6. CALCULATION FORMS

6.1 MDS I Calculation Form

Introduction

Implementation Guidelines #2 through #5 and #7 through #15 provide direction on the types of applications and situations which generally trigger the need to complete an MDS I setback calculation(s).

Generally, the preferred method for calculating MDS setbacks is to use the software provided by OMAFRA (AgriSuite). However, on occasions where a 'by hand' calculation is preferred or the software is not available, the following information is intended to assist with the calculation of MDS I setbacks. It is not intended to detract or add to the information found in specific Implementation Guidelines or tables located in Sections 4 and 5 of this MDS Document.

MDS I setbacks are calculated for each *livestock facility* that may be reasonably impacted by the proposed *Planning Act, 1990*, application or building permit application. MDS I setbacks for *anaerobic digesters* do not need to be calculated, but are required in accordance with Implementation Guideline #22. In some circumstances, a proposed *development* or *dwelling* may only trigger one MDS I setback if there is only one *livestock facility* in the vicinity. In circumstances where there are multiple *livestock facilities* in the vicinity, multiple MDS I calculations are necessary.

Implementation Guideline #6 provides direction on conducting MDS I calculations. It states that as part of municipal consideration of planning or building permit applications, *existing livestock facilities* or *anaerobic digesters* within a 750 m distance of Type A applications and within a 1,500 m distance of Type B applications shall be investigated, and MDS I setback calculations undertaken where warranted. In circumstances where large *livestock facilities* (e.g., >1,200 *Nutrient Units*) exist beyond the 750 m or 1,500 m study area, MDS I setbacks from these facilities should also be calculated.

Steps 1 and 2 are completed once for any given application. Steps 3 through 14 are repeated for each *livestock facility* for which an MDS I setback is required.

Step 1: Data Collection — Applicant Contact Information

Fill in the pertinent contact information for the applicant. If all of this information is not available, include sufficient information so that the applicant can be identified and contacted if necessary.

Contact Information — Applicant	
First name	
Last name	
Company/organization (if applicable)	
Agent (if applicable)	
Mailing address	
City/town	
Province	
Postal code	
Telephone number	
Alternative telephone number	
Fax number	
Email	

Step 2: Data Collection — Location and Description of the Proposed Application

Fill in the pertinent information regarding the proposed application. If all of this information is not available, include sufficient information to identify if the proposed application involves a *settlement area* boundary expansion and if the proposal is a Type A or Type B land use.

Location and Description of the Proposed Application	
Upper tier/single tier municipality	
Lower tier municipality (if applicable)	
Lot	
Concession	
911 number	
Roll number	
Application type (e.g., building permit, plan of subdivision, rezoning, official plan amendment, etc.)*	
General description of the proposed application*	

*Indicates information required to complete an MDS I calculation

Step 3: Data Collection — Contact Information for the Surrounding *Livestock* Facility

Fill in the pertinent contact information for the farmer or the owner of the surrounding *livestock facility*. If all of this information is not available, include sufficient information so that the farm owner or operator can be identified and contacted if necessary.

Contact Information — Farm Owner or Operator	
First name	
Last name	
Company/organization (if applicable)	
Agent (if applicable)	
Mailing address	
City/town	
Province	
Postal code	
Telephone number	
Alternative telephone number	
Fax number	
Email	

Step 4: Data Collection — Location of the *Livestock Facility*

Fill in the pertinent information regarding the location of the *livestock facility*. If all of this information is not available, include sufficient information so that the *livestock facility* can be located if required. NOTE: It is important to know the size of the *lot* on which the *livestock facility* is located.

Location of the *Livestock Facility*	
Upper tier/single tier municipality	
Lower tier municipality (if applicable)	
Lot number	
Concession	
911 number	
Roll number	
Size of *lot* where *livestock facility* is located (indicate acres or hectares)*	

*Indicates information required to complete an MDS I calculation

Step 5: Data Collection — Information Regarding the *Livestock Facility*

Gather the pertinent information regarding the *livestock facility* that is required to complete the MDS calculation in the following steps. Often, the operator of the *livestock facility* is the best contact to obtain this information.

A *livestock facility* may have two components:

1. *livestock barn(s)*, with associated *manure storage*(s)
2. imported *manure storage*(s)

An *anaerobic digester* may also be present on the *lot*. The type and amount of information needed will depend on the nature of the specific *livestock facility*, which components are present and whether there is an *anaerobic digester* on the *lot*.

If the *livestock facility* includes a *livestock barn*, gather information on the animal housing including information on all the types of *livestock* housed, the barn's capacity for each type of *livestock* and the manure system used in the barn (see Table 1).

