



TECHNICAL REVIEW COMMITTEE

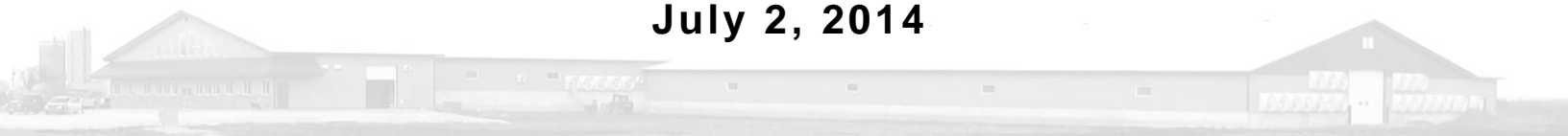
**A TECHNICAL REVIEW REPORT
PREPARED FOR**

**THE RURAL MUNICIPALITY
OF
CAMERON**

**007 LIVESTOCK
FEEDERS**

W1/2 35-05-22 WPM

July 2, 2014



A. INTRODUCTION

The Technical Review Committee (TRC) consists of representatives from the following provincial departments:

- Agriculture, Food and Rural Development (MAFRD);
- Conservation & Water Stewardship (CWS);
- Infrastructure & Transportation (MIT);
- Manitoba Municipal Government (MMG); and
- Any other department that may have an interest, which may be consulted during the process.

The Technical Review Coordinator, Manitoba Municipal Government, chairs the committee.

The Technical Review Committee Report includes the following:

- An assessment of completeness and nature of the information contained in the Site Assessment provided by the project proponent that enables the TRC to conduct its review.
- A summary of public comments along with proponent and departmental responses, if any.
- Recommendations to the Municipal Council and proponent based upon a review of the information provided by the proponent.

Should the Municipal Council provide conditional approval of the proposal, the project proponent will be required to obtain various permits and licenses from the Province to address in greater detail environmental aspects of the proposal.

B. DESCRIPTION OF PROPOSED LIVESTOCK OPERATION

To view a detailed description go to:

<http://www.gov.mb.ca/ia/livestock/trc-12-010.html>

Applicant: 007 Livestock Feeders

Site Location: Approximately 2 miles east of Underhill (3 miles west of Elgin), in the R.M. of Cameron (W ½ 35-05-22 WPM) Refer to map below.



Proposal: To expand a feedlot operation (backgrounders) from 1200 Animal Units to 1750 Animal Units. This will involve the following:

- Expansion of the corral area
- Field storage of manure
- Consuming 31,500 imperial gallons of water per day
- Spreading manure over 2,140 suitable acres
- Composting dead animals on site
- Using the Provincial Trunk Highway 23 as a truck haul route

C.SITE ASSESSMENT AUDIT

The Audit of: 007 Livestock Feeders

Site Assessment Sections	Meets Requirements for TRC Review (type "X")	Comment	Reviewing Department
2.0 Description of Operation	X	The applicant has provided a detailed description of the current operation.	MMG
3.0 Nature of Project	X	The applicant has clearly defined the nature of the project.	MMG
4.0 Proposed Type and Size of Operation	X	The applicant is proposing to expand his beef operation to 3500 backgrounders.	MAFRD
5.0 Animal Confinement Facilities	X	<p><u>Climate Change & Environmental Protection - Environmental Approvals</u> The proponent is required to obtain a permit for expansion of the existing facility prior to initiation of the expansion work. The design for expansion of the facility must include provisions for preventing upland runoff water from entering the confined livestock area and means for managing runoff water contaminated with manure from the confined livestock area. Upon review of the permit application for the expansion the Director may require the operator to construct a collection basin.</p>	CWS
6.0 Environmental Farm Planning	X	An environmental farm plan was completed in 2007.	MAFRD
7.0 Water	X	<p><u>Climate Change & Environmental Protection - Environmental Programs and Strategies</u> A source water submission was received in 2013, as required for livestock operations with 300 animal units or more.</p> <p><u>Water Stewardship - Water Science and Management</u> Detailed soil survey maps indicate that 35-5-22 WPM and 26-5-22 WPM contain a 3rd order drain. The setback for 3rd order drains is 15 metres assuming manure is broadcast without incorporation and the adjacent buffer is permanently vegetated. In addition, the proponent must not apply nutrients directly to 1st and 2nd order drains.</p> <p>It is strongly recommended that a runoff collection basin be constructed to manage runoff from the livestock operation.</p>	CWS

