current soil tests on the pastures? | <i>All fields are sampled and tested on a regular basis, at least every one to four years, depending on crops being grown and the cropping system.</i> | Most fields are sampled and tested every one to four years. Producer plans to bring all field soil tests up-to-date within the next three years. (See also 10.01) | Fields have not been tested within the past four years. | Field names or map. Acres in the cropped portions of the field. Up-to-date soil test reports or schedule to bring all tests up-to-date. If pursuing a CNMP, soil samples should be taken every three years or more frequently. | MSU Bulletin E498S: Sampling soils for fertilizer and lime recommendations, frequency of soil sampling <i>2014 RTF Nutrient Utilization GAAMPs, Section III: Fertilization Practices for Land Application, Soil Fertility Testing and Tissue Analysis, #7</i> |

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| Pasture Management (continued) | | | | | |
| <p>7.02) What is the condition of pasture vegetation?</p> | <p>Pasture is well-managed with all areas vegetated. <i>Runoff from pasture feeding and watering areas travels through a vegetated filter area to protect surface and groundwater.</i> Or no contaminated runoff is noted.</p> | <p>Pasture is well-managed and vegetated except in feeding and watering areas, which are scraped. <i>Runoff from pasture feeding and watering areas travels through a vegetated filter area to protect surface and groundwater.</i> Or, no contaminated runoff is noted.</p> | <p>Pasture is overgrazed with bare spots. Erosion may be present. Runoff from pastures is carrying sediment and nutrients to surface waters or neighboring property.</p> | <p>No direct discharge from pasture(s).</p> | <p>NREPA PA 451 of 1994, Part 31: Water Resource Protection Act</p> <p><i>2014 RTF Manure Management and Utilization GAAMPs, Section II: Runoff Control And Wastewater Management, Pasture Systems, #10</i></p> |
| <p>7.03) How is the pasture managed to protect surface water?</p> | <p><i>Livestock are excluded from actual contact with streams or watercourses except for controlled crossings and accesses</i> or pasture management measures are in place to protect neighboring land areas and minimize stream bank erosion.</p> | | <p>Runoff results in direct discharge to surface waters. Livestock have free access to streams or watercourses, causing erosion.</p> | <p>Pasture managed to protect surface water from erosion and contamination demonstrated.</p> | <p>NREPA PA 451 of 1994, Part 31: Water Resource Protection Act</p> <p><i>2014 RTF Manure Management and Utilization GAAMPs, Section II: Runoff Control And Wastewater Management, Pasture Systems, #9</i></p> <p>NRCS Prescribed Grazing (528)</p> <p>MSU Extension Bulletin, Acceptable Practices for Managing Livestock Along Lakes Streams and Wetlands (E3066)</p> |

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| Pasture Management (continued) | | | | | |
| <p>7.05) What is being done to reduce manure concentration around watering tanks/feeders in pasture areas?</p> | <p>Water tank/feeding areas are rotated to different areas of pasture. Or, watering/ feeding areas are permanent, but manure is removed frequently to prevent concentration of nutrients.</p> <p><i>Runoff from pasture feeding and watering areas travels through a vegetated filter area to protect surface water and groundwater.</i></p> | <p>Watering/feeding areas are permanent, but manure is removed at least annually to prevent concentration of nutrients.</p> <p><i>Runoff from pasture feeding and watering areas travels through a vegetated filter area to protect surface water and groundwater.</i></p> | <p>Watering/feeding areas are permanent with infrequent or no manure removal.</p> <p>There is evidence of direct discharge to surface water or ponding in low areas.</p> | <p>Proper manure management around water and feed demonstrated.</p> | <p>NREPA PA 451 of 1994, Part 31: Water Resource Protection Act</p> <p><i>2014 Manure Management and Utilization GAAMPs, Section II: Runoff Control and Wastewater Management, Pasture Systems, #10</i></p> |
| General Silage Storage | | | | | |
| <p>8.01) Does untreated silage leachate or polluted runoff run to a low area and pond?</p> | <p><i>Provisions are made to control and/or treat leachate to protect groundwater and surface water.</i></p> | | <p>Silage leachate ponding and/or runoff evident.</p> | <p>Appropriate silage leachate management demonstrated.</p> | <p><i>2014 RTF Manure Management and Utilization GAAMPs, Section II: Runoff Control And Wastewater Management, #4</i></p> |
| <p>8.03) Are silage leachate and contaminated runoff collected and/or treated?</p> | <p><i>Provisions are made to control contaminated runoff and/or treat leachate to protect groundwater and surface water from a direct discharge. (Includes capturing of leachate from drains.) Designed system or management controls are in place.</i></p> | <p>Designed system in place but not maintained.</p> | <p>No system in place or lack of appropriate management or direct discharge to surface water or groundwater.</p> | <p>Appropriate silage leachate management demonstrated.</p> | <p>NREPA PA 451 of 1994, Part 31: Water Resource Protection Act</p> <p><i>2014 RTF Manure Management and Utilization GAAMPs, Section II: Runoff Control And Wastewater Management, #4</i></p> |