If the barn is presently empty, but the type of *livestock* housed and capacity can be reasonably estimated by one or more of the parties involved, use this approach and note that the barn's capacity is estimated. However, if the barn is empty and its capacity cannot be readily estimated by one or more of the parties involved, then record the information for an *unoccupied livestock barn* as found in Table 1.

Typically, a *livestock facility* with a *livestock barn* will include at least one *manure storage*, but it is possible to have a *livestock barn* without one. If present, identify the type of *manure storage* at the *livestock facility* (see Table 6). If more than one type of *manure storage* is present, identify each different type. If the *manure storage* is unused, but the type of *livestock* and the capacity for the barn was estimated, then indicate the type of *manure storage*. However, if the *manure storage* is unused, and the information for an *unoccupied livestock barn* was used to determine the capacity for the *livestock barn*, then proceed to identify the *manure storage* type. Enter information for a solid or liquid *unused manure storage* as per Table 1.

If the *livestock facility* includes an imported *manure storage*, gather information on the size of the *manure storage* and type of manure stored (i.e., solid or liquid). As well, identify the appropriate *manure storage* type (see Table 6). If more than one type of imported *manure storage* is present, identify each different type.

If there is an *anaerobic digester* on the *lot* simply record this information as no additional detailed information is required.

To assist with this step, Implementation Guideline #16 provides direction on obtaining information to calculate MDS setbacks. A sample MDS I Data Collection Form is provided in Section 6.

Step 6: *Livestock*/Manure Types and Descriptions Housed and/or Stored

On Calculation Form A, identify all *livestock*/manure types that are housed and/or stored as part of the *livestock facility*, based on the information provided by the farm operator in Step 5. Table 1 provides a listing of all types of *livestock*. For each type of *livestock*/manure complete a separate row in Form A. For each row and each *livestock*/manure type, rely on Table 1 for information regarding description, 'number/NU' and manure type.

1. In Cell A2, identify the type of *livestock* (e.g., dairy).

2. In Cell B2, identify the appropriate description for the *livestock* (e.g., milking-age cows (dry or milking) large-framed (e.g., Holsteins)).

3. NOTE: There is no description for imported manure, therefore Cell B2 would remain blank.

4. In Cell C2, record the 'number/NU' from Table 1 (e.g., 0.7).

5. In Cell D2, identify the manure type (e.g., liquid). If Table 1 provides more than one option for manure type (i.e., both liquid and solid are options), indicate which type is present or proposed, based on information supplied by the farm operator.

6. Enter the existing maximum number of *livestock* that can be housed, or maximum area that can be used to house *livestock* or the maximum volume of manure that can be stored in Cell E2 based on information supplied by the farm operator. The value entered should be the maximum capacity of the *livestock barn* or *manure storage* for that type of *livestock* or manure and not the present number or area of *livestock* housed or present volume of manure stored.

7. Repeat this step for each type of *livestock*/manure that exists using rows 3 through 6 as needed. If more than five types of *livestock* (and imported manure) are currently, or will be housed, add additional rows to the table. For some types of *livestock* more than one row will be needed if the operation houses more than one description of *livestock*. For example, a dairy operation that houses milking-age cows, heifers and calves would need three rows, one for each description.

8. For *unoccupied livestock barns*, where the *livestock* type that can be housed is known, or can reasonably be estimated by one or more of the parties involved, enter that *livestock* type and capacity for the empty facility. This information can be obtained from the farm owner. However, where the *livestock* type that can be housed in the *unoccupied livestock barn* is unknown, or reliable information is unavailable, complete Calculation Form A using the *unoccupied livestock barn* option provided in Table 1 and described further in Implementation Guideline #20. Follow a similar process for *unused manure storage*s as described in Implementation Guideline #21.

MDS I — CALCULATION FORM A

	A	B	C	D	E	F	G	H
1	*Livestock*/ Manure Type	*Livestock*/ Manure Description	Number/NU (number of *livestock* or m^2 or m^3)	Manure Type (solid or liquid)	Existing Maximum Number of *Livestock* (or m^2 or m^3)	Existing Maximum Number of *Nutrient Units*	Factor A Value	Factor D Value
2								
3								
4								
5								
6								

MDS I — CALCULATION FORM B

	A	B
1	***Design capacity***	*Nutrient Units*
2	**Final Factor A**	
3	**Final Factor D**	
4	**Land use type**	
5	**Final Factor E**	

Step 7: Convert *Livestock*/Manure Information to *Nutrient Units*

1. For each *livestock*/manure type and description outlined on Calculation Form A, calculate how many *Nutrient Unit*s are associated with the *livestock facility*. Determine this by taking the existing maximum number of *livestock* that can be housed, or maximum area that can be used to house *livestock*, or the maximum volume of manure that can be stored in Cell E2 and divide it by the 'Number/NU' in Cell C2. Record this new value in Cell F2. If necessary, repeat this step for each type of *livestock*/manure identified.