The Audit of: 007 Livestock Feeders

Site Assessment Sections	Meets Requirements for TRC Review (type "X")	Comment	Reviewing Department
7.0 Water Continued		<p>Proper nutrient management applications that avoid excess loss of nutrients to surface waters are needed on lands receiving manure in southern Manitoba because long-term trend analysis of total phosphorus and total nitrogen has shown significant increases in these nutrients in the Assiniboine and Red rivers (Jones and Armstrong 2002);</p> <p>All unused and abandoned wells on the site and spread fields should be properly sealed and a sealed well report filed with the Groundwater Management Section of Conservation and Water Stewardship. Information on well sealing is available from Conservation and Water Stewardship (201-945-6959) or: www.gov.mb.ca/waterstewardship/water_info/misc/abandoned_wells.pdf. It is recommended that all but the most basic wells should be sealed by a well drilling professional. A list of currently licensed well drilling professionals is located http://www.gov.mb.ca/conservation/waterstewardship/water_quality/wells_groundwater/well_drillers.html.</p> <p>During manure field storage and application all groundwater features, including water wells, should be given as a minimum, the amount of buffer as outlined in the regulations.</p> <p><u>Water Stewardship - Water Use Licensing</u> Mr. Bond holds Water Rights License No. 2013-073 which expires April 22, 2023. Although Mr. Bond holds an active water rights license, Mr. Bond is not compliant with clause 13 of his license as he failed to submit his 2013 water use records by the February 1st deadline. The recording and reporting of water use provides vital information for ensuring that the Province's water resources are managed to ensure long term sustainability. Therefore, Mr. Bond is strongly encouraged to submit his water use records as soon as possible.</p>	
8.0 Manure Related	X	<p><u>Climate Change & Environmental Protection - Environmental Compliance and Enforcement</u> Manitoba Conservation & Water Stewardship, Environmental Compliance and Enforcement has reviewed this proposal and has no concerns at this time.</p> <p><u>Climate Change & Environmental Protection - Environmental Programs and Strategies</u> Environmental Programs and Strategies identified a violation of the Livestock Manure and Mortalities Management Regulation (M.R. 42/98). The information provided indicates that during the Manure Management Plan Annual Compliance Monitoring Program, the operator applied manure to a field located at SE 34-05-22 WPM which resulted in soil nitrate nitrogen exceeding prescribed limits. A common offence notice was issued for the violation on February 15th, 2013.</p>	CWS