| RISK QUESTION | LOW RISK – 3 (RECOMMENDED) | MEDIUM RISK – 2 (POTENTIAL HAZARD) | HIGH RISK - 1 (SIGNIFICANT HAZARD) | RECORDS OR EVIDENCE FOR MAEAP VERIFICATION | REFERENCE OR GUIDANCE DOCUMENT |
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| General Silage Storage (continued) | | | | | |
| 8.05) Does an emergency plan exist for times when leachate production exceeds current management controls? | An up-to-date written plan is available and is reviewed with all applicable employees. | Emergency action plan is incomplete or out-of-date. | No emergency action plan that covers excess leachate. | An up-to-date emergency action plan. | |
| 8.08) In the case of a tire fire, does the farm have an up-to-date emergency farm plan? | The farm has an up-to-date emergency farm plan which is reviewed with all applicable employees. | More than one-year-old plan or an incomplete plan is available. | No emergency farm plan when more than 3,000 whole scrap tires are stored on the farm. | An up-to-date emergency action plan. | NREPA PA 451 of 1994, Part 169: Michigan Scrap Tire Regulation |
| Bunker Silos | | | | | |
| 8.09) What type of floor does the silage storage have? | Concrete, compacted asphalt, or equivalent material. No excessive cracking (cracks that a finger can fit into or spider webs) or cracks are repaired. | Earthen floor with fine-textured soils (clay, clay loam, silty clay loam, sand clay, sandy clay loam and silty clay). | Earthen floor has permeable soils. Or, concrete, asphalt or lined surface contains many cracks. | A maintained impervious surface or fine-textured earthen floor. | |
| Upright Silos | | | | | |
| 8.13) If there is a floor drain, is leachate collected, treated and/or stored, and applied at agronomic rates? | All leachate is collected, treated, and/or stored and applied according to nutrient management plan. | | Leachate is not collected and/or directly discharges to surface water. | Appropriate silage management demonstrated. | NREPA PA 451 of 1994, Part 31: Water Resource Protection Act |
| Silage Bag Management | | | | | |
| 8.17) Is there a mechanism for collecting or treating or utilizing accumulated leachate? | Yes, leachate is collected and does not pond or reach surface water. | | No. Leachate runs from bags to surface water. | Appropriate silage management demonstrated. | NREPA PA 451 of 1994, Part 31: Water Resource Protection Act |

| RISK QUESTION | LOW RISK – 3 (RECOMMENDED) | MEDIUM RISK – 2 (POTENTIAL HAZARD) | HIGH RISK - 1 (SIGNIFICANT HAZARD) | RECORDS OR EVIDENCE FOR MAEAP VERIFICATION | REFERENCE OR GUIDANCE DOCUMENT |
|---|---|--|---|---|--|
| Manure Spreading Plan | | | | | |
| <p>10.01) How often are fields tested for nutrient levels (P, K, Ca, Mg) and pH?</p> | <p><i>All fields are sampled and tested on a regular basis</i>, at least every one to four years, depending on crops being grown and the cropping system.</p> | <p>Most fields are sampled and tested every one to four years. Manure is not applied to fields without a current soil test. Producer plans to bring all field soil tests up-to-date.</p> | <p>Fields have not been tested within the past four years.</p> | <p>Field names or map. Acres in the cropped portions of the field. Up-to-date soil test reports or schedule to bring all tests up-to-date. On farms pursuing a CNMP, soil samples must be taken every three years or more frequently.</p> | <p>MSU Bulletin E498S, Sampling soils for fertilizer and lime recommendations, frequency of soil sampling. <i>2014 Manure Management and Utilization GAAMPs, Section V: Manure Application to Land, Soil Fertility Testing, #29 Current RTF Nutrient Utilization GAAMPs, Section III: Fertilization Practices for Land Application, Soil Fertility Testing and Tissue Analysis, #7</i></p> |
| <p>10.02) Do soil sampling procedures adequately represent field conditions?</p> | <p>One composite sample is taken from uniform field areas of 15 to 20 acres or from uniform management areas on grid or zone sampling procedures.</p> | <p>One composite sample is taken from uniform field areas of 20 to 40 acres.</p> | <p>One composite sample is taken from areas of greater than 40 acres.</p> | <p>Predominant soil types/soil maps. Cropping histories. Proper soil sampling procedure.</p> | <p>MSU Bulletin E498, Sampling soils for fertilizer and lime recommendations</p> |
| <p>10.03) How is the nutrient content of manure determined?</p> | <p><i>Laboratory analysis for percent dry matter (solids), ammonium, and total N, P and K.</i></p> | <p>Book values or standard nutrient content values used.</p> | <p>Manure nutrient content is unknown or not considered.</p> | <p>All manure analyses or book values on file.</p> | <p><i>2014 Manure Management and Utilization GAAMPs, Section V: Manure Application to Land, Manure Analysis, #31</i></p> |
| <p>10.04) How are desired application rates achieved?</p> | <p>Manure analysis (book value, manure test, or mass balance) and <i>field application rates are known.</i></p> | | <p>Application rate is not known.</p> | <p>Rate of manure applied known for all spreaders. Records indicate date of calibration.</p> | <p><i>2014 Manure Management and Utilization GAAMPs, Section V: Manure Application to Land, Method of Manure Application, #34</i></p> |

