Background Information & Mitigation Guidelines
MANURE STORAGE IMPROVEMENTS and MORTALITY MANAGEMENT

I. BACKGROUND FOR MANURE STORAGE AND HANDLING SYSTEMS

• Supplementary Information Form on sizing and safety features must be completed for the items eligible in this section. These forms will be attached to your “Conditional Approval” letter you receive from OSCIA for the proposed project.

• To encourage environmentally responsible manure storage, handling and incorporation practices, incentives are provided for the construction of manure storage and handling facilities.

• Safety requirements for open liquid, semi-solid and run-off storage: a permanent barrier with a minimum height of at least five feet (1.5 metre) above ground level is required.

• Sizing requirements: there are no minimum size requirements for the program. To be compliant, a livestock operation requires the equivalent of 240-days storage capacity for all manure and liquid wastes unless otherwise specified in the applicant’s approved Nutrient Management Plan or Strategy.

• Eligible costs include fees for professional assessment of surface and ground water properties.

• Storages must comply with local by-laws and the Canadian Farm Building Code.

• Canadian Agricultural Partnership funding will be used to support eligible projects sized to livestock numbers present on the farm as of April 1, 2018. Financial requests to support expansion or potential for expansion in herd/flock size since April 1, 2018 will not be honoured.

Purpose

1. To eliminate the need to spread manure on frozen or water-saturated soils thus reducing the danger of runoff causing water pollution.

2. To store manure, liquid fractions of manure and contaminated precipitation safely.

3. To encourage environmentally responsible manure storage, handling and incorporation practices.

Manure storages must meet the requirements of section 69 of Ontario Regulation 267/03 as amended and designed according to the Nutrient Storage Technical Standards (NSTS) outlined in the Construction and Siting Protocol.

The cost-share will generally apply to the portion of the storage required to handle 240 days volume of manure, up to barn capacity and based on livestock numbers as of April 1, 2018. For all manure storage projects, applicants will be required to provide assurances to OSCIA prior to the project receiving final approval for completion. Assurances will include a sign-off from the professional engineer or company representative who planned the facilities or approved the design.
II. CONSTRUCTION GUIDELINES FOR MANURE STORAGE and MORTALITY MANAGEMENT PROJECTS

Federal funding partners have previously consulted with other federal departments to develop a list of mitigation measures which are to be exercised appropriately by participants in the Canadian Agricultural Partnership.

Please note the mitigation stated below applies to most, but not necessarily all projects. Program participants are responsible for applying appropriate mitigation.

Project Design and Planning

- Program participants are responsible for obtaining licenses, permits, approvals or authorizations and complying with all applicable municipal, provincial and federal legislation.
- Regardless of the farm size, all new manure storage facilities must be sited, constructed and operated in compliance with the Nutrient Management Act 2002 and the Siting and Construction Protocols (December 10, 2003) of the NMA 2002, Ontario Regulation 294/04 as amended. Nutrient Management Plans and Strategies are not required to be in compliance with the Partnership Construction Guidelines but may be required to comply with the Nutrient Management regulation or municipal bylaws.
- Participants must refer to the appropriate worksheets in the Canada-Ontario Environmental Farm Plan Program (Third or Fourth Edition Workbook) for the activity being undertaken.
- Participants should follow the appropriate Best Management Practice (BMP) guidelines for the activity.
- Manure storages and handling facilities must be inspected and maintained by the producer on a regular basis to ensure facilities are operating properly.

Additional guidance for Composting of Deadstock:

- Must comply with the Disposal of Dead Farm Animals regulation under the Nutrient Management Act and the Disposal of Deadstock regulation under the Food Safety and Quality Act. The regulations came into force on Friday, March 27, 2009, and provide the legal requirements to dispose of horse, goat, sheep, swine and cattle carcasses that have died on the farm.
- Participants must refer to the Worksheet on Disposal of Farm Wastes in the Canada-Ontario Environmental Farm Plan for the activity being undertaken.
- Incinerators must be ETV-approved for use in Ontario.

Wildlife and Species at Risk

- Minimize disturbance to fish and wildlife by scheduling work to avoid sensitive periods (i.e., spawning, nesting, migration, staging, breeding, hibernation or nursing) and areas (i.e., residence, wildlife movement corridors). Comply with any applicable ‘no construction’ timing windows.
- May need to consult COSEWIC (Committee on the Status of Endangered Wildlife in Canada) species list (federal) and the provincial list on rare and endangered species. Federal: http://www.cosewic.gc.ca; Provincial: http://www.rom.on.ca/ontario/risk.php (Please contact the Ministry of Natural Resources and Forestry for assistance: www.ontario.ca/ministry-natural-resources-forestry; 1-800-667-1940)
- Survey the area for active nests, burrows or dens prior to clearing, and avoid disturbing them.
• If migratory birds are breeding in the project area, contact Environment Canada regarding appropriate measures to protect them.

(Please contact Environment Canada for assistance: www.ec.gc.ca; 1-416-739-4826; email: enviroinfo@ec.gc.ca).

• If any aquatic species at risk is known or expected to be present at any time within or adjacent to the project area, consult with Fisheries and Oceans Canada specialists (1-866-290-3731) or the relevant provincial authority regarding measures to avoid harmful disturbance. Contact your local Conservation Authority.
• Use existing roads and trails for site access where possible.