The Audit of: 007 Livestock Feeders

Site Assessment Sections	Meets Requirements for TRC Review (type "X")	Comment	Reviewing Department
		<p>The operation has submitted a manure management plan for the 2014 crop year.</p> <p>Manitoba Conservation and Water Stewardship regulates the construction of manure storage facilities (MSF) by requiring the proponent to submit an "Application for Permit to Construct, Modify or Expand a Manure Storage Facility". The definition of MSF does not include gutter or pit (including under barn storage) used to contain liquid or semi-solid manure for less than 30 days for the purpose of moving the manure to a storage facility.</p>	
<p>8.1 Land Available/Required for Manure Application</p>	<p>X</p>	<p><u>Manitoba Agriculture, Food and Rural Development</u> 007 Livestock Feeders provided an estimate of the land requirements using excretion data provided by MAFRD for feeding cattle in the feedlot from 350 kg to 450 kg over a 245 day feeding period.</p> <p>In June 2014, MAFRD published a more detailed land calculator. The new calculator contains nutrient excretion data for backgrounders and pasture cattle which are more representative of the production system used by 007 Livestock Feeders. Therefore, MAFRD recalculated the land base requirement using the new calculator and considering adjusted animal weights and days on feed provided by 007 Livestock Feeders (see Appendix A).</p> <p>Based on MAFRD's calculation, 007 Livestock Feeders requires a minimum of approximately 1752 acres of suitable land in order to ensure there is adequate land for the nitrogen in the manure. This is also enough to meet the Province's policy for phosphorus (P) in the RM of Cameron (i.e. 2 times the P that will be removed from the field in the harvested portion of the crop). According to our revised calculations, 007 Livestock Feeders may require up to a total of approximately 1822 acres over the long-term to balance manure P with crop P removal over the course of a rotation.</p> <p>007 Livestock Feeders has identified 2140 suitable acres for manure application. As such, MAFRD is satisfied that 007 Livestock Feeders has demonstrated that sufficient land is available to satisfy the Province's policies on nitrogen and phosphorus in the RM of Cameron.</p> <p>MAFRD also reviewed the soil test reports. Soil nitrate on NW 35-5-22 W was 156 lb nitrate-N/acre in October 2013. Additional manure should not be applied to this parcel until nitrate levels decline to below the regulatory limits. Manitoba Conservation and Water Stewardship (CWS) noted that soil nitrate levels were exceeded on SE 34-05-22 W prior to February 2013. Review of the October 2013 soil test report for SE 34-05-22 W included in the site assessment indicates that the nitrate level subsequently declined to 18 lbs nitrate-N/acre and the field can continue to be used for manure application.</p> <p><u>Climate Change & Environmental Protection</u> -</p>	<p>CWS MMG MAFRD</p>

The Audit of: 007 Livestock Feeders

Site Assessment Sections	Meets Requirements for TRC Review (type "X")	Comment	Reviewing Department
<p>8.1 Land Available/Required for Manure Application</p> <p>Continued</p>		<p><u>Environmental Programs and Strategies</u> <i>Manitoba Conservation and Water Stewardship has obtained information on average phosphorus output from livestock and expected crop removal rates of phosphorus as well as Census data in order to estimate the phosphorus budget in each Rural Municipality within agro-Manitoba.</i> <i>"Certain Areas", are defined by the Livestock Manure and Mortalities Management Regulation as areas where the amount of phosphorus in the manure produced annually by livestock in an area of not less than 93.24 km² is greater than two times the annual crop removal rate of P₂O₅ in that area. The Rural Municipality of Cameron is not considered to be a "certain area".</i></p> <p><i>Manitoba Conservation and Water Stewardship requires permits for construction of manure storage facilities. As part of the review operators must identify manure spread fields. In areas of Manitoba which are not considered to be "certain areas" as defined above, Manitoba Conservation and Water Stewardship's current policy for the construction permit is to require an operation to demonstrate access to sufficient land to apply manure at a rate equivalent to 2 X the crop removal rate of phosphorus. The proponent has indicated that sufficient land is available and suitable for manure application; therefore Manitoba Conservation and Water Stewardship is sufficiently satisfied with the proposal for backgrounder operation in this respect.</i></p> <p><u>Water Stewardship - Water Science and Management</u> <i>It is recommended that manure be incorporated within 48 hours following broadcast application in order to minimize nitrogen volatilization losses.</i></p> <p><i>Manitoba has included phosphorus as a nutrient by which fertilizer application through manure, synthetic fertilizer, and municipal waste sludge to agricultural lands may be limited. To remain environmentally sustainable over a long-term planning horizon of 25 years or more, the proponent must be able to balance phosphorus inputs from applied manure and other nutrient sources such as commercial fertilizers with crop removal rates to avoid excessive build-up in soils. Consequently, sufficient land base or economically achievable treatment technologies must be available so that manure can be applied at no more than 1 times crop removal rates. Over the short-term, regulations allow manure to be applied at no more than 2 times crop removal rates when soil-test phosphorus is between 60 ppm and 120 ppm. Once phosphorus levels reach 120 ppm, applications of manure would be restricted to no more than 1 times crop removal rates. It should be noted that soil-test phosphorus levels of 60</i></p>	

