



TECHNICAL REVIEW COMMITTEE

**A TECHNICAL REVIEW REPORT
PREPARED FOR**

**THE RURAL MUNICIPALITY
OF MINTO-ODANAH**

2-81 HOLDING CO LTD

S¹/₂ 24-16-17 WPM,

TRC 12 – 059

December 20, 2019

Re-issued December 27th, 2019

A. INTRODUCTION – THE TEAM

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

- Agriculture and Resource Development (ARD); Livestock Environment, Nutrient Management and Business Development Specialists, Agricultural Engineer, and Veterinarians, Habitat Mitigation and Wildlife Land Specialist, Regional Wildlife Manager, Groundwater Specialist, Land-Water Specialist
 - Municipal Relations (MR); Community Planners
 - Infrastructure (MI); Development Review Technologists, Engineering and Operations Division; Development Review Officers, Water Management and Structures Division
 - Conservation and Climate (CC); Environment Officer, Water Rights Licensing Technologist
- and
- Any other specialist or department that may have an interest, which may be consulted during the process.

The Technical Review Coordinator, (Senior Planner, MR) chairs the committee.

THE REPORT (TRC Process Box 17)

Prime Purpose of TRC Reports

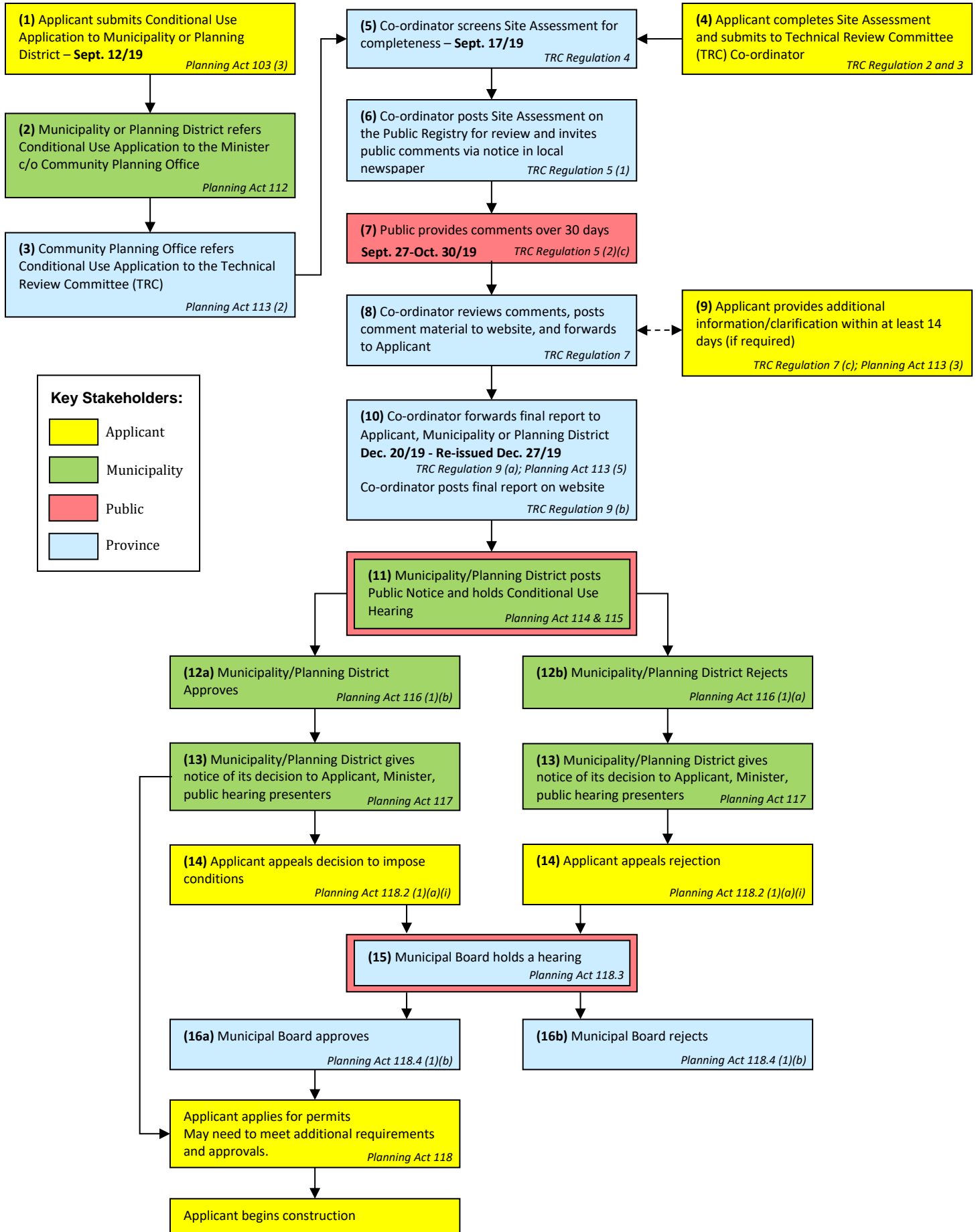
To provide objective, highly credible, technically-based assessments that:

