#### **MDS Information Session**

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Ministry of Agriculture, Food and Rural Affairs Ministère de l'Agriculture, de l'Alimentation et des Affaires rurales

POntario







#### **MDS - Role of Municipalities**

- Generally, municipalities are responsible for ensuring that MDS setbacks are met when reviewing land use planning applications (e.g. lot creation applications) or building permits.
- Municipalities may implement these requirements in different ways.
- As a best practice, municipal staff are strongly encouraged to specify the nature of the building permit for a livestock facility, rather than simply issuing a permit for a generic agricultural building, which may or may not include the housing of livestock.













#### **MDS Basics**

- Supplemented by Guideline booklet
  - The Minimum Distance Separation Formulae Implementation Guidelines (Publication 707)
- Reference is made throughout this presentation to concepts explained in greater detail in Publication 707 <u>http://www.omafra.gov.on.ca/english/landuse/guide\_p4.htm#i4</u>



# What is MDS?

- The Minimum Distance Separation Formulae (MDS) is a land use planning tool developed by OMAFRA
- Determines a setback between livestock facilities and other land uses, and visa-versa
- Separation distances vary according to a number of variables
- It is implemented through the land use planning system; and is identified in the Provincial Policy Statement
  - In turn, MDS is incorporated into municipal land use planning documents



# **Policy and Purpose of MDS**

- Provincial Policy Statement (PPS, 2014) requires new or expanding livestock facilities and new land uses including the creation of lots to comply with the Minimum Distance Separation (MDS) formulae
- The objective of MDS formulae is to minimize nuisance complaints due to <u>odour</u> and reduce land use incompatibility:
  - MDS does not account for other nuisance issues such as noise, dust or flies
  - MDS does not account for other environmental factors
- MDS comprises of 2 separate, but related formulae



#### MDS I

- MDS I determines minimum setback distances between proposed new development and existing livestock facilities or permanent manure storages
- MDS I is applied to official plan amendments, zoning by-law amendments, lot creation applications, building permits
- MDS I is incorporated into municipal planning documents



## MDS II

- MDS II determines minimum setback distances between proposed new or expanding livestock facilities and existing or approved development, lot lines and road allowances
- MDS II is applied at the time of a building permit application
- MDS II is also incorporated into municipal planning documents



# **OMAFRA Engineer Contacts**





# **Applying MDS - General**

- MDS does <u>not</u> deal with odour from manure application
- MDS is applied to livestock facilities
  - Barns and permanent manure storages
- MDS is not applied to:
  - Abattoirs, apiaries, assembly yards, fairgrounds, feed storages, field shade shelters, greenhouses, kennels, livestock facilities <10 m<sup>2</sup> (108 ft<sup>2</sup>) in floor area, machinery sheds, mushroom farms, pastures, hatcheries, slaughter houses, stockyards, or temporary field nutrient storage sites (as in NMA, 2002)





# **Applying MDS – Empty Facilities**

- MDS I & II apply to empty livestock facilities, providing the buildings are:
  - Structurally sound
  - Reasonably capable of housing livestock or storing manure



Guidance material available at

http://www.omafra.gov.on.ca/english/landuse/mds\_p9.htm



# Applying MDS - Livestock occupied portions of livestock facilities

- MDS applied to livestock occupied portions of livestock facilities
- These areas exclude portions of livestock facilities where livestock are not normally present and substantial amounts of manure do not accumulate
  - Examples: feed bins, feed prep areas, field shade shelters, livestock assembly areas, livestock loading chutes, machinery sheds, milking centres, offices, riding arenas, silos, or washrooms.



