



TECHNICAL REVIEW COMMITTEE

**A TECHNICAL REVIEW REPORT
PREPARED FOR THE**

**THE RURAL MUNICIPALITY OF
LA BROQUERIE**

LA BASS HOLSTEINS

SW $\frac{1}{4}$ 27-06-08 EPM

TRC 12-103

June 12, 2024

A. INTRODUCTION – THE TEAM

The Technical Review Committee (TRC) is supported by the following department personnel:

Agriculture (AGR)

- Agricultural Engineer
- Business Development Specialist
- Veterinarians
- Livestock Environment Specialist
- Nutrient Management Specialist

Economic Development, Investment, Trade and Natural Resources (EDITNR)

- Crown Lands Manager
- Fish Habitat Specialist
- Habitat Mitigation Biologist

Environment and Climate Change (ECC)

- Environmental Engineer
- Environment Officer
- Water Rights Licensing Technologist
- Land-Water Specialist
- Groundwater Specialist

Manitoba Transportation and Infrastructure (MTI)

- Senior Development Review Technologist
- Senior Flood Protection Planning Officer

Municipal and Northern Relations (MNR)

- Community Planners

And any other specialist or department that may have an interest, which may be consulted during the process.

THE TECHNICAL REVIEW COMMITTEE (TRC) REPORT

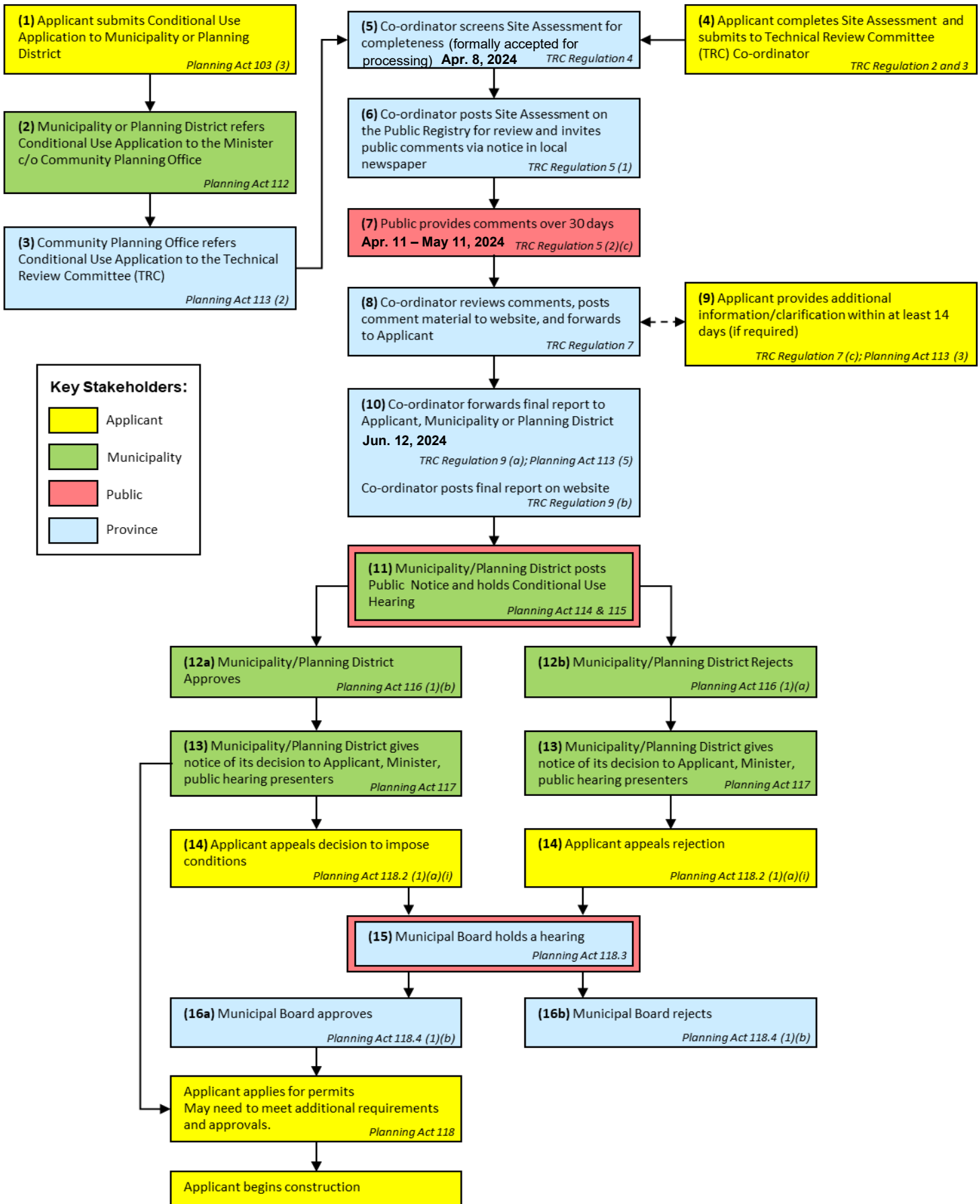
Purpose of TRC Reports

To provide objective, credible, technically-based assessments that:

- a) Enable municipal councils or planning districts to make informed Conditional Use Permit decisions;
- b) Create a common stakeholder understanding of a livestock proposal, potential impacts and related regulatory requirements and safeguards;
- c) Provide a vehicle/forum that enables the sharing of public concerns and proponent responses;
- d) Offer recommendations to both municipal councils, planning districts and proponents; and
- e) Represents the fulfillment of the TRC's role as per 116(1)(b)(i) of *The Planning Act* – to determine, based on available information, that the proposed operation will not create a risk to health, safety or the environment, or that any risk can be minimized through the use of appropriate practices, measure and safeguards.

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. As of November 1, 2019, a proponent may appeal a municipal council's rejection of their application or appeal a condition imposed related to municipal council's approval. Appeals are made to the Municipal Board.

