

**CORPORATION OF THE
TOWNSHIP OF ST. CLAIR
ZONING BY-LAW NUMBER 24 OF 2011**

(Being a by-law to amend By-Law 17 of 2003)

WHEREAS the Council of the Corporation of the Township of St. Clair passed a comprehensive Zoning By-law 17 of 2003 on the 21st day of April, 2003;

AND WHEREAS the Province of Ontario has revised the required Minimum Distance Separation Formulae (MDS) invoked by the Provincial Policy Statement (PPS) issued under the authority of Section 3 of the Planning Act;

AND WHEREAS the Council of the Corporation of the Township of St. Clair deems it desirable to amend the said By-law;

NOW THEREFORE the Council of the Corporation of the Township of St. Clair enacts as follows:

1. Section 2 of By-law 17 of 2003, Definitions, is hereby amended by deleting the following definitions in their entirety:
 - a) **"LIVESTOCK"**
 - b) **"LIVESTOCK FACILITY"**
 - c) **"LIVESTOCK HOUSING CAPACITY"**
 - d) **"LIVESTOCK UNIT"**
 - e) **"MANURE STORAGE AREA"**

2. Section 2 of By-law 17 of 2003, Definitions, is hereby amended by adding the following definitions, inserted among the existing definitions according to alphabetical order:
 - a) **"ANAEROBIC DIGESTER"** means an enclosed vessel in which microorganisms breakdown organic materials (i.e. manure or biomass) in the absence of oxygen, resulting in the production of biogases, consisting primarily of methane and carbon dioxide. The Minimum Distance Separation Formulae is to be applied to on-farm anaerobic digesters, which utilize manure as an input. An on-farm anaerobic digester may include a co-substrate input tank fitted with a tight cover.
 - b) **"CO-SUBSTRATE INPUT TANK"** means storage for containing permitted non-agricultural materials that will be blended with manure in an on-farm anaerobic digester in order to increase biogas production.
 - c) **"LIVESTOCK"** means farm animals kept for use, for propagation, or intended for profit or gain, and without limiting the generality of the foregoing includes dairy and beef cattle, swine, poultry, horses, goats, sheep, ratites, fur-bearing animals, deer and elk, game animals, birds and other animals identified in Appendix "A", Table 1.
 - d) **"LIVESTOCK FACILITY"** means one or more buildings or structures designed, used or intended for housing, feeding or keeping livestock including feedlots, anaerobic digesters, manure transfer facilities and manure storages. Portions not storing manure or not intended or able to be occupied by livestock are not subject to MDS I or MDS II measurements.
 - e) **"LIVESTOCK HOUSING CAPACITY"** means the number of livestock that can be accommodated by all livestock facilities on a lot at any one time, including those that are empty but able to house livestock.
 - f) **"MANURE STORAGES"** as listed in Appendix "A" Table 5, means land, buildings or structures designed, used or intended to be used as permanent storages for manure or "digestate" produced from an anaerobic

digester. It does not include manure transfer facilities, anaerobic digesters or temporary field storages.

- g) **“MINIMUM DISTANCE SEPARATION”** or **“MDS”** shall mean the setbacks that non-agricultural uses must meet from livestock facilities (MDS I) and that livestock facilities must meet from non-agricultural uses (MDS II) as required in Section 5.2 of this By-law and calculated in Appendix “A” to this By-law.
 - h) **“NUTRIENT UNIT”** means a measure based on nutrient quantities for comparing sizes of livestock facilities of differing livestock types as listed in Appendix “A” Table 1.
 - i) **“TYPE A LAND USES”** includes industrial except landfill or type 3 industrial uses or zones, agricultural commercial and passive recreation uses and/or zones permitting such uses. For the purposes of MDS I, a dwelling or a non-agricultural lot creation up to three new non-agricultural lots are also Type A land uses. For the purposes of MDS II, Dwellings on separate lots zoned agricultural, non-farm residential, agricultural, or rural cemeteries located in an Agricultural Zone are also Type A Uses.
 - j) **“TYPE B LAND USES”** include institutional, settlement uses, active recreation and non-farm related commercial uses and /or zones permitting such uses. For the purposes of MDS I, cemetery expansion, erecting a building with three or more dwelling units, expansion of a settlement area or residential cluster, more than three new non-agricultural lots, zones for residential use, or a consent that would result in four contiguous residential lots are also Type B land uses. For the purposes of MDS II, cemeteries not in an agricultural zone and areas specifically designated in the Township Official Plan as residential or settlement areas are also Type B land uses.
3. Section 5 of By-law 17 of 2003 is hereby amended by deleting Section 5.1.3 in its entirety and replacing it with the following text:

