



TECHNICAL REVIEW COMMITTEE

**A TECHNICAL REVIEW REPORT
PREPARED FOR**

**THE RURAL MUNICIPALITY
OF
WALLACE**

**KIRK KLIEVER
SW 06-12-27W**

TRC 12 – 018

November 26, 2015

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);
- 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.
- Due to regulatory nature and mandate of Manitoba Conservation and Water Stewardship, a complete comprehensive review of the proposal is not completed during the Technical Review process due to potentially limited information provided. The operation would be subject to thorough review when undertaking manure management plan registration, construction permit applications and any other applicable approval and assessment of compliance.
- A summary of public comments along with proponent and departmental responses, if any.
- Recommendations to the Municipal Council and the 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 may 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

www.gov.mb.ca/ia/programs/livestock/public_registries.html

Applicant: Kirk Kliever.

Site Location: Approximately 5 kms east of the community of Elkhorn in the R.M. of Wallace (SW 06-12-27 WPM) Refer to map below.

Proposal: To expand an existing feedlot operation from 594 to 2125 Animal Units.

This will involve the following:

- Expansion of pens and shelter
- Using field storage for manure
- Consuming 36,000 imperial gallons of water per day
- Composting mortalities
- Using the truck haul routes as shown below



C.SITE ASSESSMENT AUDIT

The Audit of: Kirk Kliever

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	Kirk Kliever is proposing to expand his backgrounding operation to contain 4000 backgrounders and reduce his summer pasture cattle to 200 for a total of 2125 animal units.	MAFRD
5.0 Animal Confinement Facilities	X	Climate Change & Environmental Protection – Environmental Approvals: Manitoba Conservation and Water Stewardship requires permits for construction and expansion of confined livestock areas for operations with 300 AU or more. Barns are not included in the definition of confined livestock areas.	CWS
6.0 Environmental Farm Planning	X	An Environmental Farm Plan was completed in 2005.	MAFRD
7.0 Water	X	Climate Change & Environmental Protection - Environmental Approvals: As per section 6.1(3) of the Livestock Manure and Mortalities Management Regulation, livestock operations with 300 animal units or more are required to annually submit water analysis reports from the drinking water supplied to their livestock. Water Stewardship – Water Science and Management: Proper nutrient management applications that avoid excess loss of nutrients to surface waters are needed on lands receiving nutrients including 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); All unused and abandoned wells on the site and spread fields should be properly sealed. A sealed well report should be filed with the Groundwater Management Section of Conservation and Water Stewardship for all sealed wells. Information on well sealing is available from Conservation and Water Stewardship (204-945-6959) or: www.gov.mb.ca/waterstewardship/water_info/misc/abandoned_wells.pdf .	CWS

The Audit of: Kirk Kliever

Site Assessment Sections	Meets Requirements for TRC Review (type "X")	Comment	Reviewing Department
7.0 Water (Cont'd)		<p>It is recommended that all but the most basic wells 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>Please note that the proposed Well Standards Regulation under the Groundwater and Water Well Act (http://www.gov.mb.ca/conservation/waterstewardship/groundwater/consultation/index.html) requires a 100 metre separation distance between newly constructed wells and confined livestock areas. Proposed separation distances are meant to protect groundwater quality and should be considered for this proposal.</p> <p>Water Stewardship – Water Use Licensing: No concerns from water use licensing – the proponents have applied for a water rights license.</p>	
8.0 Manure Related	X	<p>Climate Change & Environmental Protection - Environmental Approvals: 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>In accordance with the Livestock Manure and Mortalities Management Regulation, field storage of manure is acceptable provided manure cannot escape the field storage area.</p> <p>Field storage sites must be changed annually and a crop grown on the storage site to take up any excess nutrients.</p> <p>Water Stewardship – Water Science and Management: The proponent plans to surface broadcast manure primarily on perennial forage and pasture land. It is recommended that where possible manure be incorporated within 48 hours following broadcast application to minimize nitrogen volatilization losses and risk of phosphorus loss in runoff. Where this is not possible, to reduce the risk of runoff losses of nitrogen and phosphorus application should not occur to saturated, frozen or snow covered soils or when heavy rainfall is expected within 24 hours. Fall applications are best completed by mid-October or earlier as manure broadcast shortly before freeze up is more susceptible to nutrient runoff losses during spring snowmelt than if the manure is broadcast earlier in the fall.</p>	CWS