Livestock Technical Review Process (November 1, 2019)



B. DESCRIPTION OF PROPOSED LIVESTOCK OPERATION

Further information can be found at https://www.gov.mb.ca/mr/livestock/public_registries.html

Applicant: La Bass Holsteins

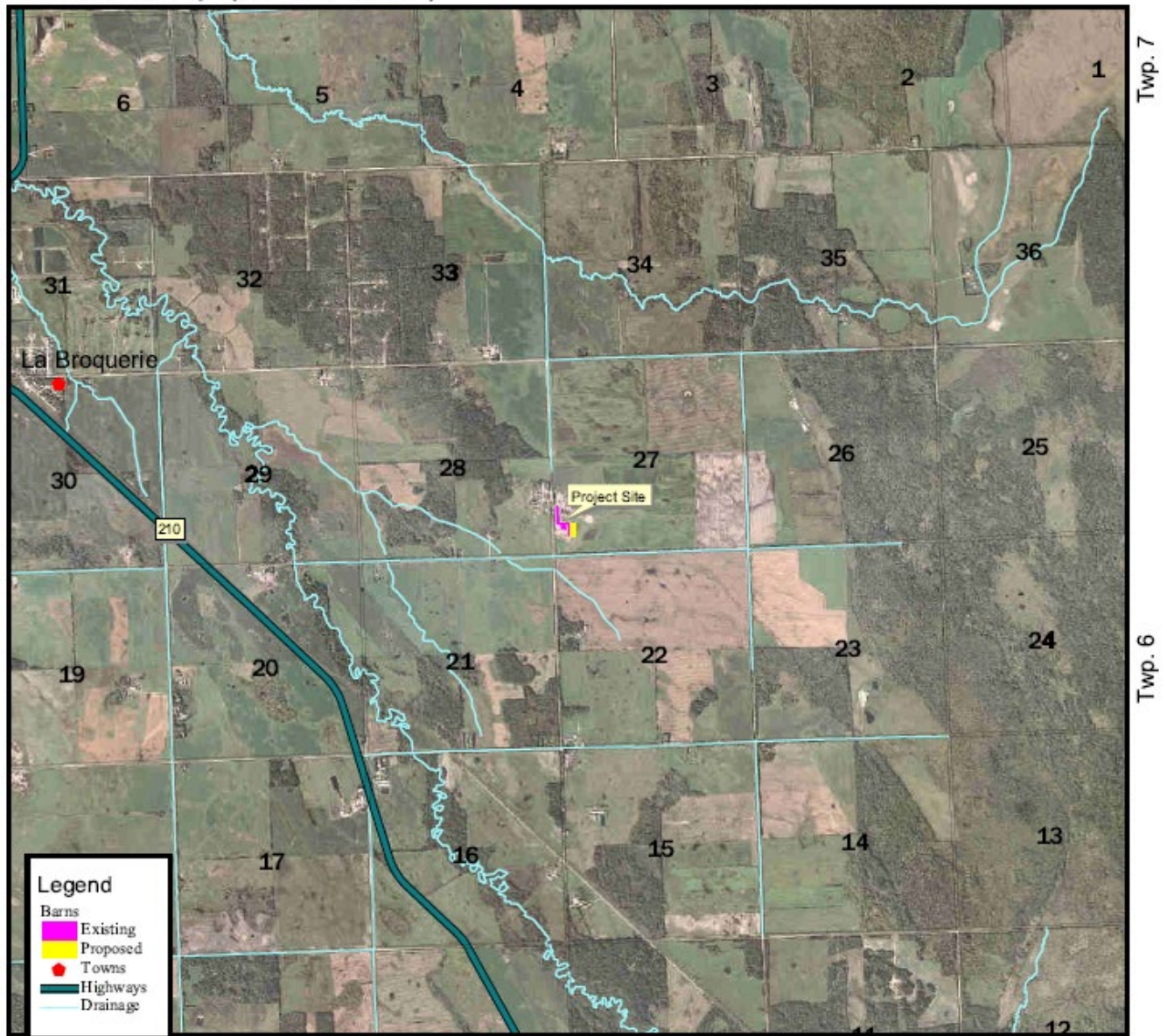
Site Location: SW ¼ 27-06-08 EPM Refer to map below.

Proposal: To expand an existing dairy operation by increasing the number of mature cows (lactating and dry) including associated livestock from 510 (1020 Animal Units) to 750 (1500 Animal Units).

This will involve the following:

- Use of existing buildings and building a new barn
- Construction of a new multi-cell earthen manure storage and decommissioning the old lagoon
- Estimated daily water use of 40599 imperial gallons from an existing well.
- Composting mortalities
- Truck haul routes as shown in map below