5.1.3 Minimum Distance Separation


- a) No new dwelling or non-agricultural use, lot, building, or structure is permitted closer to a Livestock Facility on a separate Lot than 300m or the MDS I Setback calculated using **Appendix “A”** to this By-law whichever is greater.
- b) No new livestock Facility or Livestock Facility addition or reconstruction is permitted closer to a dwelling on a separate Lot, a Lot Line or a non-Agricultural Use, Building or Structure on a separate Lot, than the distance calculated using the MDS II formula found in **Appendix “A”** to this By-law.
- c) No Livestock facility including manure storage area or conditioning pit is permitted within 60 metres of a lot line abutting a public street and 30 metres from an interior side or rear lot line. Expansion of an existing livestock facility that contravenes this clause is permitted provided that the required setback is not further reduced in any fashion and that all other requirements of the By-law are met.
- d) Application of subsections a) and b) shall be read in accordance with the specific provisions of this By-law and Appendix “A” to the By-Law and including the following:
 - i) The MDS I only, and not the 300m shall be the minimum required setback from a livestock facility with a livestock housing capacity of fewer than 25 Nutrient Units.

- ii) An existing dwelling may be replaced, despite not complying with subsection a) provided that the existing separation is not further reduced.
 - iii) A livestock facility destroyed by fire or natural disaster may be replaced to the same general location despite not meeting MDS II, provided the existing separation is not further reduced and the factors A, B and D for the new livestock facility are no greater than those of the previous livestock facility.
 - iv) A new non-agricultural lot, whether or not containing a dwelling, shall comply with subsection a) even for livestock facilities already located on a separate lot.
 - v) Subsection a) shall not apply where 4 or more dwelling units on separate lots are already closer to the livestock facility than the use under consideration and where the use under consideration is also closer to the same 4 or more non-farm dwellings or uses than it is to the livestock facility.
 - vi) Cemeteries located in an agricultural zone shall be considered a Type A land use for the purposes of MDS II.
 - vii) MDS I and MDS II shall not apply to buildings or structures accessory to a dwelling or buildings or structures 10m² or less in ground floor area.
 - viii) The required MDS I from an anaerobic digester or an associated co-substrate input tank shall be 125m.
 - ix) The required MDS II for an anaerobic digester or an associated co-substrate input tank shall be 125m from a Type A land use, 250m from a Type B land use, 13m from an interior side lot line or rear lot line and 25m from a front or exterior side lot line.
 - x) Even if no building permit is required, MDS II shall apply to the conversion of any non-livestock building or structure to use as a livestock facility.
 - xi) Where no building permit is required, existing livestock facilities may be converted for use for a type of livestock for which the building was not previously used, designed or suited, despite not complying with MDS II, provided there is no increase in non-compliance through a resultant MDS II that is greater than that of the previous use.
 - xii) The capacity of manure storages that hold manure produced by livestock not located on the lot or "digestate" produced from an anaerobic digester shall be considered in determining the required MDS I and MDS II.
 - xiii) Calculations made using the MDS Computer Program Version 1.0.0 provided by the Ministry of Agriculture, Food and Rural Affairs shall be considered equivalent to calculations made using Appendix "A".
4. Appendices "A" and "B" to By-law No. 17 of 2003 is hereby replaced with Appendix "A" attached is hereby declared to form part of this By-law.


