



TECHNICAL REVIEW COMMITTEE

A TECHNICAL REVIEW REPORT

PREPARED FOR THE

**MUNICIPALITY OF WESTLAKE-
GLADSTONE**

HAPPY ROCK HOLSTEINS LTD.

SW 16-15-12 WPM

TRC 12-101

February 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

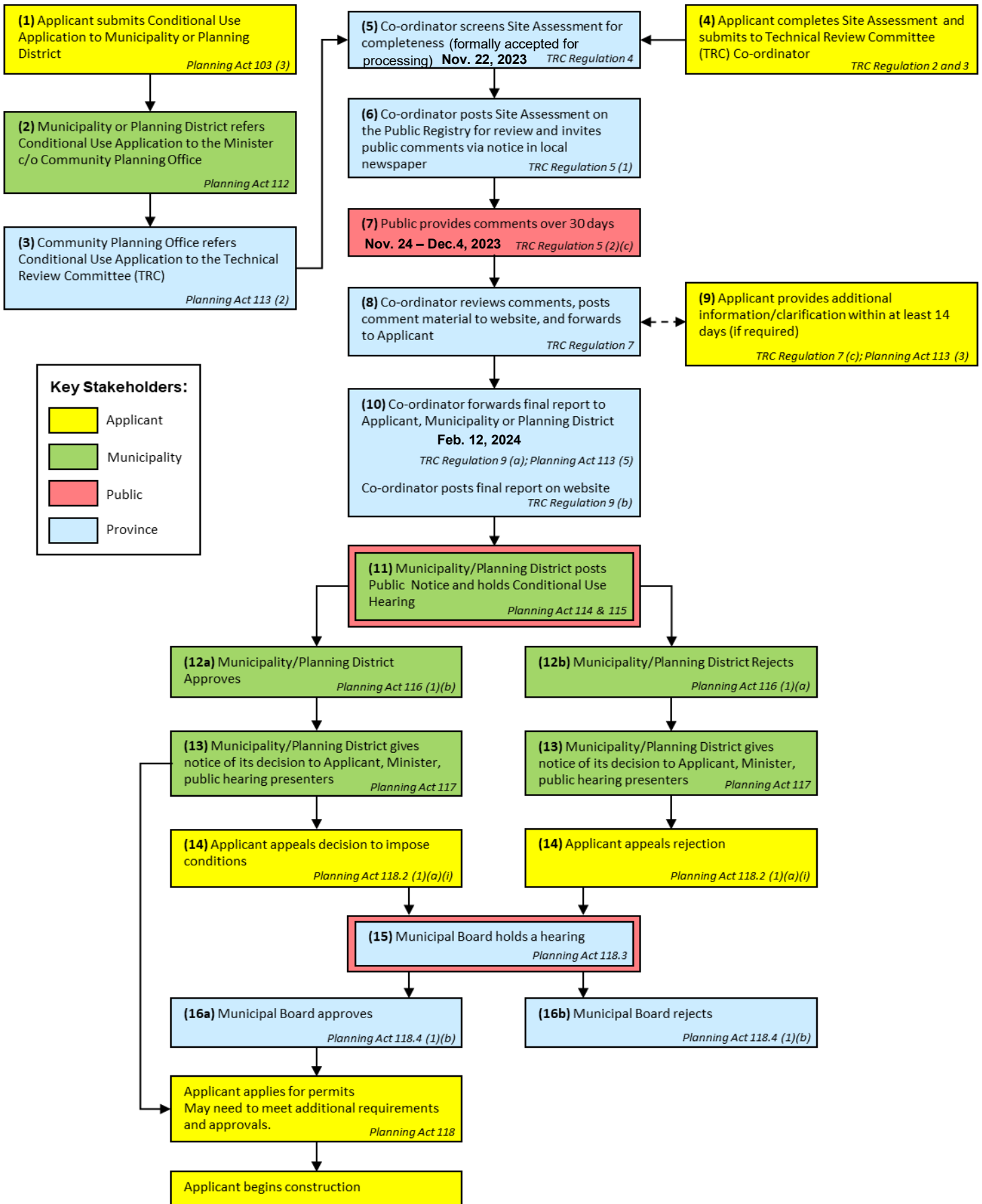
Purpose of TRC Reports