- a) Enable municipal councils to make informed Conditional Use Order 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 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, measures 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.

Livestock Technical Review Process

(November 1, 2019)



B. DESCRIPTION OF PROPOSED LIVESTOCK OPERATION

To view a detailed description, go to:

<http://www.gov.mb.ca/mr/livestock/index.html>

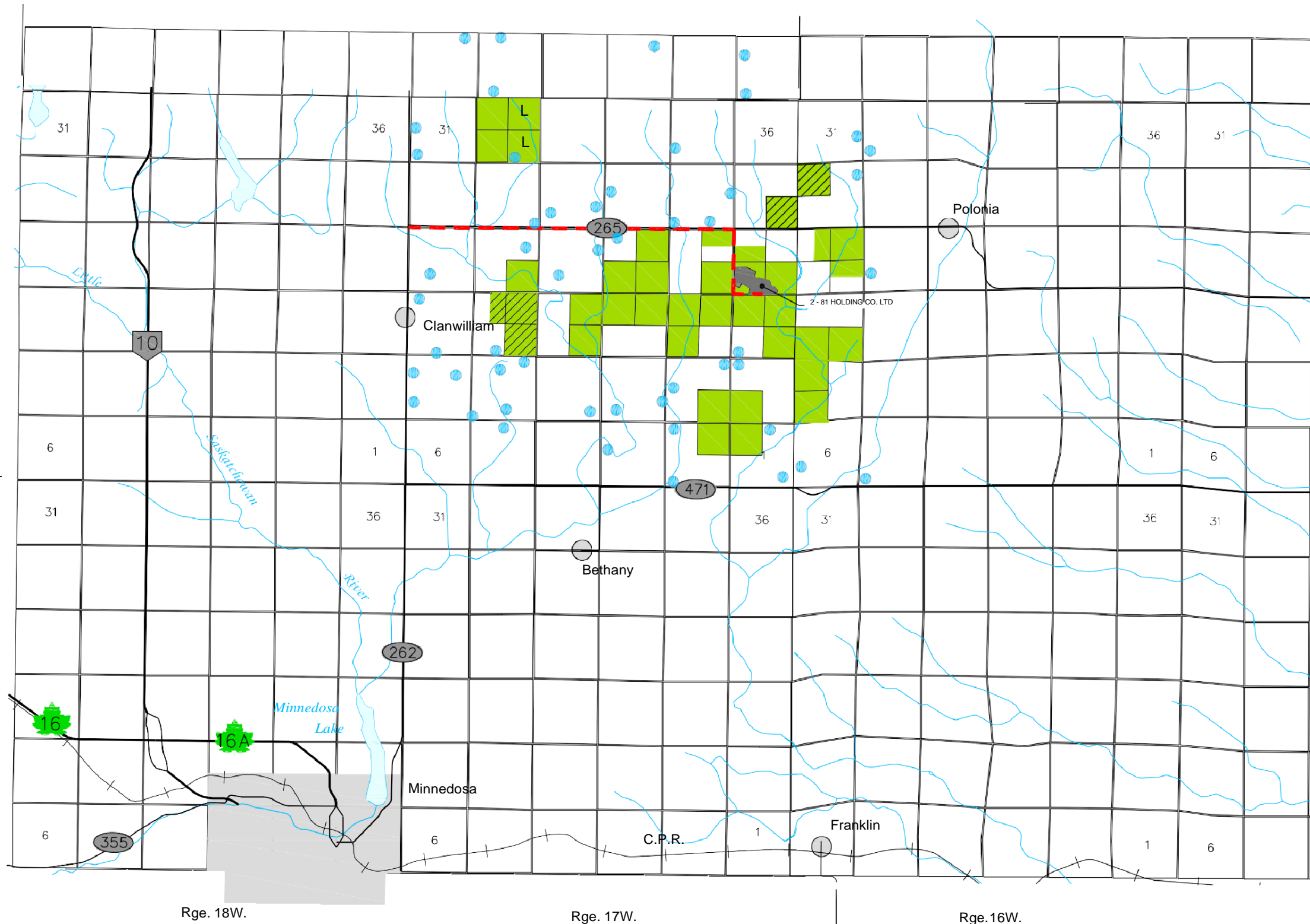
Applicant: 2-81 Holding Co Ltd

Site Location: SW ¼ 24-16-17 WPM, SE ¼ 24-16-17 WPM. Refer to map below.

Proposal: To expand the current broiler operation from 65,575 animals (1043.75 Animal Units) to 97,479 animals (1217 Animal Units) within an animal confinement facility and a confined livestock area.