The Audit of: 007 Livestock Feeders

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		<p>ppm are well above phosphorus needs for most crops (over 20 ppm is usually considered very high), and that as excess phosphorus levels build up in soils, greater losses occur to surface and ground water. For long-term planning purposes, the proponent needs to have sufficient land available to ensure that manure can be applied at 1 times crop removal; Sufficient land (2140 acres) has been identified by the proponent to ensure that manure can be applied at 2 times crop removal over the long term. To ensure that manure can be applied at 1 times the crop removal, 3163 acres are needed. An additional 1023 acres will be required for manure application to land over the long term planning horizon. The proponent has acknowledged that over the long term, up to 3163 acres may be required for the long term environmental sustainability of the operation.</p> <p><u>Manitoba Municipal Government (Brandon)</u> Notes that the identified manure spread fields are located in a manner that is generally consistent with the policies of the Dennis County Planning District Development Plan By-law No. 12 and the RM of Cameron Zoning By-law No. 116/01, as amended. The subject lands are designated "Rural Policy Area" within the Dennis County Planning District Development Plan and are zoned "AG" – Agricultural General Area according to the Rural Municipality of Cameron Zoning By-law.</p>	
9.0 Mortalities Disposal	X	<p><u>Climate Change & Environmental Protection - Environmental Programs and Strategies</u> In accordance with the Livestock Manure and Mortalities Management Regulation (M.R. 42/98), mortalities must be kept in a secure storage room, covered container or secure location; and continuously frozen or refrigerated, if not disposed of within 48 hours after death.</p> <p>Composting mortalities is acceptable provided the composting site is located at least 100-meters from any surface watercourse, sinkhole, spring or well, and the operation's boundaries. Mortalities must be composted in a manner that does not cause pollution of surface water, groundwater or soil, and the composting facility and process must be acceptable to the Director of Manitoba Conservation and Water Stewardship.</p> <p>Application of composted mortalities to land is prohibited between November 10 of one year and April 10 of the following year.</p> <p>The proponent should prepare a contingency plan in case of a catastrophic event resulting in mass mortalities.</p>	CWS
	X	<p><u>Manitoba Municipal Government (Brandon)</u> <u>Dennis County Planning District Development Plan By-Law No. 12</u> The expanding livestock operation is generally consistent with</p>	MMG (CRP Regional)