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

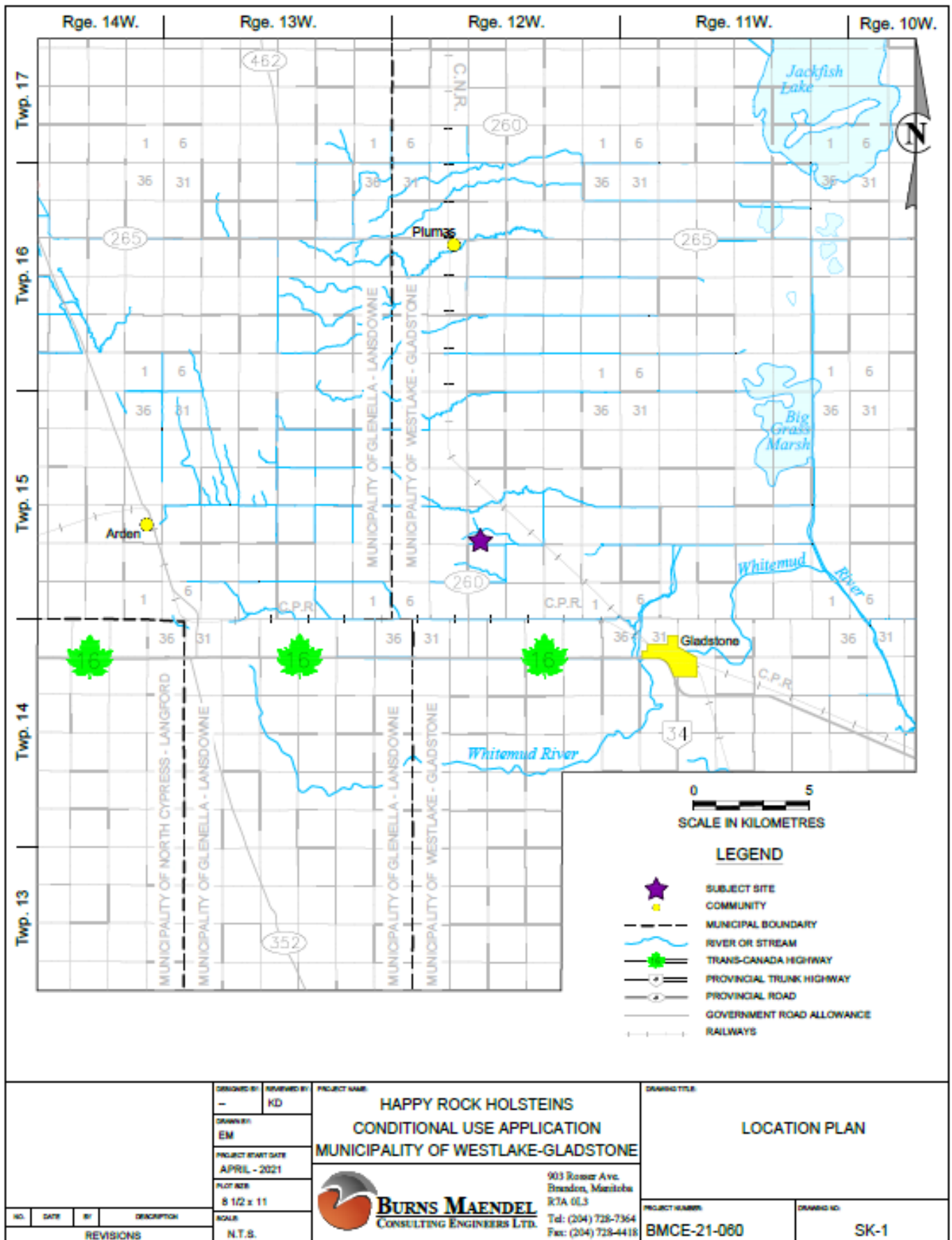
Applicant: Happy Rock Holsteins Ltd.

Site Location: SW 16-15-12 WPM. Refer to map below.

Proposal: To expand an existing dairy operation by increasing the number of cows from 680 (1360 animal units) to 750 (1500 animal units).