# **MDS - 5 Factors**

- MDS Formulae are based on 5 factors:
  - Factor A Odour Potential Factor
    - (i.e. how 'smelly')
  - Factor B Nutrient Units Factor
    - (i.e. how many livestock)
  - Factor C Orderly Expansion Factor
    - (i.e. % increase)
  - Factor D Manure or Material Form
    - (i.e. solid vs. liquid)
  - Factor E Encroaching Land Use Factor
    - (i.e. what's nearby)



#### **Factor A – Odour Potential Factor**

This factor has been developed to rate the odour potential of one livestock type in comparison to others (See Table 1, pg. 42 in Publication 707)

Some examples:

- Feeder Hogs 1.2
- Beef feedlot cattle 0.8
- Horses 0.7
- Broiler chickens 0.7



# **Factor B – Nutrient Units Factor**

- This factor relates to the size of the operation. The larger the operation the larger the factor B value that is generated (See Table 2, pg. 46)
- The current MDS methodology has adopted the term Nutrient Units (NU), a 'dimensionless' number for comparing the size of various livestock production systems, based on a defined amount of crop nutrient produced in the manure
- In MDS II, Factor B is based on the capacity of a livestock facility (i.e. how many nutrient units of a certain type of livestock can be housed)



## Factor B – Use of Tillable Hectares

In MDS I, Factor B based on the greater of either:

Existing NU housing capacity of the livestock **OR** facility Potential NU housing capacity based on product of tillable hectares on lot x 7.5 NU/tillable ha (to maximum 300 NU)

- For Example:
  - 20 NU operation & 10 ha (10 x 7.5 = <u>75</u> NU, > 20 NU)
  - 20 NU operation & 45 ha (45 x 7.5 = 337.5 NU, but <u>300</u> NU max)
  - 300 NU operation & 10 ha (10 x 7.5 = 75, < <u>300</u> NU)
  - 300 NU operation & 45 ha (45 x 7.5 = 337.5 NU, use <u>300</u> NU)



# Factor C – Orderly Expansion Factor

- Factor C recognizes that expansion of a livestock facility is a necessary and typical process for the economic development of most farm operations, and can reasonably be expected over time
  - For new operations, Factor C requires greater distances resulting in a building location that will allow most subsequent livestock buildings to be built within a reasonable building envelope
  - For existing, expanding operations, Factor C requires reduced distances on the premise that neighboring land use are familiar with odour being generated at this site compared to a site with no previous livestock or manure storage facilities



# Factor C – Orderly Expansion Factor

- The utilization of this factor when calculating Building Base Distance 'F' has been modified in the current implementation guidelines
- To qualify for the reduced Factor C, there is a required 3-year waiting period between subsequent expansions that must be respected



#### **Use of Factor C – Orderly Expansion Factor**

- If <u>no</u> Nutrient Units added during last 3 years, then use the same method for calculating % increase as in MDS-1995
  - (proposed NU ÷ previous NU) x 100
  - % increase then used to determine Factor C from Table 3
- For expansions occurring <u>less</u> than 3 years after issuance of the last building permit
  - A new method is used for calculating % increase
  - (proposed NU+NU added in the last 3 yrs) ÷ previous NU
    3 yrs ago x 100
  - % increase then used to determine Factor C from Table 3.



	New Livestock Facility	<b>Existing</b> <b>Livestock Facility</b> (Constructed More than 3 Years ago)	Have Expanded In the Last 3 Years	
			New with Expansions	Existing with Expansions
Size of Operation 4 Years Ago	N/A	300 NU	N/A	200 NU
Size of Operation 2 Years Ago	N/A	Same as above (no expansions)	300 NU <i>(NEW)</i>	expansion of 150 NU
Proposed increase in NU	500 NU <i>(NEW)</i>	expansion of 200NU	expansion of 200 NU	expansion of 150 NU
Total NU Capacity	500	500	500	500
Calculation	All first livestock facilities have a calculated factor of 1.14	(200/300) x 100 = 67% (use % in table 3)	Because first livestock facility was built less than three years ago factor = 1.14	[(150+150)/200]x100= 150% (use % in table 3)
Factor C =	1.14	0.8332	1.14	0.9371