This By-law shall come into force and effect pursuant to Sections 34 (21) or Section 34 (30) of the Planning R.S.O. 1990.

READ A FIRST AND SECOND TIME THIS 18th DAY OF April 2011.

READ A THIRD TIME AND PASSED THIS 18th DAY OF April 2011.



Mayor



Clerk

APPENDIX "A" - MINIMUM DISTANCE SEPARATION

MINIMUM DISTANCE SEPARATION CALCULATION FORM

Step	Animals Type or Material & Description (Table 1)	Manure Form (Solid or Liquid)	Number/NU (Table 1)	Maximum Housing Capacity	Nutrient Units	Factor A (Table 1)	Factor D (Table 1)
1							
2	Total Nutrient Unit Capacity on Lot					Total	
3	Factor A (Odour Potential)					Weight Average by NU (round to 2 decimal places)	
4	Factor D (Manure or Material Form)					Weight Average by NU (round to 2 decimal places)	
5	Factor E (Encroaching Land Use - Table 4)						
6	Potential Nutrient Units: Tillable Ha on Lot ____ x 7.5 = ____ (maximum 300)						
7	Final NU: Greater of Total NU on Lot (2) and Potential NU (6)					(For expansion of a settlement area identified in the Official Plan, ignore Potential NU).	
8	Factor B (Nutrient Units Factor - Table 2)					(round to 2 decimal places)	
9	F: Building Base Distance (m) = Factor A (3) x Factor D (4) x Factor E (5) x Factor B (8)					(round up)	
10	S: Manure Storage Base Distance (m) (Tables 5 & 6)					(round up)	

Required Setback from livestock occupied portion of livestock facility = F (9) ____ m Actual: ____ m

Required Setback from manure or material storage area = S (10) ____ m Actual: ____ m

TYPE A LAND USES - see by-law definitions.

TYPE B LAND USES - see by-law definitions.

MINIMUM DISTANCE SEPARATION II CALCULATION FORM

Step	Animals Type or Material & Description (Table 1)	Manure Form (Solid or Liquid)	Number/NU (Table 1)	Maximum Housing Capacity 3 Years Ago (1)	NU 3 Years Ago (1)	Added Maximum Housing Capacity (1)	Added NU (1)	Final NU	Factor A (Table 1)	Factor D (Table 1)
1										
2	Total Nutrient Unit Capacity on Lot				Totals					
3	Factor A (Odour Potential) Weight Average by Added NU (round to 2 decimal places)									
4	Factor D (Manure or Material Form) Weight Average by Added NU (round to 2 decimal places)									
5	Factor B (Nutrient Units Factor - Table 2 - based on Total Final NU) (round to 2 decimal places)									
6	Percentage Increase (%) = (Total Added NU / Total NU 3 Years Ago) x 100									
7	Factor C (Orderly Expansion Factor - Table 3) (round to max 4 decimal places)									
8	F: Building Base Distance (m) = Factor A (3) x Factor D (4) x Factor B (5) x Factor C (7) (round up)									
9	S: Manure Storage Base Distance (m) (Tables 5 & 6) (round up)									

(1) Any livestock facility capacity for which a building permit was issued less than 3 years prior to the current building permit application submission date (and including the current building permit application) is to be considered added capacity. Added capacity could be negative.