| RISK QUESTION | LOW RISK – 3 (RECOMMENDED) | MEDIUM RISK – 2 (POTENTIAL HAZARD) | HIGH RISK - 1 (SIGNIFICANT HAZARD) | RECORDS OR EVIDENCE FOR MAEAP VERIFICATION | REFERENCE OR GUIDANCE DOCUMENT |
|--|---|--|--|--|---|
| Manure Spreading Plan (continued) | | | | | |
| <p>10.05) How is the soil's ability to hold water and nutrients considered when calibrating for manure application?</p> | <p>Rates are at or below a level that manure does not run off or escape via tile drains. Tile outlets inspected after application. <i>Manure is prevented from reaching the tile lines.</i></p> | | <p>Manure application rates may be above the soil's ability to hold the water and nutrients. Manure reaches the tile lines and/or directly discharges to surface water.</p> | <p>No evidence of runoff or tile discharge. Tile lines monitored before and after manure application.</p> | <p>NREPA PA 451 of 1994, Part 31: Water Resource Protection Act</p> <p><i>2014 Manure Management and Utilization GAAMPs, Section V: Manure Application to Land, Method of Manure Application, #36</i></p> |
| <p>10.06) How are fertilizer application rates determined?</p> | <p><i>Consistent with Michigan State University recommendations</i> and manure nutrients are credited. When MSU recommendations are not available other land grant university recommendations developed for the region may be used.</p> | <p>Fertilizer rates are based on soil testing lab recommendations but not consistent with MSU recommendations.</p> | <p>Fertilizer is not based on soil testing.</p> | <p>Applications consistent with MSU recommendations (MSU soil test printout or calculated MSU recommendations on field). When MSU recommendations are not available, other land-grant university recommendations developed for the region may be used.</p> | <p><i>2014 RTF Nutrient Utilization GAAMPs, Section III: Fertilization Practices for Land Application, Fertilizer Recommendations, #8</i></p> <p>MSU E2904 Nutrient Recommendations for Field Crops in Michigan, E2934 Nutrient Recommendations for Vegetable Crops in Michigan, E852 Fertilizing Fruit Crops or other land grant university recommendations.</p> |

| RISK QUESTION | Low Risk – 3 (RECOMMENDED) | MEDIUM RISK – 2 (POTENTIAL HAZARD) | HIGH RISK - 1 (SIGNIFICANT HAZARD) | RECORDS OR EVIDENCE FOR MAEAP VERIFICATION | REFERENCE OR GUIDANCE DOCUMENT |
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| Manure Spreading Plan (continued) | | | | | |
| <p>10.07) What manure management records are maintained?</p> | <p>Complete application <i>records of manure analysis, soil test results and rates of manure application for individual fields are maintained.</i></p> | <p>A minimum of one season of manure application records, or partial manure application records have been kept. Complete manure application records will be kept immediately and will be available for review at the time of re-verification.</p> | <p>Minimal or no records maintained.</p> | <p>Additional nutrient management records that are needed.</p> <ul style="list-style-type: none"> • Date(s) of manure application and incorporation when applicable. • Rate of manure application. • Weather conditions during application of manure (e.g., sunny, 70 degrees F). • Field conditions during application of manure (wet, dry, frozen, etc.) • Manure/wastewater quantities produced and nutrient analysis results. • Records of rental or other agreements for application of manure/wastewater on land not owned by the producer. • Record of manure/wastewater sold or given away to other landowners. | <p><i>2014 RTF Manure Management and Utilization GAAMPs, Section V: Manure Application to Land, Management of Manure Applications to Land, #40</i></p> <p>Additional records required are:</p> <ul style="list-style-type: none"> -Dates(s) of manure application and incorporation when applicable. -Rate of manure application. -Weather conditions during application of manure -Field conditions during application of manure -Manure/wastewater quantities produced and nutrient analysis results -Records of rental or other agreements for application of manure/wastewater on land not owned by the producer -Records of manure/wastewater sold or given away to other landowners |