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Site Assessment Sections	Meets Requirements for TRC Review (type "X")	Comment	Reviewing Department
8.0 Manure Related (Cont'd)		<p>The proponent has acknowledged that the setback areas for all water features have been observed and excluded from land base calculations for this operation. It is important that these setbacks be clearly communicated and observed by everyone involved in manure application so as to minimize the risk of nutrients entering surface waters.</p>	
8.1 Land Available/Required for Manure Application	X	<p>Climate Change & Environmental Protection - Environmental Approvals: 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. "Certain Areas", are defined by the Livestock Manure and Mortalities Management Regulation (M.R. 42/98) 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 Wallace is not considered to be a "certain area".</p> <p>As per section 13 of the Livestock Manure and Mortalities Management Regulation, livestock operations with 300 animal units or more are required to annually submit a manure management plan.</p> <p>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 two times the crop removal rate of phosphorus</p> <p>In accordance with the Livestock Manure and Mortalities Management Regulation (M.R. 42/98), manure cannot be applied to land from November 10 of one year to April 10 of the following year (winter application).</p> <p>Water Stewardship – Water Science and Management: 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.</p>	CWS MMG MAFRD

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Site Assessment Sections	Meets Requirements for TRC Review (type "X")	Comment	Reviewing Department
8.1 Land Available/Required for Manure Application (Cont'd)		<p>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. It should be noted that Olsen soil-test phosphorus levels of 60 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 (1374 acres) has been identified by the proponent to ensure that manure can be applied at 2 times crop removal (885 acres needed) over the long term 1770 acres will be required to remain environmentally sustainable under current cropping practices.</p>	
8.1 Land Available/Required for Manure Application (Cont'd)		<p>MAFRD A detailed description of MAFRD's land assessment is provided in the Appendix. MAFRD's estimate of the acreage requirements considers only the nitrogen (N) and phosphorus (P) from the livestock and does not consider nutrients from any other sources. In order to satisfy the Province's requirement for N, it is estimated that Kliever Livestock will require approximately 1359 acres of suitable land. This is also enough land to satisfy the Province's requirement for P in the RM of Wallace.</p> <p>Kliever Livestock has identified a total of 1374 acres of suitable crop and pasture land. Kliever Livestock has demonstrated that they have sufficient suitable land to meet the Province's requirements for the manure N and P.</p> <p>MMG All spreadfields identified in the proposal are designated Resource Agricultural in the Trans Canada West Planning District Development Plan By-law No. 41. All spreadfields identified are zoned "AG80" Agricultural General Zone in the RM of Wallace Zoning By-law No. 1866. The RMs planning by-laws support the use of these fields as spreadfields.</p>	
9.0 Mortalities Disposal	X	<p>Climate Change & Environmental Protection – Environmental Approvals: 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>	CWS

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Site Assessment Sections	Meets Requirements for TRC Review (type "X")	Comment	Reviewing Department
9.0 Mortalities Disposal (Cont'd)		<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>	
10.0 Project Site Description	X	<p>MMG The proposed livestock operation expansion is on land that is designated Resource Agricultural in the Trans Canada West Planning District Development Plan By-law No. 41. The intent of Resource Agricultural areas is to protect and manage resources so future generations can continue to benefit from their use while enjoying and respecting a rural way of life (Section 2.3). Preservation of agricultural land and operations that form the basis of the agricultural industry in the region is one of the highest priorities when considering new development (Section 2.5.11). The Development Plan stipulates that new or expanding livestock areas must be carefully planned and located to avoid groundwater sensitivity areas, respect source water management plans, pollution of surface water and soils with an Agricultural Capability of Class 6 or 7 soils (Zone N4 of Nutrient Management Regulations) (Section 2.5.22). Within the Resource Agricultural Areas, the expansion of existing livestock operations will be considered based on the size and separation distance requirements established in the zoning by-laws (Section 2.5.23).</p> <p>The proposed livestock expansion is on land that is zoned "AG80" Agricultural General Zone in the RM of Wallace Zoning By-law No. 1866. The AG80 zone lists livestock operations over 75 L.W.U. (Livestock Waste Units) as a Conditional Use.</p> <p>The RM of Wallace Zoning By-law No. 1866 requires that livestock operations of the size being proposed be a minimum of 500 feet from the nearest watercourse. All livestock confinement areas must be designed to keep livestock wastes within the confinement area and not allow wastes to leach into groundwater or run off into any body of water (Section 9.(1)a)) The zoning by-law also states that in no case shall the manure from a livestock production operation be allowed to be carried into a water body which extends beyond the owner's property boundaries or be disposed within 200 feet of the ordinary high water mark of any creek drain, or body of water (Section 9.(1)c)). NOTE: We have no information on the location of groundwater sensitivity areas in the RM of Wallace. The proposed manure spread lands include lands with creeks.</p>	<p>MMG (CRP Regional Office)</p>