2. Next calculate the *design capacity* of all *livestock facilities* on the *lot*. To determine the *design capacity* as expressed in *Nutrient Unit*s, add values in Cells F2 through F6 on Calculation Form A and record this value in Cell B1 on Calculation Form B.

Step 8: Factor A

1. For each *livestock*/manure type and description outlined on Calculation Form A, determine the value of Factor A. For the *livestock*/manure type described in Cells A2 and B2, enter the value of Factor A from Table 1 in Cell G2 on Calculation Form A. For example, if Cells A2 and B2 describe dairy cattle, milking-age cows, large-framed (e.g., Holsteins), record the value 0.7 in Cell G2. If necessary, repeat this step for each type of *livestock*/manure identified.

2. Review Cells G2 through G6. For cells where there is a recorded value for Factor A, if the value for Factor A is the same in every cell, then enter this value in Cell B2 on Calculation Form B. If there is more than one value for Factor A in Cells G2 through G6 on Calculation Form A, then it is necessary to calculate a weighted average for Factor A. For example, if dairy cattle milking-age cows, heifers and calves are recorded, there is no need to calculate a weighted average for Factor A, as the value of Factor A (i.e., 0.7) is the same for all three types of *livestock*. Similarly, if horses are recorded

(large-framed) and sheep (lambs), there is no need to calculate a weighted average for Factor A, as the value of Factor A (i.e., 0.7) is the same for both types of *livestock*. However, if sheep (lambs) and rabbits are recorded, calculate a weighted average for Factor A, as the value of Factor A is different for these types of *livestock*.

3. To calculate a weighted average for Factor A, see Implementation Guideline #30, and use the values for Factor A recorded in Cells G2 through G6 and the number of *Nutrient Unit*s recorded in Cells F2 through F6. When calculating a weighted average, the value of Factor A should not include more than two decimal places and may need to be rounded accordingly. Record the weighted average for Factor A in Cell B2 on Calculation Form B.

Step 9: Factor D

1. For each *livestock*/manure type and description outlined on Calculation Form A, determine the value of Factor D. For the manure type described in Cell D2 enter the value of Factor D from Table 1 in Cell H2. For example, if Cell D2 says liquid manure, record the value 0.8 in Cell H2. If necessary, repeat this step for each type of *livestock*/manure identified.

2. Review Cells H2 through H6. For cells where a value is recorded for Factor D, if the value for Factor D is the same in every cell, then enter this value on Calculation Form B, Cell B3. If there is more than one value for Factor D in Cells H2 through H6 on Calculation Form A, then it is necessary to calculate a weighted average for Factor D.

   For example, if solid manure for all types of *livestock* is recorded in the Calculation Form, there is no need to calculate a weighted average for Factor D, as the value of Factor D (i.e., 0.7) is the same for all types of *livestock*. However, if there is a record for both solid manure and liquid manure for various types of *livestock* on Calculation Form A, calculate a weighted average for Factor D as the type of manure is different for these types of *livestock*.

3. To calculate a weighted average for Factor D, see Implementation Guideline #31, and use the values for Factor D recorded in Cells H2 through H6 and the number of *Nutrient Unit*s recorded in Cells G2 through G6 on Calculation Form A. When calculating a weighted average, the value of Factor D should not include more than two decimal places and may need to be rounded accordingly. Record the weighted average for Factor D in Cell B3 on Calculation Form B.

Step 10: Factor E

1. Now determine Factor E which is based on the type of land use that is proposed as part of the land use planning or building permit application. Based on the information provided by the applicant in Step 2, as well as on direction found in Implementation Guidelines #33 and #34, determine if the proposed use is a Type A or Type B land use. Implementation Guidelines #35 through #38, and direction in local planning documents, may also help in determining if the proposed land use is a Type A or Type B land use.

2. On Calculation Form B, in Cell B4, record if the proposed land use is a Type A or Type B land use. If the proposed use is a Type A land, use Table 4 to enter a value of 1.1 in Cell B5 on Calculation Form B. If the proposed use is a Type B land, use Table 4 to enter a value of 2.2 in Cell B5 on Calculation Form B.