| RISK QUESTION | LOW RISK – 3 (RECOMMENDED) | MEDIUM RISK – 2 (POTENTIAL HAZARD) | HIGH RISK - 1 (SIGNIFICANT HAZARD) | RECORDS OR EVIDENCE FOR MAEAP VERIFICATION | REFERENCE OR GUIDANCE DOCUMENT |
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| Manure Spreading Plan (continued) | | | | | |
| 10.08) Are weather forecasts monitored when making decisions about field applications of manure? | Weather forecasts are monitored before field application decisions. Manure applications are delayed if excessive precipitation is predicted. Manure is not applied if greater than or equal to 70% probability of more than 0.5 inches of precipitation is forecasted within the next 24 hours. | The weather forecasts are monitored but manure applications are based on when the storage is full or timing is convenient. Application may be made when excessive precipitation is predicted | The weather forecasts are not monitored. Manure applications made regardless of weather forecasts. | Producer has a procedure in place to monitor weather forecasts prior to making decisions about field application(s) of manure. Manure is not applied when excessive precipitation is predicted. | |
| 10.09) How are manure nitrogen application rates managed? | <i>Manure nitrogen rates do not exceed requirements of the crop</i> and are credited toward fertilizer needs. Pre-sidedress nitrate test (PSNT) may be part of the program. | Manure nitrogen credits are considered but not to their full extent. | Commercial nitrogen is not reduced to account for manure nitrogen credits. | Manure rates do not exceed crop N needs, consistent with GAAMPs. | MSU Bulletin E2904: Nutrient Recommendations for Field Crops in Michigan <i>2014 RTF Nutrient Utilization GAAMPs, Fertilization Practices for land Application, Nitrogen Management Practices, #10a</i> <i>2014 RTF Manure Management and Utilization GAAMPs, Section V: Manure Application to Land, Manure Nutrient Loadings, #32</i> |

| RISK QUESTION | LOW RISK – 3 (RECOMMENDED) | MEDIUM RISK – 2 (POTENTIAL HAZARD) | HIGH RISK - 1 (SIGNIFICANT HAZARD) | RECORDS OR EVIDENCE FOR MAEAP VERIFICATION | REFERENCE OR GUIDANCE DOCUMENT |
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| Manure Spreading Plan (continued) | | | | | |
| 10.10) How are manure phosphorus application rates managed? | <i>High testing fields (>150 ppm Bray P1) do not receive manure, and fields between 75 and 150 ppm P receive no more than four years, crop P205 removal if one-year application, is impractical.</i> | High testing fields (>150 ppm Bray P1) removed from spreading plan, but crop removal rates are not followed. | Manure application rates are not based on soil tests and/or crop removal rates. | Manure rates do not exceed crop P needs. If developing a CNMP, refer to USDA-NRCS 590 Standard. | <i>2014 RTF Nutrient Utilization GAAMPs, Section VIII: Land Application of Conditionally-Exempted Organic By-Products, Composted Organic By-Products, and By-Product Liming Materials, #27</i> <i>2014 RTF Manure Management and Utilization GAAMPs, Section V: Manure Application to Land, Manure Nutrient Loadings, #33</i> |
| 10.11) Are odor reduction and nutrient retention practices utilized when manure is land applied? | <i>Manure is incorporated within 48 hours or injected into the soil, and/or conservation practices (residue management, cover crops, perennial crops etc.) are used to protect against runoff and erosion losses to surface waters.</i> | Manure is generally incorporated within seven days. | All manures are surface applied and may not be incorporated until field is covered or until spring tillage. | Manure application records. Incorporation exceptions include: pastures or forage crops, or fields where crop residues are retained for erosion control. | <i>2014 RTF Manure Management and Utilization GAAMPs, Section V: Manure Application to Land, Method of Manure Application, #35</i> |
| Conservation Practices for Fields used for Manure Application | | | | | |
| 11.01) Are manure applications managed to avoid ponding, soil erosion and/or runoff? | <i>Liquid manure applications are being managed in a manner to optimize nutrient utilization and do not result in ponding, soil erosion losses, or manure runoff to adjacent property, drainage ditches or surface water.</i> | Some consideration is given to ponding, soil erosion and/or runoff. | Ponding, soil erosion and/or runoff are not considered. Manure directly discharges to surface water. | No evidence of manure ponding, soil erosion and/or runoff. | NREPA PA 451 of 1994, Part 31: Water Resource Protection Act <i>2014 RTF Manure Management and Utilization GAAMPs, Section V: Manure Application to Land, Method of Manure Application, #36</i> |