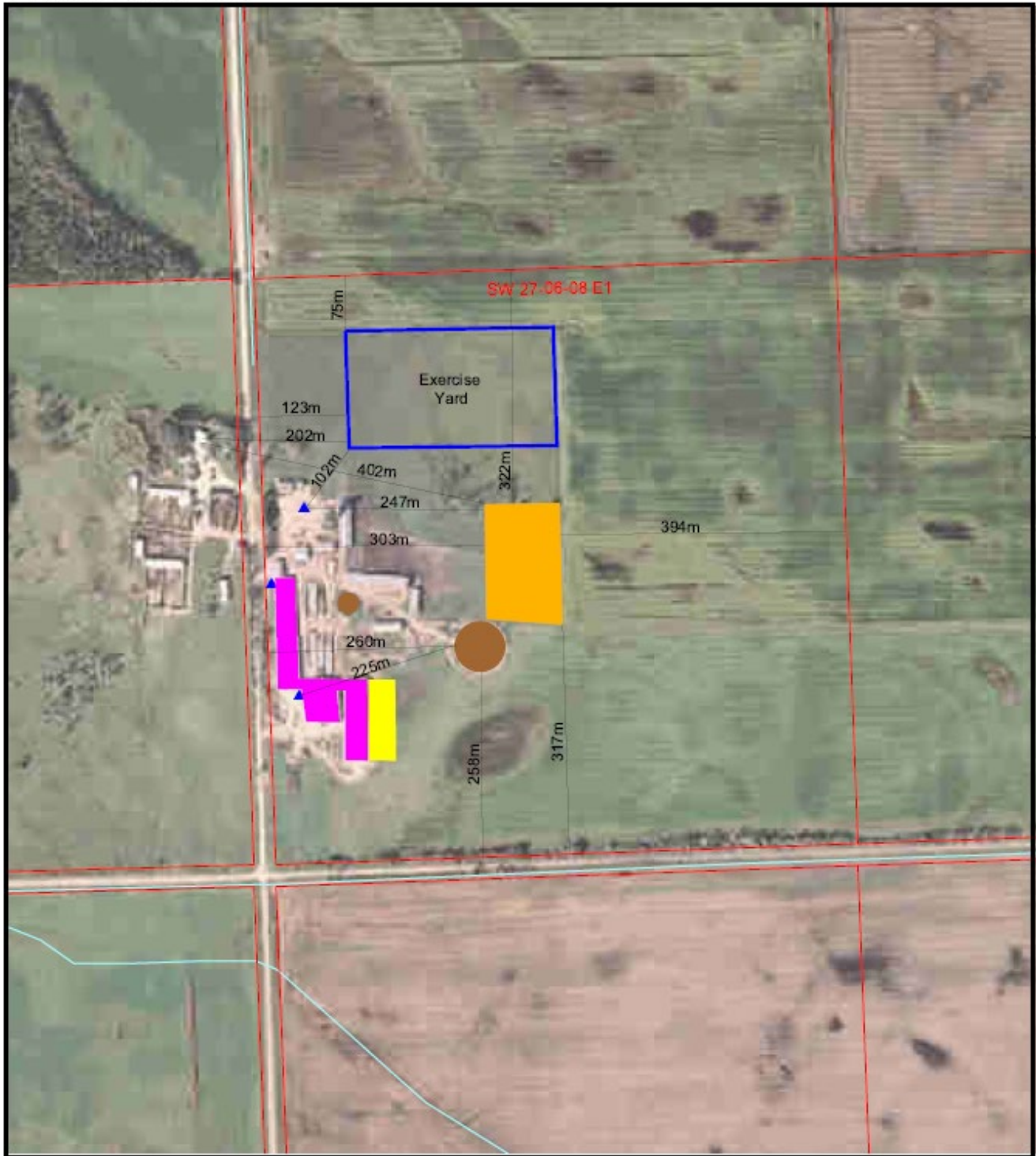
La Bass Holsteins Location Map (SW 27-6-8E)



Data Sources:
 Fields and irrigation areas drawn by Tone Ag in consultation with landowner, and subject to change.
 Orthophotos are 1:60,000 from Manitoba Land Initiative website
 Soil Features are 1:50,000 from Manitoba Land Initiative website
 Highways are from Manitoba Highways and Transportation 1:60,000 map 1994
 Sections are from Manitoba Land Initiative website

Map created by Jordan Karpinchick
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 2023-12-11

La Bass Holsteins Project Site Plan



0 0.1 Miles
1:7000

- Barns**
 Existing
 Proposed
Manure Storage Facility
 Existing
 Proposed
 Well
 Drainage

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2023-12-18



La Bass Holsteins Project Site Plan - Composting Site



■ Composting Site
— Drainage

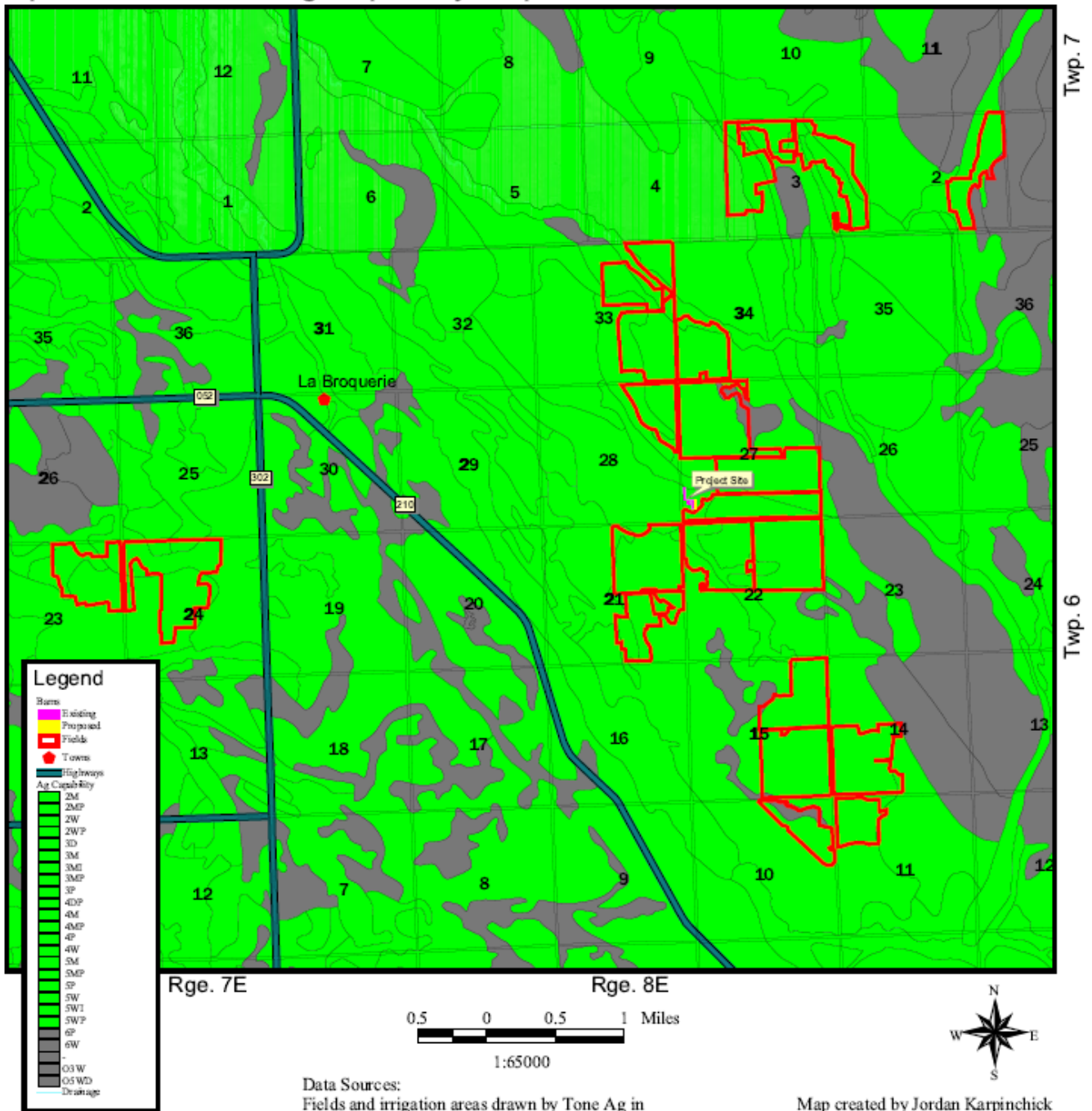
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2023-12-04