MDS II SUMMARY	Factor	Livestock Occupied Portion Base Distance F = ____ m		Manure Storage Base Distance S = ____ m	
		Required Setback (m) (‘F’ x Factor)	Actual Setback (m)	Required Setback (m) (‘S’ x Factor)	Actual Setback (m)
Type A Land Uses	1				
Type B Land Uses	2				
Interior Side or Rear Lot Line (max 30m)*	0.1				
Exterior Side or Front Lot Line*	0.2				

*Round to nearest whole number

TABLE 1: Factor A (Odour Potential) and Factor D (Manure or Material Form in Storage Facility)

Animal Type or Material	Description	Number per NU	Factor A	Manure or Material Form in Permanent Storage	
				Liquid Manure: Factor D = 0.8 <18% Dry Matter	Solid Manure: Factor D = 0.7 18 - 100% Dry Matter
Swine	Sows with litter, dry sows/boars Segregated Early Weaning (SEW)	3.33	1.0	Most systems have liquid manure stored under the barn slats for short or long periods, or in storages located outside	Systems with solid manure inside on deep bedded packs, or with scraped alleys
	Sows with litter, dry sows or boars (non-SEW)	3.5			
	Breeder gilts (entire barn designed specifically for this purpose)	5			
	Weaners (7 kg -27 kg)	20	1.1		
	Feeders (27 -105 kg)	6	1.2		
Dairy Cattle ¹	Milking-age cows (dry or milking)		0.7	Free-stall barns with minimal bedding or sand bedding, or tie-stall barns with minimal bedding & milking centre washwater added	Tie-stall barns with lots of bedding, or loose housing with deep bedded pack and with or without outside yard access
	Large-framed; 545 kg - 636 kg (e.g. Holsteins)	0.7			
	Medium-framed; 455 kg - 545 kg (e.g. Guernseys)	0.85			
	Small-framed; 364 kg - 455 kg (e.g. Jerseys)	1			
	Heifers (5 months to freshening)				
	Large-framed; 182 kg - 545 kg (e.g. Holsteins)	2			
	Medium-framed; 148 kg - 455 kg (e.g. Guernseys)	2.4			
	Small-framed; 125 kg - 364 kg (e.g. Jerseys)	2.9			
	Calves (0 -5 months)				
	Large-framed; 45 kg - 182 kg (e.g. Holsteins)	6			
	Medium-framed; 39 kg - 148 kg (e.g. Guernseys)	7			
	Small-framed; 30 kg - 125 kg (e.g. Jerseys)	8.5			
Beef Cattle	Cows, including calves to weaning (all breeds)	1	0.7	N/A	Bedded pack barns with or without outside yard access
	Feeders (7 -16 months)	3	0.8	Slatted floor systems, or barns with minimal bedding & yard scraped to a liquid storage	
	Backgrounders (7 - 12.5 months)	3			
	Shortkeepers (12.5 - 17.5 months)	2			
Veal	Milk-fed	6	1.1	Slatted floors or slatted stall system	Heavily bedded pack barns
	Grain-fed	6	0.8		
Goats	Does & bucks (for meat kids; includes unweaned offspring & replacements)	8	0.7	N/A	Heavily bedded pack barns
	Does & bucks (for dairy; includes unweaned offspring & replacements)	8			
	Kids (dairy or feeder kids)	20			
Sheep	Ewes & rams (for meat lambs; includes unweaned offspring & replacements)	8	0.7	N/A	All sheep systems
	Ewes & rams (dairy operation; includes unweaned offspring & replacements)	6			
	Lambs (dairy or feeder lambs)	20			