| RISK QUESTION | LOW RISK – 3 (RECOMMENDED) | MEDIUM RISK – 2 (POTENTIAL HAZARD) | HIGH RISK - 1 (SIGNIFICANT HAZARD) | RECORDS OR EVIDENCE FOR MAEAP VERIFICATION | REFERENCE OR GUIDANCE DOCUMENT |
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| Conservation Practices for Fields used for Manure Application (continued) | | | | | |
| <p>11.02) Have environmentally sensitive areas been identified (land near surface water, highly erodible soils, soils with high leaching or runoff potentials, wells and surface inlets) that require additional management when applying nutrients (manure and fertilizers)?</p> | <p>Environmentally sensitive areas are identified. Family members, employees and contractors are aware of and understand the management practices to protect these areas.</p> | <p>Some environmentally sensitive areas are identified.</p> | <p>Environmentally sensitive areas are not considered.</p> | <p>Sensitive areas identified on field maps with appropriate management or setbacks:</p> <ul style="list-style-type: none"> • Areas next to surface water. • Fields with shallow ground water. • Fields with water wells. • Areas near surface water inlets. • Fields with highly erodible soils. • Fields with highly leachable soils. • Fields with high runoff potential. <p>Training/communication plan to inform workers and contractors of appropriate management or setbacks is in place.</p> | |
| <p>11.03) How are fields selected for spreading on frozen and snow-covered ground?</p> | <p>No winter applications.</p> | <p>Manure Application Risks Index (MARI) is completed for each field receiving winter manure application. Fields receiving winter manure applications have met MARI criteria for Low or Very Low and no liquid manure is applied on slopes greater than 3%, and no solid manure is applied to slopes over 6%.</p> | <p>Applications are made to fields where runoff to water resources may occur.</p> | <p>MARI completed for each field receiving winter manure application, or spreading plan does not include winter spreading.</p> | <p>NRCS MARI</p> <p><i>2014 RTF Manure Management and Utilization GAAMPs, Section V: Manure Application to Land, Timing of Manure Application, #39</i></p> |

| RISK QUESTION | Low Risk – 3 (RECOMMENDED) | MEDIUM RISK – 2 (POTENTIAL HAZARD) | HIGH RISK - 1 (SIGNIFICANT HAZARD) | RECORDS OR EVIDENCE FOR MAEAP VERIFICATION | REFERENCE OR GUIDANCE DOCUMENT |
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| Conservation Practices for Fields used for Manure Application (continued) | | | | | |
| 11.04) Is soil erosion under control on the farm fields? | Soil erosion losses are within tolerances as documented by the revised universal soil loss equation (RUSLE2) and the wind erosion prediction system (WEPS). Minimal evidence of erosion and no evidence of concentrated water flows. Cover crop may be in place. | RUSLE2 and WEPS are run on fields that are not: In pasture or hay ground, or no-till planting systems. Receiving fall tillage, with >30% residue on less than 12% slopes. Receiving more than one pass fall tillage that leaves fields rough with >40% residue and less than 8% slopes. And regardless of fall tillage, spring tillage leaves > 20% residue. And for all of the above there is no evidence of sheet, rill or gully erosion. | Excessive soil erosion is occurring on the farm. | RUSLE2 and WEPS calculations completed and on file. | NRCS RUSLE2 NRCS WEPS |
| 11.05) How is manure generally applied to fields? | <i>Manure is incorporated within 48 hours or injected into the soil, and/or conservation practices (residue management, cover crops, perennial crops, etc.) are used to protect against runoff and erosion losses to surface waters.</i> | Manure is generally surface-applied, and conservation practices are employed to reduce the risk of runoff. | Manure is applied in a manner that results in ponding, soil erosion losses, or manure runoff to adjacent property, drainage ditches or discharges directly to surface water. | Manure application records. | NREPA PA 451 of 1994, Part 31: Water Resource Protection Act <i>2014 RTF Manure Management and Utilization GAAMPs, Section V: Manure Application to Land, Method of Manure Application, #35</i> |