Site Assessment Sections	Meets Requirements for TRC Review (type "X")	Comment	Reviewing Department
10.0 Project Site Description (Cont'd)		The zoning by-law further stipulates that all new livestock operations producing in excess of 50 L.W.U be a minimum of 80 acres in size (Table Two – Agricultural and Residential Rural Minimum Bulk Requirements). Such operations shall not be located within 2640 feet of a "GD" General Development Zone, a "RR" Residential Rural Zone, or an incorporated Village (Section 9.(2)a)), or within 1320 feet of a dwelling unit excluding the owner/operators dwelling unit (Section 9.(2)b). From the information we have available, it appears that the proposed expansion meets the setback requirements.	
10.0 Project Site Description (Native Prairie, Wildlife Mgt Areas, Crown Land)	X	<p>Conservation & Water Stewardship – Lands Branch: As no Crown Lands are identified to be impacted by the proposal, Land Management and Planning Section of Manitoba Conservation and Water Stewardship has no comment.</p> <p>Conservation Programs – Wildlife & Ecosystem Protection: The Conservation Data Centre has no rare species concerns related to this project.</p> <p>There are no wildlife related concerns.</p>	CWS
11.0 Truck Haul Routes and Access Points	X	This site does not front onto a provincial highway. The nearest provincial highway is PTH 1 which is approximately 4.7 km to the southeast or 4.5 km west of the proposed development. The anticipated traffic generation of five vehicles per day is not significant enough to raise any concerns. PTH 1 is an RTAC route. We do not object to this proposed development.	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

Received comments have been a) forwarded to the proponent for a response, b) posted on the Public Registry <http://www.gov.mb.ca/ia/livestock/trc-12-018.html> and c) forwarded to Provincial Departments. The proponent's response has been noted and is appended to this report (Appendix B).

Please note that provincial department representatives will be in attendance at the yet to be scheduled Conditional Use Hearing to speak to this report and provide additional comments in response to questions regarding provincial requirements.

Jack & Wenda Paton – Elkhorn, MB

The Patons live on SW 2-12-28W and have raised concerns regarding the following:

- 1) Increase in the levels of odours, which are already high (due to an existing nearby livestock operation) and
- 2) Impact on the local aquifer

Disposition: It has been noted that the proponent has responded to both concerns. As well, the proponent is directed to adhere to provincial requirements and guidelines related to safeguarding subsurface and surface water (noted in Sections 7.0 – 10.0 of the Audit Table of this report).

E.CONCLUSIONS & RECOMMENDATIONS

Overall Conclusion

The information contained in the Site Assessment submitted by the proponent generally meets Provincial requirements.

Based on the Site Assessment submitted by the producer and available information, the TRC recommends the following appropriate practices, measures and safeguards be taken;

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.

Recommended Actions to Proponent

- The proponent is required to submit an "Application for Permit to Construct, Modify, or Expand a Confined Livestock Area" to Manitoba Conservation and Water Stewardship for each Confined Livestock Area (CLA) to be constructed;
- In accordance with the *Livestock Manure and Mortalities Management Regulation* (M.R. 42/98), field storage of manure is acceptable provided solid manure cannot escape the field storage area.
- Field storage sites must be changed annually and a crop grown on the storage site to take up any excess nutrients.
- 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.
- Application of manure is prohibited between November 10 of one year and April 10 of the following year as per Section 14(1) of the *Livestock Manure and Mortalities Management Regulation* (M.R. 42/98);
- Livestock manure shall be stored until such a time that it can be applied as fertilizer;
- The proponent must observe all setbacks from water features during manure application;
- 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);
- 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.
- All but the most basic wells should be sealed by a well drilling professional.
- In accordance with the *Livestock Manure and Mortalities Management Regulation*, the proponent must annually submit to Manitoba Conservation and Water Stewardship analytical results from samples of drinking water provided to their livestock;
- The proponent should prepare a contingency plan in the event of a catastrophic event resulting in mass mortalities.
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*** and 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.**

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
Petra Loro	Agriculture Food and Rural Development	Livestock Environment Specialist	545 University Crescent Winnipeg	945-3869
Andrea Bergman	Conservation and Water Stewardship	Technical Review Officer Environmental Programs & Strategies Branch	1007 Century Street Winnipeg	945-4384
Heinz Lausmann	Infrastructure and Transportation	Senior Highway Planning Engineer Highway Planning and Design Branch	1420-215 Garry Street Winnipeg	945-2664

Appendix A

Kliever Livestock August 12 2015 Petra Loro, Livestock Environment Specialist

Manitoba Agriculture, Food and Rural Development (MAFRD) reviewed the site assessment for Kliever Livestock as provided by Kirk Kliever, dated July 31 2015, and has the following comments.