La Bass Holsteins Spread Fields and Ag Capability Map

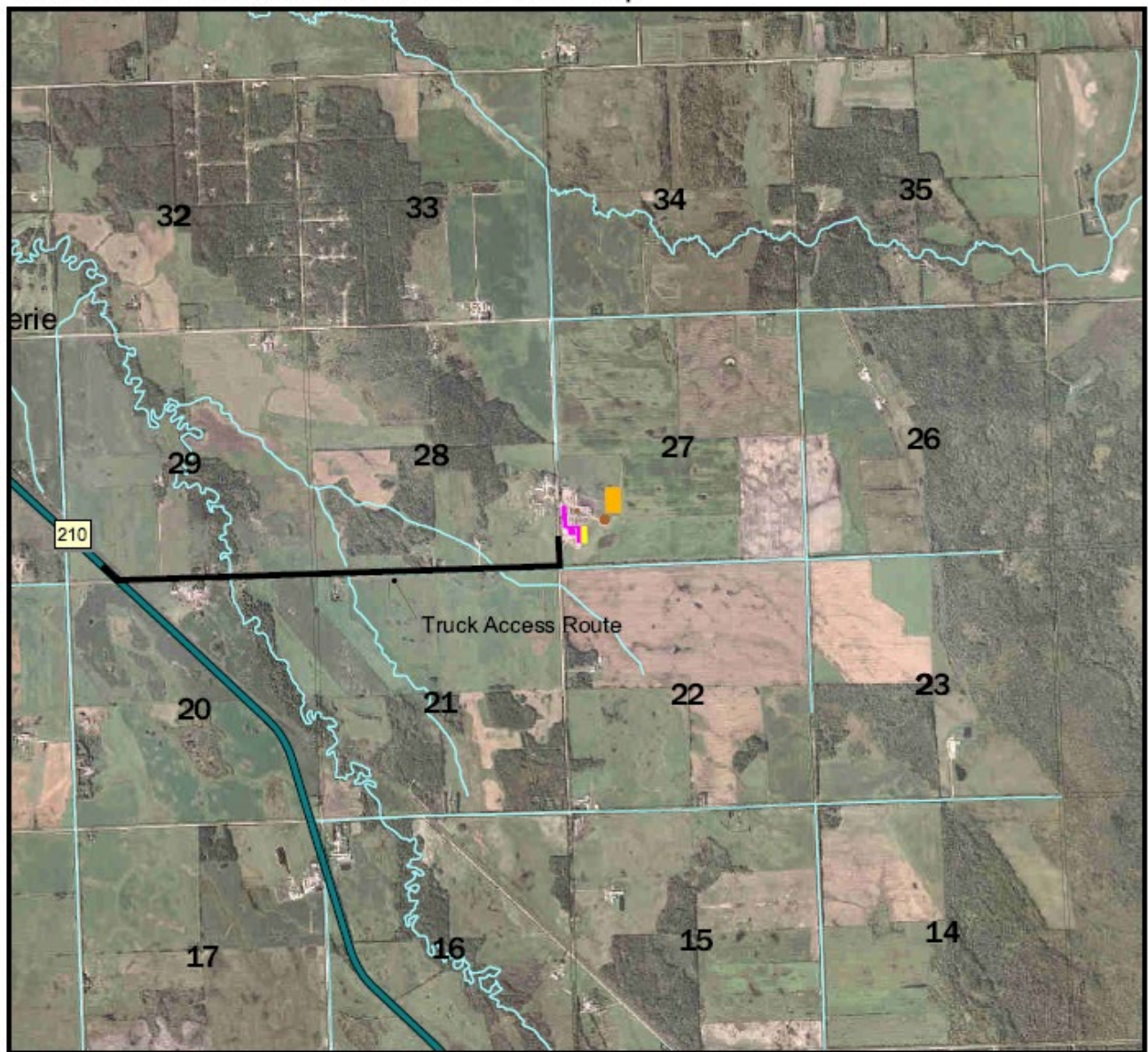


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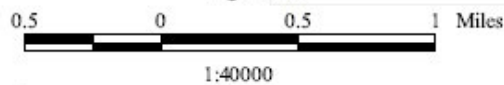
La Bass Holsteins

Truck Haul Route and Access Point Map



Legend

- Barre
- Existing Manure Storage Facility (pink rectangle)
- Proposed Manure Storage Facility (yellow rectangle)
- Existing (orange rectangle)
- Proposed (brown rectangle)
- Towns (red dot)
- Highways (thick black line)
- Drainage (light blue line)