The Audit of: 007 Livestock Feeders

Site Assessment Sections	Meets Requirements for TRC Review (type "X")	Comment	Reviewing Department
10.0 Project Site Description		<p>applicable policies of the Dennis County Planning District Development Plan By-law No. 12 with one minor exception as follows:</p> <p><u>PART 3, Policy 3.3.3.7</u> states "In order to provide a measure of protection for surface water quality, livestock operations will not be allowed within a distance of 330 feet of the ordinary high water mark of any surface watercourse, sinkhole, spring, well and/or property boundary (in accordance with Manitoba Regulation 42/98)".</p> <p>According to the site plan(s) and written materials included herein, it appears the existing feedlot corrals in Pt. NW ¼ Sec. 35-5-22WPM forming part of the existing livestock operation are setback somewhere between 228 feet and 300 feet from the front property line of the livestock operation.</p> <p><u>PART 3, Section 3.3.3.1</u> states the following: "Within designated Rural Policy Areas, livestock operations may generally be established or expanded as a permitted use, up to a size of 250 animal units in the Rural Municipalities of Cameron and Pipestone and 300 animal units in the Rural Municipality of Sifton. The establishment or expansion of livestock operations larger than this size will be considered for approval on an individual basis by the municipal council, as a conditional use. New or expanding livestock operations shall generally be separated from residences and designated non-agricultural areas by separation distances as outlined in Policy 3.3.3.6."</p> <p>On the basis of this policy (above), and given the total size of the expanding livestock operation is set at 1,750 animal units, this 3,500 head beef backgrounder livestock operation is identified as being a conditional use requiring approval by Council.</p>	Office)
10.0 Project Site Description Continued		<p><u>RM Of Cameron Zoning By-Law No. 1116/01, As Amended</u> According to the RM of Cameron Zoning By-law 1116/01, as amended, the entire existing and proposed portions of the livestock operation are located in an area zoned "AG" - Agricultural General Zone. The expanded livestock operation is in compliance with the siting and setback requirements in place for this use in the "AG" – Agricultural General Zone with one minor exception (*) noted below as follows:.</p> <p><u>PART 3, Table 4.1: "AG" Agricultural General Zone – Use and Bulk Table</u></p> <p>Minimum Site Area (Acres) – 80 acres (320 acres provided) Minimum Site Width (Feet) – 1,000' (5,280 feet provided) Minimum Front Yard (Feet) – 125'</p> <p>NOTE: This setback applies to the residence and its accessory</p>	

The Audit of: 007 Livestock Feeders

Site Assessment Sections	Meets Requirements for TRC Review (type "X")	Comment	Reviewing Department
<p>10.0 Project Site Description Continued</p>		<p>structures only. Property line setbacks for livestock-related facilities are set out in PART 5, Table 5.2 of the RM of Cameron Zoning By-law.</p> <p>Minimum Side Yard (Feet) – 25'</p> <p>NOTE: This setback applies to the residence and its accessory structures only. Property line setbacks for livestock-related facilities are set out in PART 5, Table 5.2 of the RM of Cameron Zoning By-law.</p> <p>Minimum Rear Yard (Feet) – 25'</p> <p>NOTE: This setback applies to the residence and its accessory structures only. Property line setbacks for livestock-related facilities are set out in PART 5, Table 5.2 of the RM of Cameron Zoning By-law.</p> <p><u>PART 5, Table 5.2: "AG" Agricultural General Zone Minimum Setback Distances From Property Lines</u> Minimum Property Line Setbacks for feedlots, seasonal feeding areas and manure storage facilities (feet) – 330'. * The Proponent's site plan(s) and written materials indicate a front property line setback to the existing corrals somewhere between 228' and 300'.</p> <p><u>Concluding Remarks</u> To bring the entire expanded livestock operation into complete compliance with the Dennis County Planning District Development Plan and the siting and setback requirements of RM of Cameron Zoning By-law, the proponent is advised that in addition to obtaining various provincial environmental approvals, he must also obtain from the Council of the RM of Cameron a Conditional Use Order approving the proposed 1,750 AU (3,500 head) beef backgrounder livestock operation. Additionally, the proponent must obtain a variation order from Council recognizing the existing feedlot corrals as being located between 228' and 300' feet from the front property line of the livestock operation (based on information from the completed site assessment) as compared with the minimum required 330 feet as set out in PART 5, Table 5.2: of the RM of Cameron Zoning By-law.</p> <p>Both the conditional use order and variation order can be dealt with by Council at the same time through a combined conditional use and variation order Public Hearing. It is recommended that during the course of this Public Hearing Council first deal with the matter of the conditional use order and regardless of the outcome on that matter, proceed next to deal with the matter of the variation order.</p>	
<p>10.0 Project Site Description (Native Prairie, Wildlife Mgt Areas, Crown Land)</p>	<p>X</p>	<p><u>Conservation Programs - Wildlife & Ecosystem Protection</u> The Conservation Data Centre has no concerns.</p> <p><u>Land Management & Planning</u> Land Management & Planning Section has no concerns as no Crown lands will be impacted by the proposal.</p>	<p>CWS</p>