Step 11: Factor B

1. Next determine Factor B which is based on the *design capacity* for the *livestock facility* expressed in *Nutrient Unit*s, in combination with the size of the *lot* on which the *livestock facility* is located as a consideration for the potential future expansion of the *livestock facility*. If based on Step 2 and Step 10, it is determined that the proposed application is for a *settlement area* expansion (Type B land use), or if the *lot* is ≤5 ha, then take the value of the *design capacity* for the *livestock facility* expressed in *Nutrient Unit*s found on MDS I Calculation Form B, Cell B1. and record this in Cell B6 on MDS I Calculation Form C and skip to #7 below. If the proposed application is not for a *settlement area* expansion, take the value of *design capacity* for the *livestock facility* found on MDS I Calculation Form B, Cell B1, and record this in Cell B1 on MDS I Calculation Form C.

2. Based on the information provided in Step 4 by the farm operator or other reliable source, record in Cell B2 on Calculation Form C the *lot* size (in hectares or acres) of the *lot* on which the *livestock facility* is located. Do not enter the size of the entire farm operation; instead only consider the *lot* on which the *livestock facility* is located. For example, if a farm operation comprised 200 ha in its entirety, but the *livestock facility* is located on a 40 ha conveyable *lot*, record the 40 ha.

3. If the *design capacity* recorded in Cell B1 on MDS I Calculation Form B exceeds 125 *Nutrient Unit*s (NU), then record the applicable cap size in Cell B3 on Calculation Form C. If the *design capacity* does not exceed 125 NU, then indicate "Not Applicable" in Cell B3 on Calculation Form C. If the *design capacity* exceeds 125 NU, then determine the appropriate cap size based on the *lot* size recorded in Cell B2.

4. If the *lot* size recorded in Cell B2 is ≤5 ha, then record the phrase "Not Applicable" in Cell B3. If the *lot* size recorded in Cell B2 is >5 ha, but ≤25 ha, record a value of 300 in Cell B3. If the *lot* size recorded in Cell B2 is >25 ha, but ≤50 ha, record a value of 450 in Cell B3. If the *lot* size recorded in Cell B2 is >50 ha, record a value of 600 in Cell B3.

5. Determine the multiplication factor used to calculate the potential *design capacity* for the *livestock facility* as expressed in *Nutrient Unit*s, described in Implementation Guideline #26. To do this, use MDS I Calculation Form D which is derived from the table found in Implementation Guideline #26. Take the *design capacity* found in Cell B1 on Calculation Form C, cross reference that with the *lot* size found in Cell B2 on Calculation Form C and use these two values to determine the appropriate multiplication factor using Calculation Form D. Enter the value of the multiplication factor in Cell B4.

   For example, if the *design capacity* found in Cell B1 equals 15 NU and the *lot* size found in Cell B2 equals 20 ha, using Calculation Form D, enter a value of 2 in Cell B4 on Calculation Form C. If the *design capacity* found in Cell B1 equals 200 NU and the *lot* size found in Cell B2 equals 40 ha, using Calculation Form D, enter a value of 3 in Cell B4 on Calculation Form C. If the *design capacity* found in Cell B1 equals 5 NU and the *lot* size found in Cell B2 equals 55 ha, using Calculation Form D, enter a value of 1 in Cell B4 on Calculation Form C, etc.

6. Now take the value in Cell B1 on Calculation Form C and multiple it by the value in Cell B4 on Calculation Form C and enter the result in Cell B5 on Calculation Form C. For example, if the value in Cell B1 is 80 NU and the value in Cell B4 is 3, enter 240 NU in Cell B5.

7. Next, determine if the value in Cell B5 on Calculation Form C exceeds the cap size. If Cell B3 on Calculation Form C says "Not Applicable", enter the value from Cell B5 into Cell B6 on Calculation Form C. If Cell B3 on Calculation Form C contains a numeric value (i.e., 300, 450 or 600), compare this to

the value found in Cell B5 on Calculation Form C. If the value in Cell B5 is less than the value in Cell B3, enter the value found in Cell B5 into Cell B6 on Calculation Form C.

For example, if Cell B5 has a value of 240 NU and Cell B3 has a value of 300 NU, then enter a value of 240 NU in Cell B6. If the value in Cell B5 is equal to or greater than the value in Cell B3, enter the value found in Cell B3 into Cell B6 on Calculation Form C. For example, if Cell B5 has a value of 320 NU and Cell B3 has a value of 300 NU, then enter a value of 300 NU in Cell B6.

8. The value in Cell B6 is the potential *design capacity* for the *livestock facility* as expressed in *Nutrient Unit*s and is used to determine Factor B. Use this number to determine Factor B from Table 2 by looking up the value of Factor B in Table 2 based on the potential *design capacity*. In some cases, it is necessary to interpolate Factor B from Table 2, when the exact value is not specifically identified in Table 2. Implementation Guideline #26 provides more specific direction on Factor B, and information on interpolation and rounding can be found in the text accompanying Table 2.