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 2023-11-27

C. SITE ASSESSMENT OVERVIEW

Provincial Technical Overview of TRC 12-103 – La Bass Holsteins				
Item No.	Provincial Requirements	Confirmed	Related Provincial Safeguards	Dept.
1	Submitted complete site assessment	X	Technical Review Committee Regulation 119/2011 requires an applicant to submit a completed site assessment.	MNR
2	Clearly identified the current and proposed type and number of animals and animal units (AU)	X	La Bass Holsteins is currently seeking Conditional Use approval to expand its dairy operation to 750 mature cows (lactating and dry) or 1500 AU.	AGR
3	Project clearly defined as: <u>animal confinement facility and confined livestock area (CLA)</u>	X	The applicant will expand an existing confined livestock area (CLA) to house 300 AU or more. Under the Livestock Manure and Mortalities Management Regulation, the applicant must: <ul style="list-style-type: none"> Obtain a permit from Manitoba Environment and Climate Change prior to expanding the facility; Ensure the CLA does not pollute surface water, a surface watercourse, groundwater, or soil; Locate the CLA at least 100 m from any surface watercourse, sinkhole, spring, well, and the operation's boundaries; and Remove manure at least once per year and store or land-apply manure. 	ECC
		X	A new 46,800 ft ² (~4,348 m ²) dairy barn (animal confinement facility) is being proposed for the expansion. A building permit will be required from the RM of Hanover, which is the Authority Having Jurisdiction for your area. Additional information on building permit requirements can be found on the provincial website under Inspection and Technical Services branch (Labour and Immigration) https://www.gov.mb.ca/labour/its/bldg_codes/permits_and_inspections.html	MNR
4	Identified all existing and proposed buildings and structures and related separation distances	X	The proposed expansion (1020 AU to 1500 AU) does not change the required separation distances. As per the RM of La Broquerie Zoning By-law No. 07-2018, the proposed Earthen Manure Storage facility does not meet the required separation distance from: <ul style="list-style-type: none"> the dwelling on SE ¼ 28-06-08 EPM, or from the designated Rural Residential area on SW ¼ 35-06-08 EPM. Variances for separation distances will be required for the new Earthen Manure Storage facility.	MNR

Provincial Technical Overview of TRC 12-103 – La Bass Holsteins

Item No.	Provincial Requirements	Confirmed	Related Provincial Safeguards	Dept.
5	Demonstrated project site is not located within Nutrient Management Zone N4 or any Nutrient Buffer Zone	X	The project site is not located within Nutrient Management Zone N4 or any Nutrient Buffer Zone.	ECC
6	Identified suitable water source: <u>Existing Well</u> and a water consumption rate of 40,599 imperial gallons per day	X	The applicant currently holds a valid Water Rights Licence from the Water Use Licensing Section. However, the applicant will need to submit an application to amend the existing licence in order to include the additional animals. Applications can be submitted through our online portal: https://web22.gov.mb.ca/Sso/Account/LogOn	ECC

Provincial Technical Overview of TRC 12-103 – La Bass Holsteins

Item No.	Provincial Requirements	Confirmed	Related Provincial Safeguards	Dept.
7	Proposed project site meets development plan, zoning by-law	X	<p><i>The Planning Act</i> requires that development plans must include a livestock operation policy that guides zoning by-laws dealing with livestock operations.</p> <p><i>The Planning Act</i> requires municipalities to issue development permits for any development on a site. All development must comply with the Zoning By-law and Development Plan. Any proposed development that does not meet the separation distances or setbacks requires Council approval and a public process to vary those requirements.</p> <p>Designation The proposed livestock operation is located on land designated Rural 1 Policy Area in the RM of La Broquerie Development Plan By-law No. 06-2018. The proposal complies with Development Policies 3.4.3 1-9 (Livestock Policies).</p> <p>Secondary Plan The proposed livestock operation is located on Troisfontaines Road, which is identified as a location for a future on-street trail corridor in the RM of La Broquerie Trails Secondary Plan By-law 06-2017 (Schedule “A”).</p> <p>Zoning The proposed site is zoned “RG” Rural General Zone in the RM of La Broquerie Zoning By-law No. 07-2018 and has a minimum site area requirement of 80 acres with a minimum site width requirement of 600 ft.</p> <p>As per the zoning by-law, the project site may consist of one or more abutting lots. The proposed project site consists of three titles with a total of 160 acres and 2,669 ft site width. This meets the minimum site area and width requirements for the “RG” zone.</p> <p>The existing buildings and structures that do not meet the minimum front/side yard requirements appear to have existing legal status and the non-conformity will not be increased.</p> <p>The proposed new barn meets all required yard setbacks.</p> <p>The proposed new manure storage facility encroaches on the adjacent lot (owned by La Bass Holsteins and considered part of the project site) by 27.8 ft (8.5 m).</p> <p>As the yard setbacks described in the zoning bylaw, are calculated from the lot line, the Municipality will require a variance for the new manure storage facility and may require an easement agreement. The applicant could consider consolidating the two lots or do a boundary realignment to address the encroachment.</p>	MNR