Animal Type or Material (Table 1, Page 2 of 3)	Description	Number per NU	Factor A	Manure or Material Form in Permanent Storage	
				Liquid Manure: Factor D = 0.8 <18% Dry Matter	Solid Manure: Factor D = 0.7 18 - 100% Dry Matter
Horses	Large-framed, mature; > 681 kg (including unweaned offspring)	0.7	0.7	N/A	All horse systems
	Medium-framed, mature; 227 kg – 680 kg (including unweaned offspring)	1			
	Small-framed, mature; < 227 kg (including unweaned offspring)	2			
Chickens	Layer hens (for eating eggs; after transfer from pullet barn)	150	1.0	Birds in cages, manure belts, no drying of manure, water added	Birds in cages, manure belts & drying, or floor systems
	Layer pullets (day olds until transferred into layer barn)	500	0.7		
	Broiler breeder growers (males/ females transferred out to layer barn)	300	0.7	N/A	Bedded floors
	Broiler breeder layers (males/females transferred in from grower barn)	100	0.7	N/A	Cage or slatted floor systems
	Broilers on 8 week cycle	350	0.7	N/A	Bedded floor systems
	Broilers on 9 week cycle	300			
	Broilers on 10 week cycle	250			
	Broilers on 12 week cycle	200			
	Broilers on any other cycle, or if unknown, use 24.8 m ² /NU	24.8 m ²			
	Turkeys	Turkey pullets (day old until transferred to layer turkey barn)	267	0.7	N/A
Turkey breeder layers (males/females transferred in from grower barn)		67			
Breeder toms		45			
Broilers (day olds to 6.2 kg)		133			
Hens (day olds up to 6.2 kg to 10.8 kg; 7.5 kg is typical)		105			
Toms (day olds to over 10.8 to 20 kg; 14.5 kg is typical)		75			
Turkeys at any other weights, or if unknown, use 24.8 sq m/NU		24.8 m ²			
Quail	Use 24.8 m ² /NU	24.8 m ²	0.7	N/A	Bedded floor systems
Partridge	Use 24.8 m ² /NU	24.8 m ²			
Pheasants	Use 24.8 m ² /NU	24.8 m ²			
Squab	Use 24.8 m ² /NU	24.8 m ²			
Rheas	Adults (includes replacements & market birds)	13			
Emus	Adults (includes replacements & market birds)	12			
Ostriches	Adults (includes replacements & market birds)	4			
Ducks	Peking	105	0.8	Wire mesh flooring systems	Bedded floor systems
	Muscovy, use 24.8 m ² /NU	24.8 m ²			
Geese	Use 24.8 m ² /NU	24.8 m ²	0.8	N/A	Cage or floor systems
Rabbits	Breeding females (including males, replacements & market animals)	40			
Chinchillas	Breeding females (including males, replacements & market animals)	320			
Fox	Breeding females (including males, replacements & market animals)	25			
Mink	Breeding females (including males, replacements & market animals)	90	1.0		

Animal Type or Material (Table 1, Page 3 of 3)	Description	Number per NU	Factor A	Manure or Material Form in Permanent Storage	
				Liquid Manure: Factor D = 0.8 <18% Dry Matter	Solid Manure: Factor D = 0.7 18 - 100% Dry Matter
Bison	Adults (includes unweaned calves & replacements)	1.3	0.7	N/A	Bedded pack barns with outside access OR outside confinement areas
	Feeders (170kg - 477kg)	4			
Llama	Adults (includes unweaned young & replacements)	5			
	Feeders (45kg - 86kg)	16			
Alpaca	Adults (includes unweaned young & replacements)	8			
	Feeders (23kg - 48kg)	26			
Wild Boar	Breeding age sows (includes boars, replacements & weaned piglets to 27kg)	5			
	Finishing boars (27 kg -86 kg)	7			
Deer	White tailed deer				
	-Adults > 24 mo (including unweaned offspring)	11			
	-Feeders	21			
	Red deer				
	-Adults > 24 mo (including unweaned offspring)	7			
	-Feeders	14			
	Elk				
	-Adults > 24 mo (including unweaned offspring)	2			
	-Feeders	6			
	Elk/deer hybrids				
	-Adults > 24 mo (including unweaned offspring)	4			
	-Feeders	10			
	Fallow deer				
	-Adults > 24 mo (including unweaned offspring)	13			
	-Feeders	23			
Other livestock not listed in this table	To determine the number per NU, add up the total maximum live weight of animals and divide by the weight of animals per NU in the next column	453.6 kg (1000 lbs)	0.8	All storages with liquid manure	All storages with solid manure
Manure imported to a lot not generating manure ²	Maximum capacity of permanent storages at any time: solid or liquid capacity	19.8 m ³ (700 ft ³)	1.2	All storages with liquid manure	All storages with solid manure
Storages for digestate from an Anaerobic Digester (odours reduced during this process)	Maximum capacity of permanent storages at any time: solid or liquid capacity	19.8 m ³ (700 ft ³)	0.5	All storages with liquid manure	All storages with solid manure

1. On farms with 100 milking-age cows (dry & milking), there are usually about 20 replacement calves and 80 replacement heifers.