9. Once the value of Factor B is determined, record this number in Cell B7 on Calculation Form C.

MDS I — CALCULATION FORM C

	A	B
1	***Design capacity***	*Nutrient Unit*s
2	***Lot* size**	Hectares
3	**Cap size (if applicable)**	
4	**Multiplication factor (from Implementation Guideline #26 and Calculation Form D)**	
5	**Multiplication factor multiplied by *design capacity***	*Nutrient Unit*s
6	**Potential *design capacity***	*Nutrient Unit*s
7	**Final Factor B**	

MDS I — CALCULATION FORM D

***Design Capacity* of Livestock Facility (NU)**	**Total *Lot* Size ≤5 ha**	**Total *Lot* Size >5 ha, but ≤25**	**Total *Lot* Size >25 ha, but ≤50 ha**	**Total *Lot* Size >50 ha**
≤5 NU	1	1	1	1
>5 NU, but ≤25 NU	1	2	2	2
>25 NU, but ≤125 NU	1	2	3	3
>125 NU	1	2	3	3

Step 12: Calculate Building Base Distance 'F

1. To calculate Building Base Distance 'F', enter the value for:

    - Factor A (found on Calculation Form B, Cell B2) into Cell A2 on Calculation Form E
    - Factor B (found on Calculation Form C, Cell B7) into Cell B2 on Calculation Form E
    - Factor D (found on Calculation Form B, Cell B3) into Cell C2 on Calculation Form E
    - Factor E (found on Calculation Form B, Cell B5) into Cell D2 on Calculation Form E

2. Calculate Building Base Distance 'F' by multiplying Factor A, Factor B, Factor D and Factor E. In other words, multiply the values in Cells A2, B2, C2 and D2 together and enter this result in Cell E2 on Calculation Form E.

MDS I — CALCULATION FORM E

	A	B	C	D	E
1	**Factor A**	**Factor B**	**Factor D**	**Factor E**	**Building Base Distance 'F'**
2					

Step 13: Determine Storage Base Distance 'S'

1. Enter Building Base Distance 'F' as found in Calculation Form E, Cell E2, in Calculation Form F, Cell B1. If the *livestock facility* does not have a *manure storage*, enter a value of 0 in Cell B3, Storage Base Distance, on Calculation Form F. If the *livestock facility* does have a *manure storage*, proceed to determining Storage Base Distance 'S' starting with Table 5. Compare the 11 types of *manure storage*s described in Table 5 (i.e., V1, V2, V3, V4, V5, V6, L1, L2, M1, M2 and H1) with the information provided by the farm operator regarding the *livestock facility* (Step 5). Select the *manure storage* type that best fits the application. The *manure storage* type selected should also reflect the value of Factor D used in the calculation.

    For example, if Factor D in the calculation is based on solid manure (value of 0.7) it is not appropriate to select the V6 *manure storage* type. Enter the *manure storage* type (e.g., V6) in Cell B2 on Calculation Form F. If more than one type of *manure storage* is present, select the *manure storage* type with the highest odour potential. For example, if a *livestock facility* has both a V6 and a H1 *manure storage*, enter H1 in Cell B2 on Calculation Form F.

2. Use the *manure storage* type (Cell B2 on Calculation Form F) and the Building Base Distance 'F' (Cell B1 on Calculation Form F) and determine the value of Storage Base Distance 'S' from Table 6 by looking up the value of the Storage Base Distance 'S' based on these two numbers. In some cases, it will be necessary to interpolate Storage Base Distance 'S' from Table 6 when the actual distance is not specifically identified in Table 6. Information on interpolation and rounding can be found in the text accompanying Table 6.

MDS I — CALCULATION FORM F

	A	B
1	**Building Base Distance 'F'**	
2	**Manure Storage Type (Table 5)**	
3	**Storage Base Distance 'S' (Table 6)**	

Step 14: Final MDS I Setbacks

1. The calculation of MDS I setbacks is now complete. The value in Cell B1 on MDS I Calculation Form F is the required MDS I setback between the proposed *development* or *dwelling* (i.e., planning or building permit application respectively) and the existing *livestock barn*.

2. The value in Cell B3 on MDS I Calculation Form F is the required MDS I setback between the proposed *development* or *dwelling* and the existing *manure storage*. If in Step 5 there was an *anaerobic digester* present on the *lot*, the MDS I setback between the proposed *development* or *dwelling* and all components of the *anaerobic digester* is 200 m for a Type A land use, and 450 m for a Type B land use (see Implementation Guideline #22).