Provincial Technical Overview of TRC 12-103 – La Bass Holsteins

Item No.	Provincial Requirements	Confirmed	Related Provincial Safeguards	Dept.
8	Identified any unsealed abandoned wells on the project site or spread fields	X	<p>The proposal identifies that water use for the proposed livestock operation is from the existing well located on the SW ¼ 27-06-08 EPM.</p> <p>The provincial water well database contains information for a well associated with the proposed livestock operation. The proposal indicates no abandoned wells present on the site or spread fields. However, if abandoned wells are later located, these shall be properly sealed and a sealed well report filed with the Groundwater Management Section of Manitoba Environment and Climate Change. Information on well sealing and well sealing reports are available from Manitoba Environment and Climate Change (204-945-6959) or https://www.gov.mb.ca/water/groundwater/wells_groundwater/index.html.</p> <p>A well drilling professional should seal all but the most basic wells. A list of currently licensed well drilling professionals can also be accessed from the above web page.</p> <p>During manure spreading, the setback distances to all groundwater features as prescribed under the Livestock Manure and Mortalities Management Regulation should be considered as a minimum distance.</p>	ECC
9	Identified suitable manure storage methods	X	<p>The applicant will build a new manure storage. Under the Livestock Manure and Mortalities Management Regulation, the applicant must obtain a permit from Manitoba Environment and Climate Change prior to building the storage. Once in operation, the applicant must:</p> <ul style="list-style-type: none"> • Ensure there is sufficient capacity to store all manure through the winter; • Maintain the structural integrity of the storage; and • Operate the storage so that it does not pollute surface water, groundwater or soil. <p>The applicant will store solid manure as field storage. Under the Livestock Manure and Mortalities Management Regulation, the applicant must:</p> <ul style="list-style-type: none"> • Locate the manure at least 100 m from any surface watercourse, sinkhole, spring, or well. • Ensure the manure does not pollute surface water, groundwater, or soil. • Land-apply the stored manure the following year. <p>The applicant will decommission an old manure storage facility. Under the Livestock Manure and Mortalities Management Regulation, the applicant must submit a decommissioning plan to Manitoba Environment and Climate Change for approval prior to starting the decommissioning works. The plan must follow the specifications and procedures described in the Technical Reference Documents for Decommissioning Manure Storage Facilities.</p>	ECC

Provincial Technical Overview of TRC 12-103 – La Bass Holsteins

Item No.	Provincial Requirements	Confirmed	Related Provincial Safeguards	Dept.
10	Identified acceptable manure application methods	X	<p>Under the Livestock Manure and Mortalities Management Regulation, the applicant must:</p> <ul style="list-style-type: none"> ○ Operate with an annual manure management plan which includes: <ul style="list-style-type: none"> • Manure type, volume, and nutrient values, • Spread field location and soil class, • Soil tests showing nitrogen and phosphorus levels, • Crops to be grown, and • Manure application rate. ○ Ensure manure does not pollute groundwater, soil or escape the operation's boundaries. 	ECC
11	Mortalities disposal methods identified (rendering / composting / incineration)	X	<p>The applicant will compost mortalities. Under the Livestock Manure and Mortalities Management Regulation, the applicant must:</p> <ul style="list-style-type: none"> • Ensure the composting does not pollute surface water, groundwater, or soil. • Locate the composting site at least 100 m from any surface watercourse, well, or the operation's boundaries. • Ensure the composting facilities and process are acceptable to the director. 	ECC
12	Proposed suitable setback distances from water and property lines for manure, livestock and mortalities	X	The applicant has indicated that all setback distances meet minimum requirements set out in the Livestock Manure and Mortalities Management Regulation.	ECC
13	Indicated if proposed project site is within designated flood area or is otherwise at risk of flooding	X	The proposed site is not with a Designated Flood Area. We do not have any flood information for this site.	MTI

Provincial Technical Overview of TRC 12-103 – La Bass Holsteins

Item No.	Provincial Requirements	Confirmed	Related Provincial Safeguards	Dept.
14	Proposed acceptable odour control measures	X	<p>La Bass Holsteins has indicated that shelterbelts will be used. Also, dairy manure tends to crust on the surface of stored liquid manure, reducing odours from the liquid manure storage facility.</p> <p>Should odour become a problem for neighbouring residents, there is a complaints process under <i>The Farm Practices Protection Act</i>. A person who is disturbed by any odour, noise, dust, smoke or other disturbance resulting from an agricultural operation may make a complaint, in writing, to the Manitoba Farm Industry Board.</p> <p>The Act is intended to provide for a quicker, less expensive and more effective way to resolve nuisance complaints about farm practices than lawsuits. It may create an understanding of the nature and circumstances of an agricultural operation and bring about changes to the mutual benefit of all concerned without the confrontation and the expense of the courts.</p>	AGR
		X	<p>The applicant indicates that it does not have a manure storage cover, and that they intend to plant a shelterbelt.</p> <p>As per section 116(2) of <i>The Planning Act</i>, Council may impose any relevant and reasonable conditions of approval required to:</p> <ul style="list-style-type: none"> • ensure the project conforms to the applicable provisions of the development plan by-law, zoning by-law and any secondary plan; • implement recommendations made by the TRC; • reduce odours from the operation, including by requiring covers on manure storage facilities or that shelterbelts be established; and • require the owner enter into a development agreement with the Municipality under section 107(1)(c) of the Act. 	MNR
15	Proposed sufficient and suitable land for manure spreading with minimum setbacks from water sources	X	The estimated land requirement for La Bass Holsteins is 2018 acres for the phosphorus excreted by the livestock or 1471 acres for the nitrogen, whichever is higher. La Bass Holsteins has exceeded the land requirement by demonstrating that they have access to 2436 acres. Additional details can be found in the appendix.	AGR
		X	Under the Livestock Manure and Mortalities Management Regulation, manure spreading must meet setback distances to all surface watercourse and groundwater features.	ECC
16	Indicated if spread fields are located in the Red River Valley Special Management Area or any other regularly inundated area	X	The applicant has indicated that no spread fields are located within the Red River Valley Special Management Area or any other regularly inundated area.	ECC