This will involve the following:

- Renovation of existing buildings
- Build one new barn
- Concrete tank manure storage
- Estimated daily water use of 40,500 imperial gallons from an existing well.
- Composting mortalities
- Truck haul routes as shown in map below



DESIGNED BY: —		REVIEWED BY: KD	PROJECT NAME: HAPPY ROCK HOLSTEINS CONDITIONAL USE APPLICATION MUNICIPALITY OF WESTLAKE-GLADSTONE	DRAWING TITLE: LOCATION PLAN		
DRAWN BY: EM		PROJECT START DATE: APRIL - 2021		BURNS MAENDEL CONSULTING ENGINEERS LTD. 903 Rosser Ave. Brandon, Manitoba R7A 6L3 Tel: (204) 728-7364 Fax: (204) 728-4418		
PLOT SIZE: 8 1/2 x 11		SCALE: N.T.S.				
NO.	DATE	BY	DESCRIPTION	PROJECT NUMBER: BMCE-21-060	DRAWING NO: SK-1	
REVISIONS						



NO.	DATE	BY	REVISIONS

PRELIMINARY
FOR REVIEW AND COMMENT ONLY

PROJECT NAME: **HAPPY ROCK HOLSTEINS**
CONDITIONAL USE APPLICATION
MUNICIPALITY OF WESTLAKE-GLADSTONE

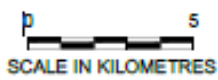
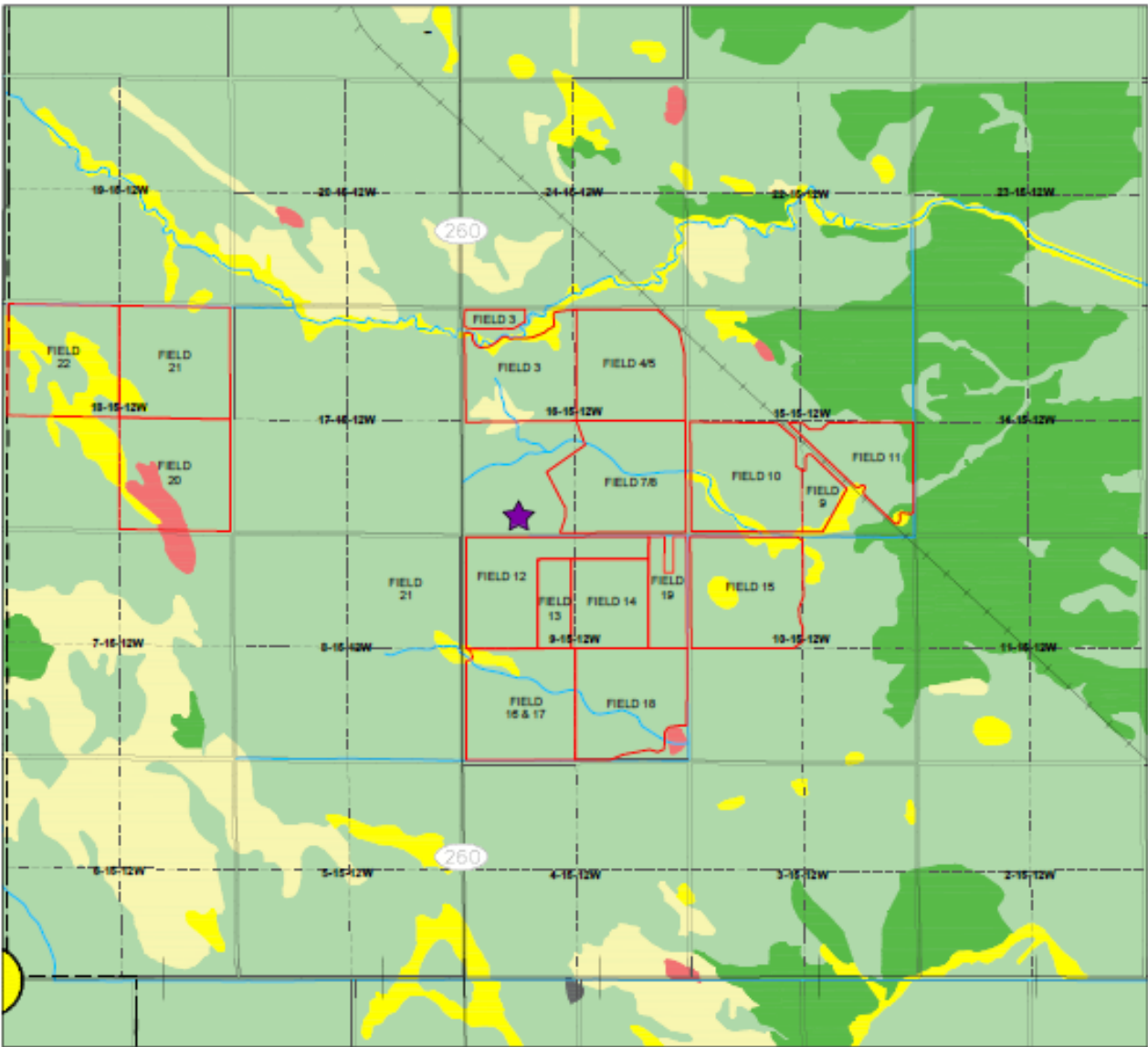
DRAWN BY: EM
 PROJECT START DATE: APRIL 2021
 PLAN NO: 10X17
 SCALE: AS NOTED