3. Now apply these MDS I setbacks to the proposed *development* or *dwelling* as appropriate. Implementation Guidelines #39 through #41 provide information on the measurement of MDS setbacks. Implementation Guidelines #42 and #43 provide information on reducing and varying MDS setbacks. Repeat Steps 3 through 14 if MDS I setbacks are required for other *livestock facilities*.

6.2 MDS I Sample Data Collection Form

Information Regarding the Existing Facilities		
Facility Type	**Present on the *Lot*? (yes or no)**	**Chart Sections to Complete**
Livestock barn* and/or *manure storage		If yes, complete Section A
Imported *manure storage*		If yes, complete Section B
Anaerobic digester		No additional information required

Section A

Livestock

1. Enter *livestock* information below.
2. If the barn is empty, but *livestock* type and capacity can be reasonably estimated by one or more of the parties involved enter information below, and indicate that the capacity was estimated.
3. If the barn is empty, and capacity cannot be reasonably estimated by one or more of the parties involved, then proceed to the bottom of the *livestock* type list, and enter information for an *unoccupied livestock barn*.

***Livestock* Type**	***Livestock* Description**	**Number of *Livestock* or Area**	**Unit**	**Manure System (indicate solid or liquid if no default provided)**	**Estimate for an Empty Barn? (yes or no)**
Alpacas	Adults (includes unweaned young and replacements)		Number of *livestock*	Solid	
	Feeders (23–48 kg)		Number of *livestock*	Solid	
Beef	Cows, including calves to weaning (all breeds)		Number of *livestock*	Solid	
	Feeders (7–16 months)		Number of *livestock*		
	Backgrounders (7–12.5 months)		Number of *livestock*		
	Shortkeepers (12.5–17.5 months)		Number of *livestock*		
Bison	Adults (includes unweaned calves and replacements)		Number of *livestock*	Solid	
	Feeders (170–477 kg)		Number of *livestock*	Solid	

Livestock Type	*Livestock* Description	Number of *Livestock* or Area	Unit	Manure System (indicate solid or liquid if no default provided)	Estimate for an Empty Barn? (yes or no)
Chicken	Layer hens (for eating eggs; after transfer from pullet barn)		Number of *livestock*		
	Layer pullets (day-olds until transferred into layer barn)		Number of *livestock*		
	Broiler breeder growers (males/females transferred out to layer barn)		Number of *livestock*	Solid	
	Broiler breeder layers (males/females transferred in from grower barn)		Number of *livestock*	Solid	
	Broilers on any length of cycle use the floor area of the *livestock barn*		m^2 or ft^2	Solid	
Chinchillas	Breeding females (including males, replacements and market animals)		Number of *livestock*	Solid	
Dairy	Milking-age cows (dry or milking); large-framed; 545–658 kg (e.g., Holsteins)		Number of *livestock*		
	Milking-age cows (dry or milking); medium-framed; 455–545 kg (e.g., Guernseys)		Number of *livestock*		
	Milking-age cows (dry or milking); small-framed; 364–455 kg (e.g., Jerseys)		Number of *livestock*		
	Heifers (5 months to freshening); large-framed; 182–545 kg (e.g., Holsteins)		Number of *livestock*		
Dairy	Heifers (5 months to freshening); medium-framed; 148–455 kg (e.g., Guernseys)		Number of *livestock*		
	Heifers (5 months to freshening); small-framed; 125–364 kg (e.g., Jerseys)		Number of *livestock*		
	Calves (0–5 months); large-framed; 45–182 kg (e.g., Holsteins)		Number of *livestock*		
	Calves (0–5 months); medium-framed; 39–148 kg (e.g., Guernseys)		Number of *livestock*		
	Calves (0–5 months); small-framed; 30–125 kg (e.g., Jerseys)		Number of *livestock*		

Livestock Type	*Livestock* Description	Number of *Livestock* or Area	Unit	Manure System (indicate solid or liquid if no default provided)	Estimate for an Empty Barn? (yes or no)
White tailed deer	Adults >24 months (including unweaned offspring)		Number of *livestock*	Solid	
	Feeders		Number of *livestock*	Solid	
Red deer	Adults >24 months (including unweaned offspring)		Number of *livestock*	Solid	
	Feeders		Number of *livestock*	Solid	
Elk	Adults >24 months (including unweaned offspring)		Number of *livestock*	Solid	
	Feeders		Number of *livestock*	Solid	
Elk/deer hybrids	Adults >24 months (including unweaned offspring)		Number of *livestock*	Solid	
	Feeders		Number of *livestock*	Solid	
Fallow deer	Adults >24 months (including unweaned offspring)		Number of *livestock*	Solid	
	Feeders		Number of *livestock*	Solid	
Donkey	Jacks, jennies, mules, hinnies (includes unweaned foals)		Number of *livestock*	Solid	
Ducks	Muscovy (use the floor area of the *livestock barn*)		m^2 or ft^2		
	Peking		Number of *livestock*		
Emu	Adults (includes replacements and market birds)		Number of *livestock*	Solid	
Fox	Breeding females (including males, replacements and market animals)		Number of *livestock*	Solid	
Geese	Use the floor area of the *livestock barn*		m^2 or ft^2		
Goats	Does and bucks (for meat; includes unweaned offspring and replacements)		Number of *livestock*	Solid	
	Does and bucks (for dairy; includes unweaned offspring and replacements)		Number of *livestock*	Solid	
	Kids (dairy or feeder kids)		Number of *livestock*	Solid	