Provincial Technical Overview of TRC 12-103 – La Bass Holsteins

Item No.	Provincial Requirements	Confirmed	Related Provincial Safeguards	Dept.
17	Proposed spread fields that meet development plan and zoning by-law requirements	X	<p>All proposed spread fields in both the RM of La Broquerie and the RM of Ste. Anne are appropriately designated and zoned for agricultural activities.</p> <p>A portion of SW ¼ 34-06-08 EPM and NE ¼ 33-06-08 EPM in the RM of La Broquerie are designated Environmental Protection Areas due to an order 3 drain located on the land. The applicant recognizes the need for appropriate setbacks from the drain in the Manure Application Field Characteristics Table.</p>	MNR
18	Proposed acceptable manure transportation methods:	X	No comment from the department	ECC
	<u>dragline</u>	X	<p>Please be advised that any structures placed within the controlled area of PR 210 or any PR (125 feet from the edge of the right-of-way) requires a permit from our office. For permit information, please contact Juanita Mowbray at 204-583-2433 or by email at Juanita.Mowbray@gov.mb.ca. Permit information can also be found at https://forms.gov.mb.ca/highway-permits-application/index.html.</p> <p>The placements of temporary drag lines or any other temporary machinery/equipment for manure application within the right-of-way of PR 210 or any PR requires permission from our regional office in Steinbach. Please contact the Regional Planning Technologist, Robert Fender at (204) 346-6266 or Robert.Fender@gov.mb.ca. In addition, please notify the Regional Planning Technologist for the placement of temporary draglines or other temporary equipment for manure application within the controlled area of PR 210 or any PR (125 feet from the edge of the right-of-way).</p>	MTI
19	Identified suitable trucking routes and access points	X	The identified truck haul route utilizes an existing municipal road connecting onto PR 210. We do not anticipate any significant increases in use.	MTI
20	Identified proposed trucking routes – local roads	X	<p>The proposed site is accessed by municipal road (Troisfontaines Road, Road 45E).</p> <p>As per Section 116(2) of <i>The Planning Act</i>, as a condition of approval, municipalities may require the proponent to enter into a development agreement under section 107(1)(c) of the Act addressing the condition and upkeep of local roads used as truck haul routes.</p>	MNR

Provincial Technical Overview of TRC 12-103 – La Bass Holsteins

Item No.	Provincial Requirements	Confirmed	Related Provincial Safeguards	Dept.
21	Known rare species will not be impacted on new sites/lands	X	<p>The information provided in the assessment suggests that there will not be any conflicts with species protected under <i>The Endangered Species and Ecosystems Act</i> and/or <i>The Species at Risk Act</i> or designated as rare or uncommon by the Manitoba Conservation Data Centre (MBCDC).</p> <p>This review is based on existing data known to the MBCDC of the Wildlife Branch at the time of the review. These data are dependent on the research and observations of our scientists and reflects our current state of knowledge. An absence of data does not confirm the absence of any rare or endangered species. Many areas of the province have never been thoroughly surveyed, however, and the absence of data in any particular geographic area does not necessarily mean that species or ecological communities of concern are not present. The information should, therefore, not be regarded as a final statement on the occurrence of any species of concern. All future observations of rare or endangered species made by the proponent should be reported to the MBCDC for further review.</p>	EDIT NR

Provincial Departments: Agriculture (AGR); Environment and Climate Change (ECC); Transportation and Infrastructure (MTI); Municipal and Northern Relations (MNR); Economic Development, Investment, Trade and Natural Resources (EDITNR)

D. PUBLIC COMMENTS AND DISPOSITIONS

Public Comment Summary	
Leonard Broesky Two miles from operation	Commenter supports the expansion as it will benefit municipality through greater employment opportunities and existing operation is well managed.

A full copy of the public comments as well as the proponent's response may be viewed on the public registry at: https://www.gov.mb.ca/mr/livestock/public_registries.html

E. CONCLUSIONS AND RECOMMENDATIONS

Conclusion

The information contained in the Site Assessment submitted by the proponent generally meets provincial requirements. In addition, based on available information it has been determined that the proposed operation will not create a risk to health, safety or the environment, or that any risk can be minimized through the use of appropriate practices, measures and safeguards.

Recommended Actions to Council

1. 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
 - i. the applicant,
 - ii. the Minister (c/o the Steinbach Community Planning Office),
 - iii. all adjacent planning districts and municipalities, and
 - iv. 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; and
 - b) publish the notice of hearing in one issue of a newspaper with a general circulation in the planning district or municipality or, when there is no newspaper with a general circulation in the area, post the notice in the office of the planning district or municipality and at least two other public places in the 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*.
2. Council should specify the type(s) of operation, legal land location, number of animals in each livestock category, total animal units, and expiration date (as per Planning Act section 110(1)) in its Conditional Use Order.
3. 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 Steinbach Community Planning Office), and
 - c) every person who made representation at the hearing.
4. According to the RM of La Broquerie Zoning By-law No. 07-2018, the minimum rear yard is 200 feet. The proposed new manure storage facility crosses over the property line to the adjacent lot (owned by La Bass Holsteins and considered part of the project site) by 27.8 ft (8.5 m). A rear yard variance order, recognizing this encroachment, is required.
5. As per Section 169(4)(b) of *The Planning Act*, a copy of the notice of hearing to vary the separation distance involving a livestock operation must be sent to every owner of property located within the separation distance that is proposed to be varied.
6. As per Section 174(1) of *The Planning Act*, Council can hold all required hearings together in a single combined hearing. It is recommended that during the course of this public hearing, Council first deal with the conditional use order followed by the variance order.
7. As per Section 174(2) of *The Planning Act* the notice of hearing for each matter to be considered at a combined hearing may be combined into a single notice of hearing.

8. Councils are requested to include in their resolution and/or Conditional Use Order, notification that the applicant may appeal council's decision to reject the application or appeal a condition imposed by council related to its approval as per Section 118.2 of *The Planning Act*.
 - As per Section 118.2(2)(b), an applicant may appeal the following decisions of a board or council to the Municipal Board for an application for approval of a conditional use made in respect of a large-scale livestock operation,
 - (i) a decision to reject the application,
 - (ii) a decision to impose conditions.
9. As per Section 118, no development or expansion of a livestock operation that is the subject of an application under this Division may take place until
 - (a) the application is approved and the applicant complies, or agrees to comply, with any condition imposed on the approval under this Division; and
 - (b) the applicant obtains every approval, including any permit or licence, required under an Act, regulation or by-law in respect of the proposed operation or expansion, and complies with, or agrees to comply with, any condition attached to the approval.
10. Council is welcome to contact Manitoba Environment and Climate Change, Environmental Approvals Branch or Regional Environmental Compliance and Enforcement staff with respect to the Livestock Manure and Mortalities Management Regulation (M.R. 42/98) including compliance and enforcement issues.