BURNS MAENDEL
 CONSULTING ENGINEERS LTD.
 962 Beaver Ave.
 Brampton, Ontario
 R7A 6L3
 Tel: (204) 728-7364
 Fax: (204) 728-6418













DRAWING TITLE: SITE PLAN	PROJECT NUMBER: BMCE-21-060	DRAWING NO: SK-3
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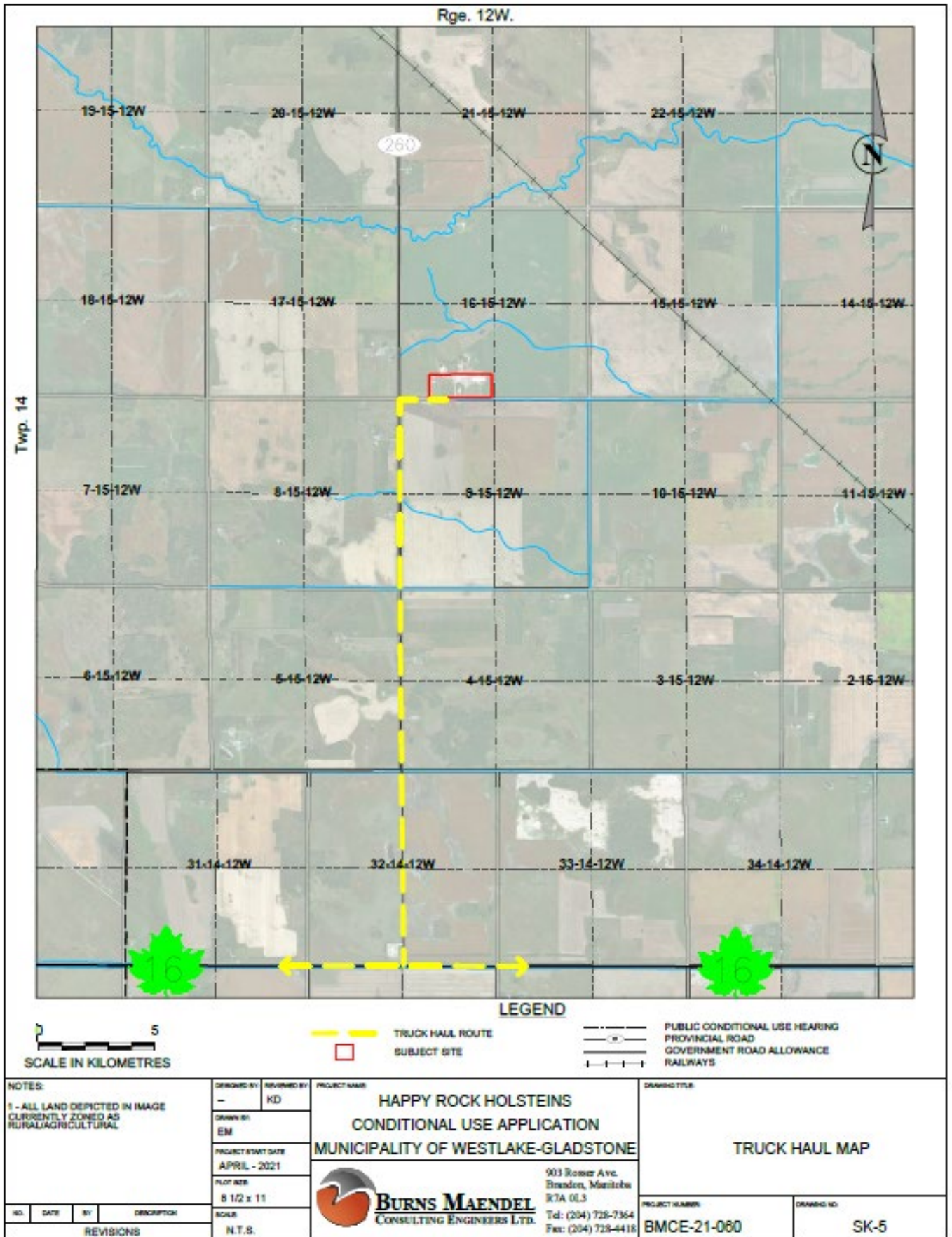
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LEGEND