This will involve the following:

- Constructing two new barns: a broiler barn (277.5 ft. x 52.3 ft.) and a multipurpose barn (240.3 ft. x 52.3 ft.)
- Field storage of solid manure
- Consuming 17,101 imperial gallons of water per day (from a public pipeline)
- Composting mortalities
- Using the truck haul routes as shown in Map below



LEGEND	
SPREAD FIELDS 2-81 HOLDING CO. LTD (L INDICATES LEASE PROPERTY)	
SOLID MANURE STORAGE & SPREADING	
TRUCK HAULING ACCESS ROUTE	
RESIDENCE NOT ASSOCIATED WITH OPERATION	

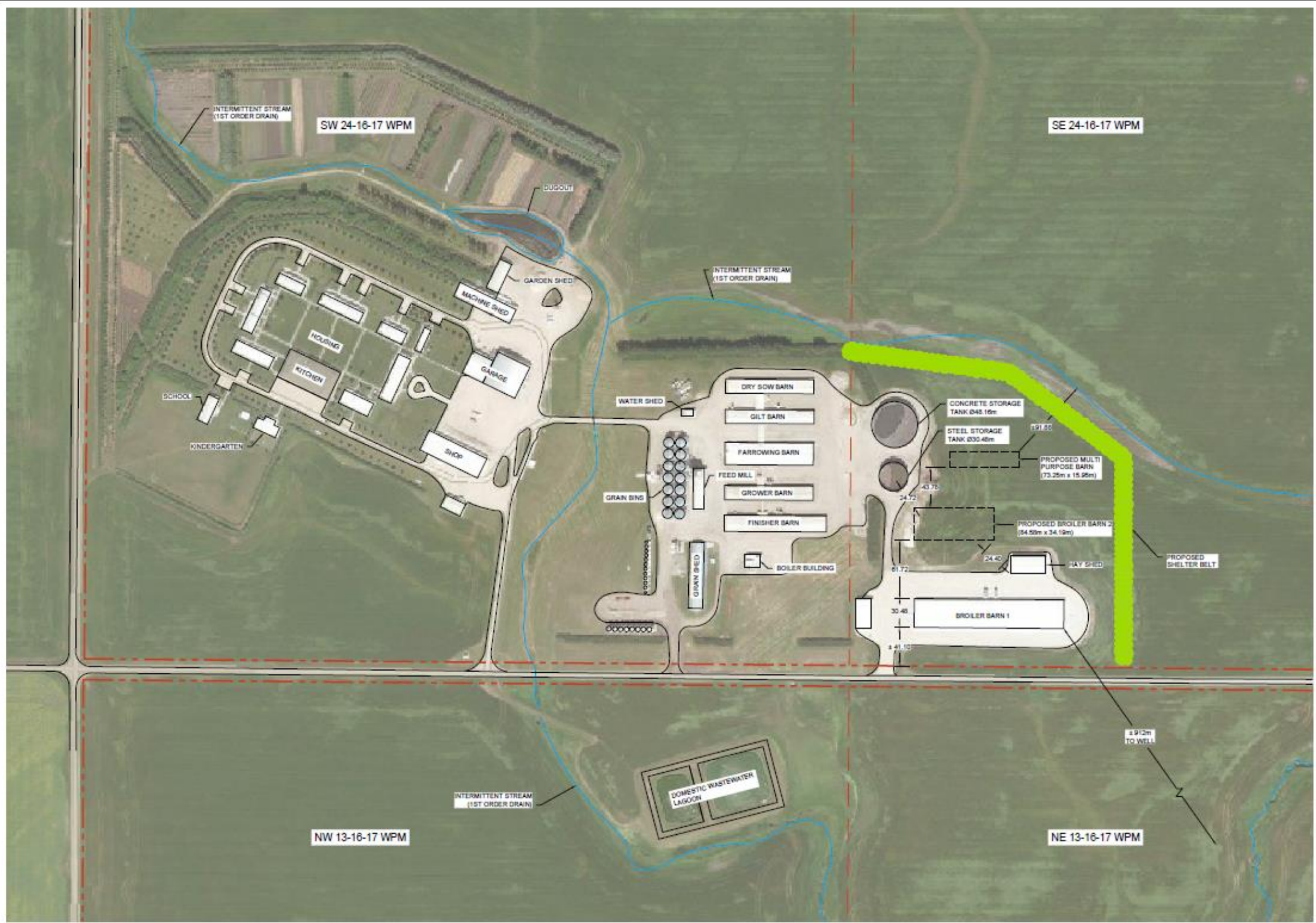
NO.	DATE	APP.	BY	DESCRIPTION
B	AUG 9, 2018	D.B.	J.K.	ISSUED FOR REVIEW AND COMMENT
A	JUNE 21, 2018	D.B.	J.K.	ISSUED FOR REVIEW AND COMMENT
REVISIONS				