Recommended Actions to Proponent

1. That the proponent contact the Municipality to apply for the rear yard variance that would allow the manure storage facility to encroach on the adjacent lot (also owned by La Bass Holsteins), prior to the Conditional Use Hearing. Alternatively, that the proponent informs the Municipality of their intention to consolidate the lots or complete a lot realignment. This will provide council with the option of holding a combined Conditional Use and Variance Hearing.
2. That, if applicable, the proponent request the municipality hold a combined hearing.
3. That any additional measures identified through subsequent provincial licencing or permitting in order to minimize any identified risks to health, safety and the environment be undertaken.
4. That as per Section 118.2(2)(b), an applicant may appeal the following decisions of a board or council to the Municipal Board:
 - (i) a decision to reject the application,
 - (ii) a decision to impose any condition on the approval.

F. TECHNICAL REVIEW COMMITTEE MEMBERS

Name	Department	Title Branch	Contact
Inonge Aliaga	Municipal and Northern Relations	Senior Planner <i>Community Planning Branch</i>	431-276-9741
Petra Loro	Agriculture	Livestock Environment Specialist <i>Land Use and Ecosystem Resilience Branch</i>	204-918-0325
Colin Murray	Economic Development, Investment, Trade and Natural Resources	Information Manager- Manitoba Conservation Data Centre <i>Fish and Wildlife Branch, Natural Resources and Northern Development</i>	204-945-7760
Richard Balog	Environment and Climate Change	Manure Management Plan Coordinator <i>Environmental Approvals Branch</i>	204-945-3078
Jeff DiNella	Transportation and Infrastructure	Senior Development Review Technologist <i>Highway Planning and Design Branch</i>	204-945-2664

Appendices

Sustainable Land Management – Agriculture

In areas of higher livestock intensity such as the RM of La Broquerie, it is currently the Province of Manitoba's policy to require sufficient suitable land for all of the nitrogen and phosphorus generated by the livestock. In areas of lower livestock intensity, such as the RM of Ste. Anne, it is currently the Province of Manitoba's policy to require sufficient suitable land for all of the nitrogen and half of the phosphorus generated by the livestock. This policy assumes that more land is available in areas of lower livestock intensity to balance manure phosphorus with crop phosphorus removal, should it be necessary in the future.

Typical, modern feeding practices for dairy cows were used to estimate nutrient excretion for La Bass Holsteins. Realistic, long-term 10-year crop yields from the Manitoba Agricultural Services Corporation (MASC) for the RMs of La Broquerie and Ste. Anne were used to estimate crop nitrogen uptake and phosphorus removal rates for the crop rotation specified in the proposal.

Land suitability is determined using soil testing for phosphorus and soil survey to establish the agriculture capability. Soils must be below 60 ppm Olsen P to be considered suitable. Semi-detailed soil survey is available in the area to determine the agriculture capability of the land. The soil survey includes Classes 2 to 6 with some areas of organic soils. The most significant limitations in the area are lack of moisture (M) in deeper, coarser textured surface soils and wetness (W) in depressional areas due to lateral seepage and a perched water table above finer textured material below. Areas of Class 6W are very wet and likely not trafficable. Class 6 soils and any areas of unimproved organic soils should be confirmed in the field and excluded from the manure management plan.

The estimated land requirement for La Bass Holsteins is 2018 acres for the phosphorus excreted by the livestock or 1471 acres for the nitrogen, whichever is higher. La Bass Holsteins has exceeded the land requirement by demonstrating that they have access to 2436 acres.

Water Science and Watershed Management Branch – Environment and Climate Change (ECC)

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 2001).

The proponent is planning to apply manure in spring, summer and fall by either partial injection or broadcast after cut of alfalfa hay. Spring and summer applications generally will have a reduced risk of nutrient loss to surface waters when compared to fall applications.

For most crops, manure contains an excess of phosphorus (P) compared to nitrogen (N) and as a result, application at N-based rates causes a buildup of soil P. Practices which reduce N losses from the manure improve the N:P ratio in the manure and help slow P buildup when manure is applied at N-based rates. Incorporation is a practice which reduces N loss when compared to broadcast only application method.

The proponent has acknowledged the setback areas for all water features have been observed and excluded from land base calculations. Setbacks should be clearly communicated to and observed by

those involved in manure application to minimize the risk of nutrients entering surface and groundwater.

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. Many agricultural soils in Manitoba, especially areas with low livestock intensity, are considered phosphorus deficient and, therefore, manure is an ideal fertilizer to support crop production. However, manure application can increase soil phosphorus over time and other spread fields may need to be added to prevent excessive soil phosphorus build up. As excess phosphorus levels build up in soils, greater losses occur to surface and ground water. 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 agronomically very high). To remain environmentally sustainable over a long-term planning horizon of 25 years or more the proponent acknowledges that 2421 acres may be required for the operation. The proponent has identified 2436 acres with suitable soil test for manure application at this time. Application to meet crop N requirements is estimated to use 1471 acres. Application based on P is estimated to use 2018 acres (2421 acres is estimated to achieve P balance [phosphorus removal equal to phosphorus application] with current crop choices and yield potential).

As phosphorus levels build up in soils, the concentration of phosphorus in runoff to surface waters increases. It is important to rotate manure application across all spread fields and whenever possible focus manure applications on fields with low Olsen-P soil test levels so as to prevent excessive P buildup when applying manure at rates above P balance (P removal by harvested crops).

During manure spreading, setback distances to all groundwater features as prescribed under the Livestock Manure and Mortalities Management Regulation should be considered as a minimum distance.