Site Assessment Sections	Meets Requirements for TRC Review (type "X")	Comment	Reviewing Department
11.0 Truck Haul Routes and Access Points	X	<p><i>This land has frontage on PTH 23 and has a direct access onto this highway. Based on the available information we do not object to this proposal. For information we include the statutory regulations along this highway. PTH 23 is a Limited Access Highway under the jurisdiction of the Highway Traffic Board. Under The Highways Protection Act a permit is required from the Highway Traffic Board to construct, modify (including the change in use of an existing driveway), relocate or remove an access onto this highway. A permit is also required from the Highway Traffic Board to change the use of the land or buildings or to place, construct or alter any structures (including the alteration of existing buildings) within the 38.1 m (125 feet) from the edge of the highway right-of-way. In addition, a permit is required from the Manitoba Infrastructure and Transportation for any planting placed within 15.2 m (50 ft) from the edge of the right-of-way of this highway.</i></p>	MIT

CWS – Conservation and Water Stewardship

MAFRD- Manitoba Agriculture, Food and Rural Development

MIT – Manitoba Infrastructure and Transportation

MMG- Municipal Government

D. PUBLIC COMMENTS & DISPOSITIONS

N/A

E. CONCLUSIONS & RECOMMENDATIONS

Overall Conclusion

Based on the Site Assessment submitted by the producer and available information, the Technical Review Committee recommends the following appropriate practices, measures and safeguards be taken in addition to any additional measures identified through subsequent Provincial and Federal

licensing or permitting in order to minimize any identified risks to health, safety and the environment.

Recommended Actions to Council

- As per Section 114(1) of The Planning Act, Council must set a date for a Conditional Use hearing which must be at least 30 days after it receives this report.
- As per Section 114(2) of The Planning Act, at least 14 days before the date of the hearing, Council must:
 - a) send notice of the hearing to
 - (1) the applicant,
 - (2) the minister, (c/o the Brandon Community & Regional Planning Office)
 - (3) all adjacent planning districts and municipalities, and
 - (4) every owner of property located within three kilometres of the site of the proposed livestock operation, even if the property is located outside the boundaries of the planning district or municipality;
 - b) publish the notice of hearing in one issue of a newspaper with a general circulation in the planning district or municipality; and
 - c) post a copy of the notice of hearing on the affected property in accordance with Section 170 of The Planning Act.
- Council should specify the type(s) of operation, legal land location, number of animals in each livestock category and total animals units in its Conditional Use Order.
- As per Section 117 of The Planning Act, Council must send a copy of its (Conditional Use Order) to
 - a) the applicant;
 - b) the minister (c/o the Brandon Community & Regional Planning Office);
 - and
 - c) every person who made representation at the hearing.
- Council should specify in its Conditional Use Order, the number of head of each subspecies and the legal location of the animal confinement area(s);

Recommended Actions to Proponent

- The proponent is required to obtain a permit for expansion of the existing confined livestock facility prior to initiation of the expansion work.
- The proponent is required to submit an *“Application for Permit to Construct, Modify, or Expand a Manure Storage Facility”* to Manitoba Conservation and Water Stewardship for each Manure Storage Facility (MSF) to be constructed.
- Construction of a MSF shall not commence until a permit is granted by the Director, and adequate notification is given to Manitoba Conservation and Water Stewardship.