Proposed Type and Size of Operation:

Kirk Kliever is proposing to expand his backgrounding operation to contain 4000 backgrounders and reduce his summer pasture cattle to 200 for a total of 2125 animal units.

Environmental Farm Planning:

An Environmental Farm Plan was completed in 2005.

Land Available/Required for Manure Application:

MAFRD reviewed the land provided in the site assessment in order to provide Council with the assurance that adequate suitable land is available for all of the cattle associated with Kliever Livestock to satisfy current Provincial policies and regulations.

In the Rural Municipality of Wallace, 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 (N) uptake or twice the phosphorus (P) that will be removed from the field in the harvested portion of the crop over the course of a rotation. 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.

Using the January 21, 2015 version of the MAFRD land calculator, it is estimated that all of the cattle associated with Kliever Livestock will generate approximately 103296 lbs N and 36155 lbs P₂O₅. Using the crops (including pasture) and acreages provided by Kliever Livestock, in conjunction with 10 year MASC yield averages for soil zones E, F and G, it is estimated that the average annual crop and pasture N uptake to be approximately 76 lb/acre and the average annual crop P₂O₅ removal to be approximately 20.4 lb/acre.

Therefore, in order to satisfy the Province's requirement for N, it is estimated that Kliever Livestock will require *approximately* 1359 acres of suitable land. This is also enough land to satisfy the Province's requirement for P in the RM of Wallace. MAFRD's land estimate considers only the N and P from the livestock and does not consider nutrients from any other sources.

Kliever Livestock has identified a total of 1374 acres of suitable crop and pasture land. According to Agri-Maps (MAFRD internal soil survey map viewer), these parcels contain Agriculture Capability Classes 2 to 5. The predominant limitation on these lands, as

indicated in the site assessment, is slope (T). Agri-Maps also indicates the land has limitations due to salinity (N) and wetness (W). Kliever Livestock has demonstrated that they have sufficient suitable land to meet the Province's requirements for the manure N and P. In order to manage manure P indefinitely, however, up to 1770 acres of land may be required.

Additional Information:

In any given year, the amount of land that actually receives manure will depend on the manure application rate established in the annual manure management plan. In order to minimize the risk of nitrate leaching, N application rates should be based on annual soil tests, crop N requirements and realistic target crop yields. Because manure is rarely a "balanced" fertilizer, repeated, annual N-based manure application rates often result in the build-up of soil test P. Moderate build-up of soil test P enhances soil fertility and benefits crop production, however, excessive build-up of soil test P increases the risk of P being lost to surface water. For this reason, MAFRD recommends that Kliever Livestock manage the fertility of the fields that receive manure to keep all soil tests below 60 ppm P over the long-term.

Information on the availability of the N in beef manure is limited but N availability is expected to be low relative to liquid pig manure. As such, application of supplemental synthetic fertilizer N may be required to produce optimum yields of some crops.

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 Manitoba Farm Industry 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.

Appendix B

Proponent's Response to Public Comments

Jack & Wenda Patton:

Thank you for expressing your concern for protecting the environment. Clean water and a healthy environment are of great importance to me and my family as well. Our family chooses to live right beside our livestock operation and drink the water and breathe the air here. We do not wish to compromise our water resources or the quality of the environment in which we live either. We will be taking steps to mitigate these concerns during the expansion of our livestock facilities.

In order to help livestock producers protect the environment, the Government of Manitoba has set out requirements for the establishment or expansion of confined livestock areas above 300 animal units in its Livestock Manure and Mortalities Management Regulations. We will be abiding by these regulations while constructing and operating this expanded facility going forward.

There are several components in the Manitoba Livestock Manure and Mortalities Management Regulations designed to address the risk of groundwater contamination. These components range from how the facility is designed and how surface runoff is managed, to how the manure nutrients are managed on spread fields, to annual well water testing and specific setback distances from groundwater wells and other water bodies.

Shelter belt planting has been included in our facility site plans as a measure to control odor from the facility. Prevailing west/north-west winds are also favorable to the location of the facility for carrying any odors in the opposite direction of populated areas and neighbours. Planning for manure application will take into consideration the appropriate methods and time of year to spread manure to make the best use of nutrients and generate the least amount of odor for the least amount of time at the spread fields.

I hope this response has mitigated your concern for the expansion of my livestock facility. My family and I rely on the sustainable production of livestock for our livelihood and we hope that we can add value to the local economy and can be good neighbours by doing things right.

If you would like additional detailed information, I encourage you to review the Manitoba Livestock Manure and Mortalities Management Regulations. Also, if you are currently consuming water from a groundwater well and you are unsure if it is potable or have never had it tested, I would highly encourage you to take a water sample and have it analyzed for your own safety, health, and peace of mind.

Best regards,

Kirk Kliever