PRELIMINARY
 FOR REVIEW AND COMMENT ONLY

DESIGNED BY: --
 DRAWN BY: J.K.
 PROJECT START DATE: JUNE 2018
 PLOT SIZE: A1 (594x841)
 SCALE: N.T.S.

REVIEWED BY: D.B.
 PROJECT NAME: 2-81 HOLDING CO. LTD
 BARN EXPANSION
 MINNEDOSA, MB
BURNS MAENDEL
 CONSULTING ENGINEERS LTD. 1331 Princess Ave.
 Brandon, Manitoba R7A 0R4
 Tel: (204) 728-7364 Fax: (204) 728-4418

DRAWING TITLE: LOCATION MAP AND MANURE APPLICATION PLAN
 PROJECT NUMBER: BMCE18-067
 DRAWING NO: C1.1
 SCALE:



NO.	DATE	BY	BY	DESCRIPTION
C	AUG 8, 2018	D.B.	J.K.	ADD PROPOSED SHELTER BELT. ISSUED FOR REVIEW AND COMMENT
B	JULY 3, 2018	D.B.	J.K.	ADD ADDITIONAL SITE DIMS. ISSUED FOR REVIEW AND COMMENT
A	JUNE 21, 2018	D.B.	J.K.	ISSUED FOR REVIEW AND COMMENT
REVISIONS				

PRELIMINARY
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2 - 81 HOLDING CO. LTD
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MINNEDOSA, MB


 1331 Princess Ave.
 Brandon, Manitoba
 R7A 0R4
 Tel: (204) 728-7364
 Fax: (204) 728-4418

DRAWING TITLE	
SITE PLAN	
PROJECT NUMBER	DRAWING NO.
BMCE18-067	C1.2

C. SITE ASSESSMENT OVERVIEW

Assessment Overview Table

Provincial Technical Overview of TRC 12-059 – 2-81 Holding Co Ltd			
Items Provided by Project Proponent	Confirmed	Related Existing Provincial Safeguards	Dept
1. Submitted complete Site Assessment	X	The proposal is consistent with the Provincial requirements for a livestock operation.	MR
2. Clearly defined the project as an Animal Confinement Facility	X	Any barn (animal confinement facility) in excess of 6,458 sq. ft. each will require a building permit from the Office of the Fire Commissioner.	MR
3. Proposed Project Site Physical Suitability	X	Reconnaissance soil survey indicates that 2-81 Holding Co Ltd is located on prime agricultural land (Agriculture Capability Class 2).	ARD
4. Proposed Project Site Flood Risk Potential	X	Water Management, Planning and Standards is not aware of any major, overland flood risk at the proposed livestock expansion.	MI
5. Identified 17,101 imperial gallons /day required for proposed operation	X	This project proposal has noted an estimated water usage that will exceed 25 000 litres per day, therefore a Water Rights License will be required. The proponent currently holds a Water Rights License for the existing project, but an Application to Construct a Well and Divert Groundwater will be required for the project expansion. They are currently in good standing with the Water Use Licensing Section.	CC
6. Proposed measures to meet storage and application regulations for manure	X	<p>A permit is required for construction of the proposed manure storage facility. In accordance with the Livestock Manure and Mortalities Management Regulation, the permit must be obtained prior to initiating any of the construction work. An application for a permit must be submitted to Environmental Approval Branch of Conservation and Climate (formerly Sustainable Development).</p> <p>The proponent must submit annual Manure Management Plans (MMP) in accordance with the LMMMR. Details on the requirements for manure management plans, including future soil sampling and analysis requirements, as well as design guidelines and application forms for manure storage facilities are available at: https://www.gov.mb.ca/sd/waste_management/livestock_program/index.html.</p>	CC