Soil Erosion and Sediment Control During Construction
• Effective short term erosion and sediment controls should be installed prior to work and maintained until the site has been stabilized.
• Phase work to minimize duration of exposure of disturbed areas.
• Divert surface runoff away from working areas and areas of exposed or susceptible soils, where feasible.
• Ensure earthworks do not intensify flood hazards or create undesired obstructions to drainage into natural water bodies.
• Ensure that any sediment laden water is discharged onto land or into a settling pond prior to re-entry into a water body (during construction, etc).
• Postpone clearing of slopes (as required) until immediately prior to construction.
• If prolonged period of exposure is expected, stabilize stored and stockpiled soils against wind and water erosion by using temporary cover.
• Remove accumulated sediments prior to removal of controls, where feasible.
• Avoid dewatering in sensitive groundwater areas or near wells, where feasible.

Construction Equipment and Operation
• Clean all machinery and equipment prior to transport to new construction areas.
• Construction equipment must be properly maintained to prevent leaks and spills of fuels, lubricants, hydraulic fluids, or coolants.
• Participant should have spill clean up materials on site. In the event of any reportable petroleum product or hazardous material spills, appropriate provincial authorities must be notified. Ensure emergency contact numbers are available on site.

Waste Materials
• Storage, handling and disposal of wastes and hazardous waste materials will be done properly and in accordance with all relevant municipal, provincial and federal legislation.

Site Preparation
• Prepare the site according to the project plan including the erosion and sediment controls.
• Keep site clearing to a minimum and minimize disturbance to ground surface and vegetation, especially those that affect infiltration and runoff characteristics.
• All topsoil stripped and disturbed during the project should be salvaged and replaced as quickly as possible to encourage revegetation.
• Stabilize slopes as appropriate for local site conditions.

Construction
• Avoid work activities during excessively wet site conditions.
• Reduce vehicle emissions from heavy equipment by reducing/eliminating idling and also by properly maintaining/servicing the heavy equipment.
• Fuelling and/or servicing of mobile construction equipment and the storage of fuel and hazardous materials are not to occur within 100m of a surface water body.
• In the event that any cultural or heritage resources (bones, pottery) are discovered, construction must cease and the Ministry of Tourism, Culture and Sport should be notified immediately.
  (Please contact the Ministry of Tourism, Culture and Sport for assistance: www.mtc.gov.on.ca; 1-888-997-9015;
  email: internet.feedback.mtour@ontario.ca. They will direct you to the responsible Heritage Planner for the area.

Post Construction
• Restore or re-vegetate all disturbed areas, including riparian areas, to pre-construction conditions, as soon as possible and to the fullest extent possible. All re-vegetation should be done with species that existed prior to construction or suitable species as planned (preferably native).
• Remove and dispose of wastes and hazardous waste materials from site properly and in accordance with all relevant municipal, provincial, and federal legislation as planned.

### Nutrient Storage and Management

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<tr>
<th>Project Component</th>
<th>Description of Effect Mitigation</th>
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| Groundwater Quality and Quantity | Contamination of groundwater during management of facility
  • Comply with all pertinent regulations, standards and guidelines regarding the siting, construction and operation of nutrient management facilities.
  • Ensure that the construction site is clear of all drainage tile to a distance of 3 m.
  • Ensure that the floor of the facility is above the normal water table and at least 1 m above bedrock.
  • If the natural clay content of the soil is less than 15%, include an impermeable membrane below and around the containment structure, configured to enable collection and monitoring of any effluent leakage.
  • Locate the storage facility at least 30 m (horizontal distance) from any water well or other groundwater source, taking into consideration any applicable regulatory requirements.
  • Where applicable, ensure that facility is sited and constructed in accordance with designs prepared by a qualified professional engineer. |
| Humans | Discomfort to individuals exposed to odours from nutrient storage and application.
  • Consult with provincial ministries responsible for nutrient management activity regulation.
  • Ensure that facilities are located within areas that are zoned appropriately for agricultural nutrient storage.
Effects on human health due to exposure to bacteria.
  • Identify all farm nutrient storage facilities with signs.
  • Ensure that all open structures have barriers that extend at least 1.5 m above ground, and are in accordance with any regulated height requirement. |
| Surface Water Quality | Reduced water quality and clarity due to inputs of contaminants from surface runoff during construction and operation.  
  • Comply with all pertinent regulations, standards and guidelines regarding the siting, construction and operation of nutrient management facilities.  
  • Avoid siting concrete facilities in floodplains (100 yr flood) and ensure earthen facilities are appropriately designed for hydrostatic pressure and ice damage, if sited in a floodplain.  
  • Ensure that open structures have sufficient capacity to contain the targeted quantities of nutrients to prevent overflow during extreme rain events.  
  • Ensure that structures have sufficient capacity to avoid storage of uncontained excess on-site in open piles. Structures should have a minimum 240 day storage capacity if they will be emptied twice per year. Moreover, all structures must comply with any applicable regulations.  
  • Ensure that land application complies with all applicable regulations that prohibit nutrient spreading within a specified distance from a water body.  
  • Maintain a vegetated buffer strip to protect water bodies adjacent to areas of land application. These buffers must, at a minimum, comply with applicable regulations governing the application of agricultural source nutrients.  
  • Site facilities in areas where runoff is directed away from the facility. If necessary, construct berms or drainage swales to direct runoff away from open structures.  
  Where applicable, ensure that facility is sited and constructed in accordance with designs prepared by a qualified professional engineer. |