- The proponent shall ensure the MSF, alone or in combination with other MSFs located on the property of the agricultural operation, is/are of sufficient capacity to store all livestock manure produced and used by the agricultural operation.
- Livestock manure shall be stored until such a time that it can be applied as fertilizer.
- The proponent must submit a Manure Management Plan (MMP) annually to Manitoba Conservation and Water Stewardship in accordance with the *Livestock Manure and Mortalities Management Regulation* (MR 42/98).
- It is strongly recommended that a runoff collection basin be constructed to manage runoff from the livestock operation.
- All unused and abandoned wells on the site and spread fields should be properly sealed and a sealed well report filed with the Groundwater Management Section of Conservation and Water Stewardship.
- The proponent must ensure all setbacks requirements are observed in accordance with the *Livestock Manure and Mortalities Management Regulation* and *Nutrient Management Regulation* for livestock manure application.
- The proponent is strongly encouraged to submit his water use records as soon as possible to Manitoba Conservation and Water Stewardship's Water Use Licensing branch.
- The proponent should prepare a contingency plan in the event of a catastrophic event resulting in mass mortalities.
- The proponent must obtain from the Council of the RM of Cameron a Conditional Use Order approving the proposed 1,750 AU (3,500 head) beef backgrounder livestock operation.
- The proponent must obtain a variation order from Council recognizing the existing feedlot corrals as being located between 228' and 300' feet from the front property line of the livestock operation (based on information from the completed site assessment) as compared with the minimum required 330 feet as set out in PART 5, Table 5.2: of the RM of Cameron Zoning By-law. NOTE: Both the conditional use order and variation order can be dealt with by Council at the same time through a combined conditional use and variation order Public Hearing. It is recommended that during the course of this Public Hearing Council first deal with the matter of the conditional use order and regardless of the outcome on that matter, proceed next to deal with the matter of the variation order.

The overall conclusion represents the consensus of the TRC Members.

F. TECHNICAL REVIEW COMMITTEE MEMBERS

Name	Department	Title	Address	Telephone
Don Malinowski Chair	Municipal Government	Senior Planner, TRC Community & Regional Planning Branch	604-800 Portage Avenue Winnipeg	945-8353
Andrea Bergman	Conservation and Water Stewardship	Technical Review Officer Environmental Programs & Strategies Branch	1007 Century St Winnipeg	945-4384
Petra Loro	Agriculture, Food & Rural Development	Livestock Environment Specialist	545 University Crescent Winnipeg	945-3869
Heinz Lausmann	Infrastructure and Transportation	Senior Highway Planning Engineer Highway Planning and Design Branch	1420-215 Garry Street Winnipeg	945-2664

**Land Base Assessment for 007 Livestock Feeders TRC Report
June 13, 2014
Petra Loro, Livestock Environment Specialist**

Manitoba Agriculture, Food and Rural Development (MAFRD) assessed the land base for manure application as provided by the proponent in order to provide Council with the assurance that adequate suitable land is available for this operation. The Province will require sufficient suitable land when the proponent applies for the confined livestock area permit.

In the Rural Municipality of Cameron, it is currently the Government of Manitoba's policy to require enough suitable land to allow manure application at a rate that does not exceed the nitrogen uptake or 2 times the phosphorus (P) that will be removed from the field in the harvested portion of the crop. Only lands with Agriculture Capability Class 1 to 5 and recent soil tests demonstrating P levels below 60 ppm Olsen P are considered suitable. Buffer strips and setbacks must be excluded.

007 Livestock Feeders has submitted 2140 acres of land below 60 ppm Olsen P for manure application. This land is primarily Agriculture Capability Class 2 and 3 (prime agricultural land) with some areas of lower Class 5 land. The soil survey information indicates the land has slight to severe limitations due to slope (T) wetness (W) and lack of moisture (M). Class 6 land appears to have been excluded from the manure application fields.