Provincial Technical Overview of TRC 12-059 – 2-81 Holding Co Ltd

Items Provided by Project Proponent	Confirmed	Related Existing Provincial Safeguards	Dept
7. Proposed Project Site with suitable mortalities disposal methods (composting)	X	The proponent has indicated that mortalities will be dealt with by composting. This is an acceptable disposal method under the LMMMR. In the case of mass mortalities in excess of composting capacities compliant with regulations and standard practices, mortalities will be transported to an approved rendering facility.	CC
8. Proposed Project Site with acceptable odour control measures	X	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. 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. The Planning Act allows Municipal Councils to require a manure storage cover and the planting of a shelter belt as a condition of approval.	ARD MR
9. Proposed Project Site that meets development plan and zoning by-law requirements	X	The proposed area is designated Rural Area in the Tanner's Crossing Development Plan No. 1-2018 and classified "AG" Agricultural general in the Minto Zoning by-law No. 2/04. The proposal is consistent with Development Plan policies and meets bulk requirements of zoning by-law.	MR
10. Proposed Project Site that is a sufficient distance from native prairie, Wildlife Managements Areas and Crown Land	X	The distance of the project exceeds 1 mile from Crown land. Lands Branch has no objection to the proposal.	ARD
11. Proposed Spread fields that are sufficient, and suitable for manure spreading	X	2-81 Holding Co Ltd has exceeded the land requirement for 575 sows-farrow to finish, 96,000 broiler chickens, 500 layers, 400 ducks and 4 dairy cows in the RM of Minto-Odanah. A detailed explanation of the land assessment can be found in Appendix A. All of the manure will be applied as a fertilizer for crop production. If the services of a manure management planner will be used, the planner must be a Professional Agrologist or Certified Crop advisor and must have successfully completed training in manure management planning delivered by the Assiniboine Community College. The proponent has indicated that a commercial manure applicator will be used to apply the manure. Commercial manure applicators must be trained and licenced in Manitoba. The training is delivered by the Assiniboine Community College and licencing is through Manitoba Agriculture and Resource Development.	ARD

Provincial Technical Overview of TRC 12-059 – 2-81 Holding Co Ltd

Items Provided by Project Proponent	Confirmed	Related Existing Provincial Safeguards	Dept
12. Proposed Spread fields with sufficient minimum setbacks on spread fields from natural features (water sources etc.)	X	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. See Appendix B.	ARD
13. Proposed Spread fields that have been secured by spread agreements	X	The proposal indicates that most of the land available for manure application is owned by 2-81 Holding Co Ltd.	ARD
14. Proposed Spread fields that meet development plan and zoning by-law requirements	X	Meets requirements.	MR
15. Proposed trucking routes and access points that may impact Provincial Roads or Provincial Trunk Highways	X	<p>The subject property has frontage along a municipal road and the truck haul route will utilize existing municipal road connecting onto PR 265. We do not anticipate a significant increase in use.</p> <p>Please be advised that any structures placed within the controlled area of PR 265 (125 feet from the edge of the right-of-way) require a permit from our office. The contact is Sheena del Rosario at (204) 945-3457 or Sheena.DelRosario@gov.mb.ca. The placements of temporary drag lines or any other temporary machinery/equipment for manure application within the right-of-way of PR 265 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 areas of PR 265 (125 feet from the edge of the right-of-way).</p>	MI
16. Proposed trucking routes – local roads	X	Under <i>The Planning Act</i> , municipalities as a condition of approval may require the proponent to enter into a Development Agreement regarding the condition and upkeep of local roads used as truck haul routes.	MR
17. Declared Provincial Waterways	X	No impact on Provincial Waterways.	MI