-  SUBJECT SITE
-  SPREAD FIELD
-  RIVER OR STREAM
-  PROVINCIAL ROAD
-  GOVERNMENT ROAD ALLOWANCE
-  GRAVEL ROAD
-  RAILWAYS
-  CLASS 2 SOIL
-  CLASS 3 SOIL
-  CLASS 4 SOIL
-  CLASS 5 SOIL
-  CLASS 6 SOIL

		DESIGNED BY: -	REVIEWED BY: KD	PROJECT NAME: HAPPY ROCK HOLSTEINS CONDITIONAL USE APPLICATION MUNICIPALITY OF WESTLAKE-GLADSTONE	DRAWING TITLE: SPREAD FIELD MAP	
		DRAWN BY: EM		 BURNS MAENDEL CONSULTING ENGINEERS LTD.	903 Rosser Ave. Brandon, Manitoba R7A 0R4 Tel: (204) 728-7364 Fax: (204) 728-4418	
		PROJECT START DATE: APRIL - 2021				
NO.	DATE	BY	DESCRIPTION	PLOT SIZE: 8 1/2 x 11 SCALE: N.T.S.		
REVISIONS						



C. SITE ASSESSMENT OVERVIEW

Provincial Technical Overview of TRC 12-101 – HAPPY ROCK HOLSTEINS LTD.				
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	X	Happy Rock Holsteins Ltd is currently seeking Conditional Use approval to expand their 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</u>	X	Based on the information provided in the Site Assessment, the existing confined livestock area (CLA) does not meet required setback distances to a surface watercourse, sinkhole, spring, well, or the operation's boundaries. The applicant provided additional information outside the TRC process, indicating the CLA houses less than 300 animal units. Under the Livestock Manure and Mortalities Management Regulation, the applicant must: <ul style="list-style-type: none"> • Ensure the CLA does not pollute surface water, a surface watercourse, groundwater, or soil. This may include grading to allow for run-off drainage, installation of collection basins, and protection of wells against manure contaminated runoff water. • Request an authorization from the director to vary the setback distance when constructing, modifying, or expanding a CLA. • Remove manure at least once per year and store or land-apply. 	ECC
		X	The proposal will result in the construction of a new barn for the dry cows that is 34,800 square feet (3,233.03 square meters). Therefore, a building permit will be required from the Inspection and Technical Services Branch (Labour and Immigration) under Manitoba Regulation 5/2017 Province of Manitoba Labour Labour and Immigration Permits and Inspections (gov.mb.ca)	MNR
4	Identified all existing and proposed buildings and structures and related separation distances	X	The identified existing and proposed buildings and structures meet the required setbacks in the "AG" Agricultural General Zone based on the site assessment plan.	MNR
5	Demonstrated project site is not located within Nutrient Management Zone N4 or any Nutrient Buffer Zone	X	Project site is not within Nutrient Management Zone N4 or any Nutrient Buffer Zone	ECC

Provincial Technical Overview of TRC 12-101 – HAPPY ROCK HOLSTEINS LTD.