2. Average value for typical types of manures that might be imported to a lot, such as poultry, dairy, beef, swine, horse or other manure.

N/A = Not Applicable

TABLE 2: Factor B (Nutrient Units Factor)

Final NU	Factor B	Final NU	Factor B	Final NU	Factor B
5 or Less	150	66	285	240	429
6	153	68	287	245	432
7	157	70	289	250	435
8	160	72	291	260	441
9	163	74	293	270	447
10	167	76	294	280	453
11	170	78	296	290	458
12	173	80	298	300	464
13	177	82	300	310	469
14	180	84	301	320	474
15	183	86	303	330	480
16	187	88	305	340	485
17	190	90	307	350	490
18	193	92	309	360	494
19	197	94	310	370	499
20	200	96	312	380	504
21	202	98	314	390	508
22	204	100	316	400	513
23	206	102	318	410	517
24	208	104	320	420	522
25	210	106	322	430	526
26	212	108	324	440	530
27	214	110	326	450	535
28	216	112	329	460	539
29	218	114	331	470	543
30	220	116	333	480	547
31	222	118	335	490	551
32	224	120	337	500	555
33	226	122	339	520	562
34	228	124	340	540	570
35	230	126	342	560	577
36	232	128	344	580	584
37	234	130	346	600	591
38	236	135	351	620	598
39	238	140	355	640	605
40	240	145	360	660	611
41	242	150	364	680	618
42	244	155	368	700	624
43	246	160	372	750	639
44	248	165	376	800	654
45	250	170	380	850	668
46	252	175	384	900	681
47	254	180	388	950	694
48	256	185	392	1000	707
49	258	190	395	1100	731
50	260	195	399	1200	753
52	264	200	402	1300	775
54	268	205	406	1400	795
56	272	210	409	1500	815
58	276	215	413	2000	870
60	280	220	416	3000	980
62	282	225	419	4000	1090
64	284	230	423	5000	1200
		235	426	>5000	See Note.

TABLE 3: Factor C (Orderly Expansion Factor)

% Increase in NU	Factor C	% Increase in NU	Factor C
0% or Decrease	0.5000	43	0.7666
1	0.5062	44	0.7728
2	0.5124	45	0.7790
3	0.5186	46	0.7852
4	0.5248	47	0.7914
5	0.5310	48	0.7976
6	0.5372	49	0.8038
7	0.5434	50	0.8100
8	0.5496	55	0.8167
9	0.5558	60	0.8230
10	0.5620	65	0.8294
11	0.5682	70	0.8357
12	0.5744	75	0.8420
13	0.5806	80	0.8484
14	0.5868	85	0.8547
15	0.5930	90	0.8610
16	0.5992	95	0.8674
17	0.6054	100	0.8737
18	0.6116	105	0.8800
19	0.6178	110	0.8864
20	0.6240	115	0.8927
21	0.6302	120	0.8990
22	0.6364	125	0.9054
23	0.6426	130	0.9117
24	0.6488	135	0.9180
25	0.6550	140	0.9244
26	0.6612	145	0.9307
27	0.6674	150	0.9371
28	0.6736	160	0.9497
29	0.6798	170	0.9624
30	0.6860	180	0.9751
31	0.6922	190	0.9877
32	0.6984	200	1.0000
33	0.7046	300	1.0280
34	0.7108	400	1.0560
35	0.7170	500	1.0840
36	0.7232	600	1.1120
37	0.7294	700% or more or first Livestock Facility on Lot	1.1400
38	0.7356		
39	0.7418		
40	0.7480		
41	0.7542		
42	0.7604		

Table 2 Note: For capacities >5000 NU: consult OMAFRA, Municipal staff or, MDS Computer Program.