007 Livestock Feeders provided an estimate of the land requirements using excretion data provided by MAFRD for feeding cattle in the feedlot from 350 kg to 450 kg over a 245 day feeding period. In June 2014, MAFRD published a more detailed land calculator. The new calculator can be found here:

<http://www.gov.mb.ca/agriculture/environment/nutrient-management/land-base-requirements-for-new-and-expanding-livestock-operations.html>

The new calculator contains nutrient excretion data for backgrounders and pasture cattle which are more representative of the production system used by 007 Livestock Feeders. Therefore, MAFRD recalculated the land base requirement using the new calculator and considering adjusted animal weights and days on feed provided by 007 Livestock Feeders to Tod Wallace (Farm Production Extension Beef Specialist, MAFRD):

Type	Weight In	Weight Out	Days on Feed	Rate of Gain
	lb	lb		lb/day
Backgrounding	450	810	180	2.0
Pasture	810	950	90	1.5

An N volatilization rate of 20% was assumed for the manure pack and 40% was assumed for pasture. Crop nutrient removal was based on the crop rotation provided by 007 Livestock Feeders and long-term (2003-2012) MASC yield averages for the RM of Cameron.

Based on MAFRD's calculation, 007 Livestock Feeders requires a minimum of approximately 1752 acres of suitable land in order to ensure there is adequate land for the nitrogen in the manure. This is also enough to meet the Province's policy for P in the

RM of Cameron (i.e. 2 times the P that will be removed from the field in the harvested portion of the crop). In order to ensure the long-term environmental sustainability of the operation, 007 Livestock Feeders may require up to a total of approximately 1822 acres to balance manure P with crop P removal over the life of the operation.

007 Livestock Feeders has identified 2140 suitable acres for manure application. As such, MAFRD is satisfied that 007 Livestock Feeders has demonstrated that sufficient land is available to satisfy the Province's policies on nitrogen and phosphorus in the RM of Cameron as well as the long-term environmental sustainability of the operation.

MAFRD also reviewed the soil test reports provided by the operation. In Manitoba, manure application to land is regulated on the basis of residual soil nitrate-N limits and P thresholds. The fields identified for manure application include Class 2T and 3T soils for which the residual soil nitrate-N limit is 140 lbs/acre. NW 35-5-22W has exceeded this limit. Additional manure must not be applied to this field until the residual nitrate-N level is below this limit. There are also Class 5 soils identified for which the residual soil nitrate-N limit is 30 lbs/acre. Manure application must be managed to ensure that soils do not exceed the residual soil nitrate-N limits.

All of the fields identified for manure application are currently below 60 ppm Olsen P. Manure can be applied to meet the nitrogen requirements of the crop on these fields. However, this often results in more P being applied than is removed from the field and a build-up of soil test P. No more than 2 times crop removal rates for P can be applied when soil-test P is between 60 ppm and 120 ppm. If soil test levels reach 120 ppm Olsen P, manure application rates will be restricted to no more P than what is removed in the harvested portion of the crop over the course of a rotation.

Actual manure application rates will be determined in the manure management plan submitted to Manitoba Conservation and Water Stewardship. Although the regulations allow for greater build-up of soil test P, it is recommended that 007 Livestock Feeders manage the fertility of the fields that receive manure to keep all soil tests below 60 ppm P for the long-term environmental sustainability of the operation.

MAFRD provides extension support and computer software to help producers complete manure management plans. If the operation uses professional services to prepare the plan, manure management planners must successfully complete the Manure Management Planners Course offered by the Assiniboine Community College and be a member in good standing in the Manitoba Institute of Agrologists or a Certified Crop Advisor. If the services of a Commercial Manure Applicator are obtained to apply the manure, the applicator must be trained by the Assiniboine Community College and licensed by MAFRD.

Under *The Farm Practices Protection Act*, any complaints about odour or other disturbances (such as flies, smoke, noise or dust) can be directed in writing to The Farm Practices Protection Board. *The Act* is intended to provide for a quicker, less expensive and more effective way than lawsuits to resolve complaints about farm practices. It may create an understanding of the nature and circumstances of an agricultural operation, as well as bring about changes to the mutual benefit of all concerned, without the confrontation and the expense of the courts.