#### **Factor D- Manure or Material Form Factor**

- By definition there exists two possible manure or material types for storage, as shown in Table 1
  - Liquid manure/ material is any material with less than 18% dry matter content
    - Factor D = 0.8
  - Solid manure/material is anything between 18-100% dry matter content
    - Factor D = 0.7
- Generally, solid material is considered less odourous and so it receives
  a lesser value for Factor D

**Guidance Material** 

http://www.omafra.gov.on.ca/english/landuse/mds\_p8.htm



## **Factor E – Encroachment Factor**

- This factor deals with adjoining land use to a proposed development. For MDS purposes there are two types of land use, Type A and Type B. The type is determined by the level of human density and the type of activity
- There are two values for Factor E (Table 4)
  - Type A Land Use E= 1.1
  - Type B Land Use E= 2.2



# Factor E - Type A Land Uses

- Type A Land Uses are characterized by lower density of:
  - Human occupancy
  - Habitation
  - Activity
- This includes uses such as:
  - Recreational use low intensity
  - Industrial use
  - Agricultural related use

- Construction of a dwelling on a existing lot of record
- Creation of up to three lots either by consent or plan of subdivision



# **Factor E - Type B Land Uses**

- Type B Land Uses are characterized by higher density of:
  - Human occupancy
  - Habitation
  - Activity
- This includes uses, such as:
  - Commercial uses
  - Institutional uses
  - Recreational use high intensity
  - Settlement areas





## **Examples of Recreational Land Uses**

- Low Intensity (Type A)
  High Intensity (Type B)
  - Natural Areas
  - Walking trails



- Sports fields
- Trailer Parks
- Golf Courses
- Campgrounds



# **MDS I & II Formulae**

- Calculating building base distance, 'F'
- For MDS I
  - 'F' = Factors A x B x D x E
    - Note that Factor C is not used in MDS I
- For MDS II
  - 'F' = Factors A x B x C x D
    - Note that Factor E is not used in MDS II





# **Building Base Distance**

- Building Base Distance 'F' used in MDS I and II
  - In MDS I, 'F' is the setback new development must be from a livestock facility
  - IN MDS II, 'F' is the value from which MDS II setbacks are derived for the livestock facility from neighbour's dwellings, Type A Land Uses, Type B Land Uses, lot lines, and road allowances



# Permanent Manure Storage Base Distance

- Permanent Manure Storage Base Distance, 'S' is used in both MDS I and II
- The value of 'S' is obtained by using the value of 'F' in Table 6 on the left hand column and selecting the manure storage type from the four possible columns
- Final 'S' distance is based on relative amount of odour that storage type will produce



# **Application of MDS After a Catastrophe**

- Municipalities have the <u>option</u> to not apply MDS
  - After a catastrophe that destroys part or all of a dwelling, or
  - A catastrophe that destroys part or all of a livestock facility
- Dwelling or livestock facility may be no closer to surrounding development than before
- <u>However</u>, if rebuilding results in higher values for Factor A, B and/or D than before, for livestock facility, MDS II applies



#### Non-application of MDS to accessory structures

MDS I & II are not applied to buildings & structures accessory to a dwelling, such as decks, garages, gazebos, greenhouses, outbuildings, picnic areas, patios, or sheds







#### **MDS Review**

- The current MDS Formulae took effect Jan. 1, 2007.
- The document included a commitment to review every 5 years
- Overall the current MDS formulae appears to be working relatively well and major changes are not envisioned



#### **Areas Considered for Revision/Improvement**

- 1) Clarify when, where, and how MDS is to be applied
- 2) Further clarification about what NOT intended to apply to
- 3) Where flexibility exists, make apply or non apply as the standard unless otherwise stated in local planning documents
- 4) With respect to lot creation... clarify that applied to severed and retained lot as well as types of consents not applicable
- 5) OPA's, ZBA's etc.... That may apply if convert to a higher intensity use

6) More supports and clarification embedded in single document as opposed to multiple



#### **Other Highlights**

- 1. Modify tillable hectares with new methodology
- 2. Further fixed distances for AD's and digestate storage
- 3. New definitions
- 4. New web-based software