TABLE 4: Factor E (Encroaching Land Use Factor)

Encroaching Land Use	Factor E
Type A Land Use*	1.1
Type B Land Use*	2.2

*See Section 2, Definitions, in Zoning By-law.

TABLE 5: Permanent Manure or Material Storage Types

Solid Manure: 18% dry matter, or more

Liquid Manure: Less than 18% dry matter

Digestate: Less than 18% dry matter

Storage Odour Potential	Solid or Liquid System	Inside or Outside Livestock Facility	Number referred to in Table 6	Description of permanent manure storages being sited by MDS II, or encroached upon through MDS I application
Very Low	Solid	Inside	V1	Solid, inside, bedded pack (manure accumulates under livestock over time)
		Outside	V2	Solid, outside, covered (cover keeps off precipitation to prevent runoff)
			V3	Solid, outside, no cover, greater than or equal 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% to less than 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 cover)
	Liquid	Inside	V5	Liquid, inside, underneath slatted floor (manure is stored under the animals in the barn)
		Outside	V6	Liquid, outside, with a permanent, tight fitting cover (negative pressure tarp, concrete lid, inflatable dome, etc.)
			V7	Liquid, (digestate), outside, no cover (all manure has been treated through anaerobic digestion, or a similar process that reduces odours)
Low	Solid	Outside	L1	Solid, outside, no cover, 18% to less than 30% dry matter, with uncovered liquid runoff storage (manure not dry enough to soak up precipitation, so a liquid low runoff storage needed, but it is uncovered, producing more odour than in V4 above)
	Liquid	Outside	L2	Liquid, outside, with a permanent floating cover (tarps, foam panels, etc.)
Medium	Liquid	Outside	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)
High	Liquid	Outside	H1	Liquid, outside, no cover, sloped-sided storage (earthen manure storages, but not earthen runoff storages associated with a solid manure storage which are L 1 above)

Table 6: MDS I/II Separation Distances for Permanent Manure Storage

Building Base Distance (m) for MDS II ('F'), or Encroachment Base Distance for MDS I ('F')	Storage Separation Distances Based on Relative Odour Potential – Storage Base Distance, 'S' (m)			
	Very Low Odour Storages V1 to V7	Low Odour Storages L1 to L2	Medium Odour Storages M1 to M2	High Odour Storages H1
40	40	64	136	232
50	50	74	145	240
60	60	84	154	248
70	70	93	163	256
80	80	103	172	264
90	90	113	181	272
100	100	123	190	280
110	110	132	199	288
120	120	142	208	296
130	130	152	217	304
140	140	162	226	312
150	150	171	235	320
160	160	181	244	328
170	170	191	253	336
180	180	201	262	344
190	190	210	271	352
200	200	220	280	360
210	210	230	289	368
220	220	240	298	376
230	230	249	307	384
240	240	259	316	392
250	250	269	325	400
260	260	279	334	408
270	270	288	343	416
280	280	298	352	424
290	290	308	361	432
300	300	318	370	440
310	310	327	379	448
320	320	337	388	456
330	330	347	397	464
340	340	357	406	472
350	350	366	415	480
360	360	376	424	488
370	370	386	433	496
380	380	396	442	504
390	390	405	451	512
400	400	415	460	520
420	420	435	478	536
440	440	454	496	552
460	460	474	514	568
480	480	493	532	584
500	500	513	550	600
600	600	610	640	680
800	800	805	820	840
1000	1000	1000	1000	1000
Greater than 1000 m	Storage Base Distance, 'S', should be the same as Building Base Distance or Encroachment Base Distance -'F'			