Provincial Departments

- ARD – Agriculture and Resource Development
- MR –Municipal Relations
- MI – Infrastructure
- CC – Conservation and Climate (formerly Sustainable Development)

D. PUBLIC COMMENTS & DISPOSITIONS

Public Comment Summary	
<p>Darryl Holyk RM of Minto-Odanah</p>	<p>Opposed Resides approximately 3 miles southwest of the colony. Often unable to enjoy being outside in yard due to smell from the current colony operation. Especially troublesome during the summer months.</p>
<p>Pam Syslack and Lyle RM of Minto-Odanah</p>	<p>Opposed Live within a mile and a half of the proposed expansion. Concerned the proposed barns and additional animals would be damaging to local ecosystem. Have a well and are concerned about effects to groundwater. Express doubts about whether proponent is properly spreading manure as they appear to use only the fields closest to the colony, causing "unbearable smell".</p>
<p>Chris Reynolds Manager, Whitemud Watershed Conservation District Received Oct. 18/19 P.O. Box 130 Neepawa, MB R0J 1H0</p>	<p>Concerned - The Whitemud Watershed Conservation District (WWCD) has an interest in maintaining the health and quality of waterways which are part of the Whitemud Watershed. The WWCD has concerns regarding the potential for nutrient loading and transport via local waterways, as well as potential groundwater contamination. - Recommends the following as conditions of approval: 1. 2-81 Holding Co Ltd adheres to a minimum 3m setback distance from all waterways in lands where manure is to be applied. 2. Any abandoned wells located on lands where manure is to be applied are to be sealed prior to manure application.</p>
<p>Keith and Sandra Syslak Clanwilliam</p>	<p>Opposed - There has been no changes to the initial submission which was rejected. Claim that proponent is not in compliance with current Conditional Use order; and that proponent has more animal units than is approved for the operation. - Colony has a history of non-compliance. - Questions about who is responsible for enforcing compliance of Conditional Use Orders.</p>
<p>Robert Jones Vice Chair, Friends Of Lake Minnedosa committee Box 540, Minnedosa, MB R0J 1E0</p>	<p>Concerned - Friends Of Lake Minnedosa (FOLM) is concerned about the deteriorating condition of Lake Minnedosa due to silt build up and weed proliferation caused in large part by high nutrient levels in the Little Saskatchewan River watershed. - Were informed at previous public hearing that the proponent had not adhered to their prior Conditional Use agreement by ignoring requirements for water run retention and shelter belt. Appears that permanent riparian cover and buffer strips have been removed. - Expect the Province of Manitoba to conduct complete and thorough review of this application including an on site farm inspection.</p>

Public Comment Summary	
Jennifer Clanwilliam	Opposed - Concerned with increased runoff, semi use, and smell.
Len Tardiff RM of Minto-Odanah	Opposed - Concerned about smell, dumping dead stock near other people's property and near waterways. - Concerned that proponent does not respect the environment or their neighbours.
Charlie and Lyndie Dagg Minnedosa	Opposed - Feel the operation already creates an excessive amount of manure. - Lands used for spreading manure drain into the Whitemud and the Little Saskatchewan River Watersheds with no buffer zones. - Strong odours and potential air quality concerns.
Jim Richards	Concerned - Liquid manure being spread on top of the ground over a layer of snow one foot deep, plus the 8 to 10 inches of rain that had fallen since the end of August, 2019 means the ground is already saturated and the liquid manure has nowhere to go but to run off.
Melvin Toews Sunrise Poultry Processors Ltd.	Supports - The proponent has invested heavily in the industry since their entrance in 2006, including upgrading the initial farm purchased and moving their poultry operation to their Minnedosa location. All Manitoba Chicken Producers requirements and obligations were met during this transition and their significant investments in the industry were done in consultation with all regulatory bodies after gaining all required approvals. - The proponents are exemplary stewards of poultry farming and strive to uphold the highest standards and professionalism.
Colleen Cuvelier Manager Received Oct. 29/19 Ray Frey Chairperson Received Dec. 18/19 Little Saskatchewan River Conservation District	Concerned - The state of the riparian areas in the surface water drainage network emanating from the manure spread fields identified in the application is a concern. - In several instances, it appears that permanent riparian cover and buffer strips have been removed, leading to serious soil erosion of field drainage networks and resulting in the transport of nutrients and soil downstream. This soil transport and erosion results in soil and nutrient build-up in Minnedosa Lake. - Recommends the following to address these concerns: <ol style="list-style-type: none"> 1. Establish permanent, perennial vegetation in all waterways, including those that are smaller than Order 1, period of flow, and delineation not acquired through actual field visits. 2. Establish permanent, perennial vegetated buffers on all water bodies including waterways that are smaller than Order 1. The buffer should extend a minimum of 3 metres from the edge of the existing feature's boundary. - Should these actions be included as conditions of approval, there should be consideration to having a deadline for the establishment of the works.