Item No.	Provincial Requirements	Confirmed	Related Provincial Safeguards	Dept.
6	Identified suitable water source: <u>Existing well</u> and a water consumption rate of 40,566 imperial gallons per day	X	The applicant currently holds a valid Water Rights Licence with the Water Use Licensing Section; however, they will need to submit an application to amend the existing licence due to the change in animal numbers. Applications can be submitted online via the Water Licensing Portal: https://web22.gov.mb.ca/Sso/Account/LogOn	ECC
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, located in the SW ¼ 16-15-12 WPM in the Municipality of Westlake-Gladstone, is designated Agriculture (Municipality of Westlake-Gladstone Development Plan By-law No. 2019-04) and the proposal complies with Development Policies 5.2 A.2 and A.3 (Livestock Policies).</p> <p>Note: Development Plan Amendment By-law No. 2019-04 was approved on January 20, 2021, to allow existing operations to expand beyond 300 AU within the Agriculture Policy Area as a Conditional Use.</p> <p>Zoning The proposed site is zoned “AG” Agricultural General Zone (Municipality of Westlake-Gladstone Zoning By-law No. 2020-02) and has a minimum site area requirement of 80 acres with a minimum site width requirement of 660 feet.</p> <p>The proposed project complies with the Municipality of Westlake-Gladstone Zoning By-law No. 2020-02 minimum site width and site area requirements and meets all required separation distances.</p> <p>Note: The Municipality of Westlake-Gladstone Zoning By-law No. 2020-02 was approved on May 18, 2022, to allow existing operations with more than 300 AU to expand as a Conditional Use in the “AG” Zone.</p>	MNR

Provincial Technical Overview of TRC 12-101 – HAPPY ROCK HOLSTEINS LTD.

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 the water use for the proposed livestock operation is from the existing well located on the SW 16-15-12W. 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. Information on well sealing and well sealing reports are available from Agriculture and Resource Development (204-945-6959) or: https://www.gov.mb.ca/water/groundwater/wells_groundwater/index.html. 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 set back distances to all groundwater features as prescribed under the Environment Act 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 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. • Operate the storage so that it does not pollute surface water, ground water or soil. 	ECC
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 • Manure application rate • Ensure manure does not pollute groundwater, soil or escape the operation's boundaries. • Follow requirements for the land application of manure, including nitrogen limits and phosphorus thresholds. 	ECC

Provincial Technical Overview of TRC 12-101 – HAPPY ROCK HOLSTEINS LTD.

Item No.	Provincial Requirements	Confirmed	Related Provincial Safeguards	Dept.
11	Mortalities disposal methods identified: <u>composting</u>	X	The applicant will compost mortalities. Under the Livestock Manure and Mortalities Management Regulation, the applicant must: <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 noted that the existing confined livestock area will not meet required setback distances to a surface watercourse, sinkhole, spring, well, or the operation's boundaries. Under the Livestock Manure and Mortalities Management Regulation, the operator must submit an application to construct, expand, or modify the CLA. The department may require the operator to have an engineer assess the CLA or improve them before they can be permitted.	ECC
13	Indicated if proposed project site is within designated flood area or is otherwise at risk of flooding	X	The proposed project site is not within a designated flood area.	MTI
14	Proposed acceptable odour control measures	X	Happy Rock Holsteins Ltd has indicated that there are existing shelterbelts. Dairy manure tends to crust on the surface of stored liquid manure which reduces odours from the liquid manure storage facility. Should odour become a problem for neighbouring residents, there is a complaints process under The Farm Practices Protection Act. 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. The Act is intended to provide for a quicker, less expensive and more effective way than lawsuits to resolve nuisance 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.	AGR
		X	The operation has identified existing shelterbelts. As per Section 116(2) of <i>The Planning Act</i> , municipalities may require a manure storage cover as a condition of approval.	MNR

Provincial Technical Overview of TRC 12-101 – HAPPY ROCK HOLSTEINS LTD.