| RISK QUESTION | LOW RISK – 3 (RECOMMENDED) | MEDIUM RISK – 2 (POTENTIAL HAZARD) | HIGH RISK - 1 (SIGNIFICANT HAZARD) | RECORDS OR EVIDENCE FOR MAEAP VERIFICATION | REFERENCE OR GUIDANCE DOCUMENT |
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| Conservation Practices for Fields used for Manure Application (continued) | | | | | |
| 11.06) How are streams, wetlands, farm ditches and other water bodies protected from manure runoff? | <i>Manure is incorporated within 48 hours or injected. Or, surface applications are not done within 150 feet of surface water. Or, filter strips, riparian buffer strips, and other conservation practices are maintained between fields and surface waters on the farm and around surface water inlets.</i> | Conservation practices are maintained on some fields. | Manure is applied within 150 feet of surface waters and not incorporated without conservation practices. And/or, manure occasionally reaches neighbor's property. | Field maps with setbacks and conservation practices identified. Records of manure incorporation. | <i>2014 RTF Manure Management and Utilization GAAMPs, Section V: Manure Application to Land, Method of Manure Application, #35</i> |
| 11.07) How are field tiles managed to prevent manure discharge to surface water? | <i>Liquid manure is prevented from reaching tile lines.</i> Management practices are in place to prevent runoff to surface inlets. Tile line outlets are monitored. | | Tile outlets are not monitored for manure discharge. | Tiled fields identified on map. Record of tile flow before and after application (flow rate, color and odor). | <i>2014 RTF Manure Management and Utilization GAAMPs, Section V: Manure Application to Land, Method of Manure Application, #36</i> |
| Manure Pipeline, Hose and Irrigation System Management | | | | | |
| 11.08) If liquid manure is applied through an irrigation system, is care taken to assure that application rates do not exceed soil infiltration rates? | <i>Application rates do not exceed soil infiltration rates.</i> System is monitored for proper function. | | Application rates exceed soil infiltration rates, and/or runoff occurs. | No field evidence of runoff. Irrigation records. | <i>2014 RTF Manure Management and Utilization GAAMPs, Section III: Odor Management, Manure Application to Land, #19 - #25 (General Guidance)</i> |

| RISK QUESTION | LOW RISK – 3 (RECOMMENDED) | MEDIUM RISK – 2 (POTENTIAL HAZARD) | HIGH RISK - 1 (SIGNIFICANT HAZARD) | RECORDS OR EVIDENCE FOR MAEAP VERIFICATION | REFERENCE OR GUIDANCE DOCUMENT |
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| Manure Pipeline, Hose and Irrigation System Management (continued) | | | | | |
| 11.09) When systems are connected to a surface or well water source are appropriate backflow prevention devices in place and properly maintained when applying liquid manure through irrigation? | Backflow prevention safety devices are used and properly maintained when irrigating with liquid manure. | Backflow prevention devices are almost always used and/or properly maintained. | Backflow prevention devices are not used and/or properly maintained. | Operational backflow devices field confirmed. | Public Health Code Water Supply & Sewer Systems <i>2014 RTF Irrigation Water Use GAAMPs: Section II: Generally Accepted Agricultural and Management Practices for Irrigation Water Use: Application Practices, #22</i> |
| 11.10) When manure is transferred through a pipeline or hose is a system in place to continuously monitor for leaks and to rapidly stop flow if required? | Automatic or remotely-controlled shut down system installed. | Remote communication system in place and pump operator is always on standby when manure is being pumped. | Leaks not immediately detected. No means for remote communication or automatic shutdown. Delayed response time for system shutdown. | Satisfactory explanation of monitoring system provided by owner | |
| 11.12) When disassembled or moved, how is the residual manure in the system handled? | An air-driven device is used, or system is flushed with water, or other means are employed to properly remove manure from the system prior to disassembly. | Residual manure is drained and collected for land application or returned to storage. | System is disassembled with manure allowed to dump at low points. | Satisfactory explanation of hose disassembly provided by owner | |

| RISK QUESTION | LOW RISK – 3 (RECOMMENDED) | MEDIUM RISK – 2 (POTENTIAL HAZARD) | HIGH RISK - 1 (SIGNIFICANT HAZARD) | RECORDS OR EVIDENCE FOR MAEAP VERIFICATION | REFERENCE OR GUIDANCE DOCUMENT |
|---|---|--|--|---|--|
| Manure Pipeline, Hose and Irrigation System Management (continued) | | | | | |
| 11.13) Is care taken to assure that irrigated manure does not flow into subsurface drains? | Field conditions are monitored before, during and after irrigation, and liquid manure is prevented from reaching tile lines. Appropriate measures are taken to avoid surface water discharges. | | No care is taken to monitor field conditions, tile drains, etc., when irrigating liquid manure. Direct discharge to surface water. | No evidence of manure flow into surface drains. | NREPA PA 451 of 1994, Part 31: Water Resource Protection Act |
| 11.14) If there are instances where diluted wastewater (\leq 1 percent solids) is applied to fields testing over 150 ppm P soil test, can the farmer document appropriate conditions for application? | <ul style="list-style-type: none"> - <i>Growing plants in the application area.</i> - <i>Wastewater application rate supplies less than 75% P crop removal.</i> - <i>Annual sampling of wastewater P content.</i> - <i>Soil P tests levels decline over time.</i> - <i>No other P applied to field.</i> - <i>Tile drain fields monitored for manure flow.</i> | Appropriate conditions are partially met. | Appropriate conditions for dilute wastewater application are not present. | Appropriate dilute wastewater management demonstrated. The CNMP guidelines and NRCS Nutrient Management Practice standard (590) require the use of the Michigan Phosphorus Index (PI) when wastewater is applied to fields testing over 150 ppm P soil test. A PI of 17 or lower is needed. | <i>2014 RTF Manure Management and Utilization GAAMPs, Section II: Runoff Control and Wastewater Management, Land Application of Runoff, #6</i> |
| Emergency Plan and Employee Training | | | | | |
| 12.01) Is there an emergency plan in place in the event of a manure spill? | Up-to-date written plan available and understood by all appropriate farm employees. <i>All uncontained spills or releases should be reported to the MDARD Agriculture Pollution Emergency Hotline: 1-800-405-0101, or the MDEQ Pollution Emergency Alerting System: 1-800-292-4706</i> | Incomplete or out-of-date action plan available. | No emergency action plan that deals with manure spills. | Up-to-date emergency farm plan. | |