Livestock Type	*Livestock* Description	Number of *Livestock* or Area	Unit	Manure System (indicate solid or liquid if no default provided)	Estimate for an Empty Barn? (yes or no)
Horses	Large-framed, mature; >681 kg (e.g., draft or draft cross breeds including unweaned offspring)		Number of *livestock*	Solid	
	Medium-framed, mature; 227–680 kg (e.g., saddle, riding and racing breeds including unweaned offspring)		Number of *livestock*	Solid	
	Small-framed, mature; <227 kg (e.g., ponies and miniatures including unweaned offspring)		Number of *livestock*	Solid	
Llama	Adults (includes unweaned young and replacements)		Number of *livestock*	Solid	
	Feeders (45–86 kg)		Number of *livestock*	Solid	
Mink	Breeding females (including males, replacements and market animals)		Number of *livestock*		
Ostriches	Adults (includes replacements and market birds)		Number of *livestock*	Solid	
Partridge	Use floor area of the *livestock barn*		m^2 or ft^2	Solid	
Pheasants	Use floor area of the *livestock barn*		m^2 or ft^2	Solid	
Quail	Use floor area of the *livestock barn*		m^2 or ft^2	Solid	
Rabbits	Breeding females (including males, replacements and market animals)		Number of *livestock*	Solid	
Rheas	Adults (includes replacements and market birds)		Number of *livestock*	Solid	
Sheep	Ewes and rams (for meat; includes unweaned offspring and replacements)		Number of *livestock*	Solid	
	Ewes and rams (dairy operation; includes unweaned offspring and replacements)		Number of *livestock*	Solid	
	Lambs (dairy or feeder lambs)		Number of *livestock*	Solid	
Squab (pigeon)	Use the floor area of the *livestock barn*		m^2 or ft^2	Solid	

Livestock Type	*Livestock* Description	Number of *Livestock* or Area	Unit	Manure System (indicate solid or liquid if no default provided)	Estimate for an Empty Barn? (yes or no)
Swine	Sows with litter, dry sows or boars		Number of *livestock*		
	Breeder gilts (entire barn designed specifically for this purpose)		Number of *livestock*		
	Weaners (7–27 kg)		Number of *livestock*		
	Feeders (27–136 kg)		Number of *livestock*		
Turkey	Turkey poults (day-old until transferred to grow-out turkey barn)		Number of *livestock*	Solid	
	Turkey breeder layers (males/females transferred in from grower barn)		Number of *livestock*	Solid	
	Breeder toms		Number of *livestock*	Solid	
	Broilers (day-olds to 6.2 kg)		Number of *livestock*	Solid	
	Hens (day-olds up to 6.2–10.8 kg; 7.5 kg is typical)		Number of *livestock*	Solid	
	Toms (day-olds to over 10.8–20 kg; 14.5 kg is typical)		Number of *livestock*	Solid	
	Turkeys at any other weights, or if unknown use the floor area of the *livestock barn*		m^2 or ft^2	Solid	
Veal	Milk-fed		Number of *livestock*		
	Grain-fed		Number of *livestock*		
Wild boar	Breeding age sows (includes boars, replacements and weaned piglets up to 27 kg)		Number of *livestock*	Solid	
	Finishing boars (27–86 kg)		Number of *livestock*	Solid	
Other	Other animals not listed in this table		Enter total weight of *livestock*		

Livestock Type	*Livestock* Description	Number of *Livestock* or Area	Unit	Manure System (indicate solid or liquid if no default provided)	Estimate for an Empty Barn? (yes or no)
Unoccupied livestock barns	A *livestock barn* that does not currently house any *livestock*, but that housed *livestock* in the past and continues to be structurally sound and reasonably capable of housing *livestock*		m^2 or ft^2; where obtaining information from the farm operator(s) and/or owner(s) was not possible (see *implementation* Guideline #20 for more information)		

Manure Storages

1. Identify the appropriate *manure storage* type from the list below; if more than one type of *manure storage* is present identify all types that are applicable. The types of *manure storage*s selected should reflect the types of manure systems associated with each *livestock* type identified above (e.g., if dairy housing based on liquid manure was identified above, then select a liquid *manure storage* from below).