Item No.	Provincial Requirements	Confirmed	Related Provincial Safeguards	Dept.
15	Proposed sufficient and suitable land for manure spreading with minimum setbacks from water sources	X	The estimated land requirement for Happy Rock Holsteins Ltd is 1625 acres for the phosphorus excreted by the livestock or 2169 acres for the nitrogen, whichever is higher. Happy Rock Holsteins must demonstrate that they have within 10% of 2169 acres. Happy Rock Holsteins Ltd has satisfied this by demonstrating that they have access to 2092 suitable acres (within 4%). 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
17	Proposed spread fields that meet development plan and zoning by-law requirements	X	The operation is designated Agriculture (Municipality of Westlake-Gladstone Development Plan By-law no. 2019-04) and complies with Livestock Policies 5.2 A.2 and A.3. The proposed site is zoned “AG” Agricultural General Zone. The spread fields meet the minimum zoning by-law requirements in the “AG” Zone for the animal confinement facility setback requirements to a residence/dwelling and designated area.	MNR
18	Proposed acceptable manure transportation methods:	X	No comment from the department.	ECC

Provincial Technical Overview of TRC 12-101 – HAPPY ROCK HOLSTEINS LTD.

Item No.	Provincial Requirements	Confirmed	Related Provincial Safeguards	Dept.
	<u>dragline</u>	X	<p>Please be advised that any structures placed within the controlled area of PR 260 or any (PR) provincial road (125 feet from the edge of the right-of-way) requires a permit from our office. For permit information, please contact Erica Paulo at 431-338-9897 or by email at Erica.Paulo@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 260 or any (PR) provincial road requires permission from our regional office in Brandon. Please contact the Regional Planning Technologist, Brian Hickman at 204-726-6822 or Brian.Hickman@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 260 or any (PR) provincial road (125 feet from the edge of the right-of-way).</p>	MTI
19	Identified suitable trucking routes and access points	X	The proposed truck haul route utilizes existing municipal roads and we do not anticipate any significant increase in use.	MTI
20	Identified proposed trucking routes – local roads	X	<p>The identified truck haul routes are municipal road 86 N, PR 260, and PTH 16.</p> <p>As per Section 116(2) of <i>The Planning Act</i>, municipalities may, as a condition of approval, require the proponent to enter into a development agreement regarding the condition and upkeep of local roads used as truck haul routes.</p>	MNR
21	Known rare species will not be impacted on new sites/lands	X	<p>The information provided in the assessment suggest that there will not be any conflicts with species protected under the <i>Endangered Species and Ecosystems Act</i> and/or <i>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

No public comments were received.

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 Portage 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 Portage Community Planning Office), and
 - c) every person who made representation at the hearing.
4. 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.
- 5. 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.
- 6. Council is welcome to contact Manitoba Environment and Climate, 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 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.
- 2. 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

Appendix

Manitoba Agriculture

In areas of lower livestock intensity such as the RM of Westlake-Gladstone, 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 the region 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 Happy Rock Holsteins Ltd. Realistic, long-term 10-year crop yields from the Manitoba Agricultural Services Corporation (MASC) for the RM of Westlake-Gladstone 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. Detailed soil survey is available in the area to determine the agriculture capability of the land. The land is primarily Class 3 with some areas of classes 4 and 5. The most significant limitations in the area are lack of moisture (M) and wetness (W), typical of wet sands.

The estimated land requirement for Happy Rock Holsteins Ltd is 1625 acres for the phosphorus excreted by the livestock or 2169 acres for the nitrogen, whichever is higher. Happy Rock Holsteins must demonstrate that they have within 10% of 2169 acres. Happy Rock Holsteins Ltd has satisfied this by demonstrating that they have access to 2092 suitable acres (within 4%).

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 and fall. Spring application 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.

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). In areas of lower livestock intensity, such as the RM of Westlake-Gladstone, 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 the region to balance manure phosphorus with crop phosphorus removal, should it be necessary in the future for long-term sustainability. To remain environmentally sustainable over a long-term planning horizon of 25 years or more the proponent acknowledges that 3250 acres may be required for the operation. The proponent has identified 2092 acres with suitable soil test for manure application at this time. Application to meet crop N requirements is estimated to use 2169 acres. Application at 2 times the crop removal of P is estimated to use 1625 acres (3250 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.