| RISK QUESTION | LOW RISK – 3 (RECOMMENDED) | MEDIUM RISK – 2 (POTENTIAL HAZARD) | HIGH RISK - 1 (SIGNIFICANT HAZARD) | RECORDS OR EVIDENCE FOR MAEAP VERIFICATION | REFERENCE OR GUIDANCE DOCUMENT |
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| Mortality Management and Veterinary Waste Disposal | | | | | |
| 13.01) How are animal mortalities handled? | Animals are buried, incinerated (requires permit), land filled, placed in a compost pile or picked up by a rendering service, anaerobically digested or other methods as approved by the Director of MDARD. Mortality is removed within 24 hours of death or stored for a maximum of seven days at 40 degrees F or a maximum of 30 days at 0 degrees F before proper disposal of the carcass. Records of mortality disposal, including burial, are kept on file and available for inspection. | | Animals are not buried, incinerated, land filled, placed in a compost pile or picked up by a rendering service within 24 hours of death. Or, stored for more than 7 days at 40 degrees F or more than 30 days at 0 degrees F before disposal of the carcass. | Disposal of dead animal bodies is done according to the Bodies of Dead Animals Act (BODA), as amended in 2007. Up-to-date forms on file for verification. (See FAS 112S.) Forms for recording mortality disposal including burial record forms and compost record forms are available on the MAEAP website at: http://www.maeap.org/get_verified/livestock_system . | Bodies of Dead Animals Act, Public Act 239 of 1982, as amended in 2008. |
| 13.02) If mortality composting is used, what are the isolation distances for the composting site? | Static pile site is located at least 200 feet from waters of the state, 200 feet from any well, 200 feet from nearest non-farm residence and 2 feet above seasonal high water table. | | Site is located less than 200 feet from waters of the state, 200 feet from any well, 200 feet from nearest non-farm residence, and 2 feet above seasonal high water table. | Isolation distances meet BODA requirements. The BODA supplement, available at the MAEAP.org website, has been completed and reviewed. | Bodies of Dead Animals Act, Public Act 239 of 1982, as amended in 2008. |
| 13.03) Is the site properly selected? | Site was not properly selected for compost system regarding setbacks and composting method. | | Site was NOT properly selected for compost system regarding setbacks and composting method. | | |

| RISK QUESTION | LOW RISK – 3 (RECOMMENDED) | MEDIUM RISK – 2 (POTENTIAL HAZARD) | HIGH RISK - 1 (SIGNIFICANT HAZARD) | RECORDS OR EVIDENCE FOR MAEAP VERIFICATION | REFERENCE OR GUIDANCE DOCUMENT |
|--|---|--|---|---|--|
| Mortality Management and Veterinary Waste Disposal (continued) | | | | | |
| Mortality Composting | | | | | |
| 13.04) Is the compost system sized to handle the normal, expected mortality for the facility? | System capacity is adequate for the mortality at all times. | Capacity is normally adequate; however, system capacity is at times exceeded because of normal fluctuations in mortality rate. | System is sized inadequately to handle the volume of mortality for the operation. | | |
| 13.05) Does the composting process follow standards identified in the Bodies of Dead Animals Act, (BODA), as amended in 2008? | Current BODA standards followed. | | BODA standards not followed. | Practices are followed as described in the Michigan Animal Tissue Composting Operation Standard (MATCOS), available online at: http://www.michigan.gov/documents/mda/BODA_Composting_Operational_Standards_216592_7.pdf . The BODA supplement has been completed and reviewed. | Bodies of Dead Animals Act, Public Act 239 of 1982, as amended in 2008. |
| 13.06) Is compost actively aerated and temperature monitored at least weekly through three heat cycles? | Yes | | No | Compost is properly managed. | Bodies of Dead Animals Act, Public Act 239 of 1982, as amended in 2008. |
| 13.07) Are records of compost management being kept according to BODA? | Yes | Partial composting records have been kept. Complete composting records will be kept immediately and will be available for review at the time of re-verification. | No | See FAS 112S, Proper Disposal of Dead Animals Worksheet for the required compost records. | Bodies of Dead Animals Act, Public Act 239 of 1982, as amended in 2008. |