2. If the *manure storage* is unused, but the *livestock* type and capacity for the barn were estimated in the previous section, then indicate the type of *manure storage*.

3. If the *manure storage* is unused, and in the section above, *unoccupied livestock barn* was used to determine capacity, then proceed to identify the *manure storage* type. Enter the information for a solid or liquid *unused manure storage*.

Manure Storage Type	*Manure Storage* Description	Present on the *Lot*? (yes or no)
V1	Solid, inside, bedded pack (manure accumulates under *livestock* over time)	
V2	Solid, outside, covered (cover keeps off precipitation to prevent runoff)	
V3	Solid, outside, no cover, ≥30% dry matter (manure is dry enough that a flowpath option can be used for runoff control (*Nutrient Management Act, 2002*)	
V4	Solid, outside, no cover, 18%–<30% dry matter, with covered liquid runoff storage (manure not dry enough to soak up precipitation, so a liquid runoff storage needed, but it has a permanent, tight-fitting cover)	
V5	Liquid, inside, underneath slatted floor (manure is stored under the animals in the barn)	

Manure Storage Type	*Manure Storage* Description	Present on the *Lot*? (yes or no)
V6	Liquid, outside, with a permanent, tight-fitting cover (negative pressure tarp, concrete lid, inflatable dome, etc.)	
L1	Solid, outside, no cover, 18%–<30% dry matter, with uncovered liquid runoff storage (manure not dry enough to soak up precipitation, so a liquid runoff storage needed, but it is uncovered, producing more odour than in V4)	
L2	Liquid, outside, with a permanent floating cover (tarps, foam panels, etc.)	
M1	Liquid, outside, no cover, straight-walled storage (usually circular or rectangular concrete or steel storages)	
M2	Liquid, outside, roof, but with open sides (roof keeps off precipitation, but the open sides allow wind to travel over the manure and carry odours)	
H1	Liquid, outside, no cover, sloped-sided storage (earthen *manure storage*s, but NOT earthen runoff storages associated with a solid *manure storage* which are L1)	

Unused Manure Storage Type	*Manure Storage* Description	Total Volume	Units
Solid *unused manure storage*	A *manure storage* that does not currently store any solid manure, but that stored solid manure in the past and continues to be structurally sound and reasonably capable of storing solid manure		m^3 or ft^3
Liquid *unused manure storage*	A *manure storage* that does not currently store any liquid manure, but that stored liquid manure in the past and continues to be structurally sound and reasonably capable of storing liquid manure		m^3 or ft^3

Section B

Imported Manure

1. Indicate the volume of the *manure storage* in cubic metres or cubic feet.
2. Indicate the type of manure stored (solid or liquid).
3. Identify the appropriate *manure storage* type from the list below; if more than one type of *manure storage* is present identify all types that are applicable.

***Manure storage* volume (m^3 or ft^3)**	
Type of manure stored (solid or liquid)	

***Manure Storage* Type**	***Manure Storage* Description**	**Present on the *Lot*? (yes or no)**
V1	Solid, inside, bedded pack (manure accumulates under *livestock* over time)	
V2	Solid, outside, covered (cover keeps off precipitation to prevent runoff)	
V3	Solid, outside, no cover, ≥30% dry matter (manure is dry enough that a flowpath option can be used for runoff control (*Nutrient Management Act, 2002*))	
V4	Solid, outside, no cover, 18%–<30% dry matter, with covered liquid runoff storage (manure not dry enough to soak up precipitation, so a liquid runoff storage needed, but it has a permanent, tight-fitting cover)	
V5	Liquid, inside, underneath slatted floor (manure is stored under the animals in the barn)	
V6	Liquid, outside, with a permanent, tight-fitting cover (negative pressure tarp, concrete lid, inflatable dome, etc.)	
L1	Solid, outside, no cover, 18%–<30% dry matter, with uncovered liquid runoff storage (manure not dry enough to soak up precipitation, so a liquid runoff storage needed, but it is uncovered, producing more odour than in V4)	
L2	Liquid, outside, with a permanent floating cover (tarps, foam panels, etc.)	
M1	Liquid, outside, no cover, straight-walled storage (usually circular or rectangular concrete or steel storages)	
M2	Liquid, outside, roof, but with open sides (roof keeps off precipitation, but the open sides allow wind to travel over the manure and carry odours)	
H1	Liquid, outside, no cover, sloped-sided storage (earthen *manure storage*s, but NOT earthen runoff storages associated with a solid *manure storage* which are L1)	