| RISK QUESTION | LOW RISK – 3 (RECOMMENDED) | MEDIUM RISK – 2 (POTENTIAL HAZARD) | HIGH RISK - 1 (SIGNIFICANT HAZARD) | RECORDS OR EVIDENCE FOR MAEAP VERIFICATION | REFERENCE OR GUIDANCE DOCUMENT |
|--|--|--|--|---|--|
| Mortality Management and Veterinary Waste Disposal (continued) | | | | | |
| 13.08) How are animal health care needles and syringes disposed? | Sharps are put into a puncture-resistant container, labeled and taken to licensed landfill. | | Disposal at landfill without protective containment, or disposed of on the farm. | Presence of a sharps disposal container. | Public Health Code PA 368 of 1978, Part 138: Medical Waste Regulatory Act |
| Odor Management | | | | | |
| 14.01) If the farm has 50 Animal Units or more, was the Michigan Right to Farm GAAMPs for Site Selection and Odor Control for New and Expanding Livestock Facilities (Site Selection GAAMP) used to site new or expanding livestock production facilities constructed after June 1, 2000* | Farm has expanded since 2000 and <i>has MDARD Site Selection GAAMP verification</i> . MDARD verification is required for sites housing 500 AU or greater in a Category 1 location or 250 AU or greater in a Category 2 location. | Since 2000 the farm expanded to house between 50 and 499 AU in a Category 1 location or between 50 and 249 AU in a Category 2 location and the producer used the Siting Checklist and determined the site meets all of the Site Selection GAAMP Standards. | The farm has expanded since 2000 and does not meet all of the Site Selection GAAMP standards or the determination has not been made. | Conformance with Site Selection and Odor Control GAAMPs | <i>2014 RTF Site Selection and Odor Control for New and Expanding Livestock Production Facilities GAAMPs</i> |
| 14.02) If the farm has less than 50 Animal Units, was the Michigan Right to Farm GAAMPs for Site Selection and Odor Control for New and Expanding Livestock Facilities (Site Selection GAAMP) used to determine the site category for facilities constructed after June 1, 2000* | The farm proactively achieved verification under the <i>Michigan Right to Farm Site Selection GAAMP</i> . | The farm has been determined to be a Category 1, 2, or 3 location and is not required to complete the Site Selection GAAMP verification process. | The farm has been determined to be a Category 4 location and is not eligible for MAEAP Livestock or Farmstead verification. | Conformance with Site Selection and Odor Control GAAMPs | <i>2014 RTF Site Selection and Odor Control for New and Expanding Livestock Production Facilities GAAMPs</i> |

| RISK QUESTION | LOW RISK – 3 (RECOMMENDED) | MEDIUM RISK – 2 (POTENTIAL HAZARD) | HIGH RISK - 1 (SIGNIFICANT HAZARD) | RECORDS OR EVIDENCE FOR MAEAP VERIFICATION | REFERENCE OR GUIDANCE DOCUMENT |
|---|--|--|--|--|---|
| Odor Management (continued) | | | | | |
| 14.04) Does the farm have an odor management plan? | An odor management plan has been developed and implemented. <i>Farm is managed to minimize odor impacts upon neighbors.</i> | A partial odor management plan has been developed and implemented. | No odor management plan has been developed. | A written odor management plan has been developed and reviewed. (See FAS 112S Odor Management Plan.) | <i>2014 RTF Manure Management and Utilization GAAMPs, Section III. Odor Management, #12</i> |
| *These questions (14.01 and 14.02) do not apply to farms where the Site Selection GAAMPs are not applicable, such as farms located in municipalities with populations greater than 100,000 where a zoning ordinance has been enacted to allow for agriculture. In addition, the Site Selection GAAMPs do not apply to research and educational institutions, or other locations as determined by MDARD. | | | | | |
| Other Environmental Risks in the Livestock System | | | | | |
| 15.01) If the groundwater and surface water pumps have a combined capacity to pump more than 100,000 gallons per day (70 gallons per minute) for agricultural purposes has “water use” been registered and reported to the State of Michigan? | Pump capacity is less than 100,000 gallons per day (70 gallons per minute), OR, registered and reported annual water use to Michigan Dept. of Agriculture and Rural Development. | | Pump capacity is greater than 100,000 gallons per day (70 gallons per minute) and water use is not reported to the State of Michigan. | Farm records indicate compliance. | NREPA PA 451 of 1994, Part 31: Water Resource Protection Act |
| 15.02) Are there other activities, products, processes/equipment, services, byproducts, and/or wastes at this farm that pose contamination risks to groundwater or surface water? | No additional contamination risk(s) are identified. | Plan to mitigate the identified contamination risk(s). | No plan to mitigate identified contamination risk(s). | No other environmental risks found. | |