Public Comment Summary	
Dewi and Elizabeth Davies	Oppose - State that the proponent's previous application was rejected because of environmental concerns; don't see any changes from previous application.
Mark and Darcy Wahoski Minnedosa	Concerned - Own multiple properties in the municipality of Minto-Odanah and the Municipality of Rosedale that are adjacent to or directly across from the operation. - Require further clarification
Karen Dowsett	Opposed - Concerns raised in public hearing in February of 2019 have not been addressed by the colony. - Concerns related to groundwater contamination, drainage, seasonal flooding, soil erosion, excessive water aquifer usage and air quality
David and Dawn Swift	Concerned - Concerned that the proposed expansion will cause an increase of odour in the area. - No shelter belt or run way repairs have been completed as was required when the barn was constructed.
William and Glennis Hopkins	Concerned - Concerned that Colony has not upheld the conditions of previous Conditional Use Order regarding maintaining watershed runway. - Require more information
Larry, Marlene, Colin Pollon	Concerned - Concerned regarding the impact of the expansion on the ground water and surrounding wells. - Inquiring about who will be responsible for this issue, should approval be granted

A full copy of the public comments as well as the proponent's response may be viewed on the public registry at the following link

<http://www.gov.mb.ca/mr/livestock/index.html>

Provincial Response to Little Saskatchewan River Conservation District Comment

1) Buffer strips and setbacks along manure spread fields are regulated by the Livestock Manure and Mortalities Management Regulation (LMMMR) and enforced by the Department of Conservation and Climate. Buffers and setbacks for all other sources of nitrogen and phosphorus are regulated under the Nutrient Management Regulation and administered by Water Science and Watershed Management Branch of Manitoba Agriculture and Resource Development. Your recommendation regarding the establishment of vegetative buffers contradicts the Provincial legislation for some waterbodies and would not be supported by the province.

2) Calling for the establishment of riparian areas on manure spread fields is in conflict with The Planning Act. Manure-related conditions associated with livestock operations are strictly within provincial jurisdiction. This means that Municipal Councils cannot put conditions on manure, with the exception of the following: Municipalities may impose conditions requiring covers on manure storage facilities or requiring that shelter belts be established - Section 116(3) of The Planning Act. Beyond these two exceptions no conditions may be imposed respecting the storage, application, transport or use of manure from a livestock operation – Section 116(3) of The Planning Act.

E. CONCLUSIONS & RECOMMENDATIONS

Overall 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.

Recommendations to Council

The following recommendations are based on provisions of *The Planning Act*

- As per Section 114(1), Council must set a date for a Conditional Use hearing.
- As per Section 114(2), 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 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;and
 - b) post a copy of the notice of hearing on the affected property in accordance with Section 170 of *The Planning Act*.
- As per Section 116(1), after holding the hearing council must make an order
 - (a) rejecting the application; or
 - (b) Approving the application if
 - (i) The Technical Review Committee has 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, and
 - (ii) The proposed operation
 - (A) will be compatible with the general nature of the surrounding area,
 - (B) will not be detrimental to the health or general welfare of people living or working in the surrounding area, or negatively affect other properties or potential development in the surrounding area, and
 - (C) is generally consistent with the applicable provisions of the development plan by-law, the zoning by-law and any secondary plan by-law.

- As per Section 116(2), only the following conditions may be imposed on the approval of an application under this Division, and any condition must be relevant and reasonable:
 - (a) measures to ensure conformity with the applicable provisions of the development plan by-law, the zoning by-law and any secondary plan by-law;
 - (b) measures to implement recommendations made by the Technical Review Committee;
 - (c) one or both of the following measures intended to reduce odours from the livestock operation:
 - (i) requiring covers on manure storage facilities,
 - (ii) requiring shelter belts to be established;
 - (d) requiring the owner of the affected property to enter into a development agreement under clause 107(1)(c).
- As per Section 116(3), no conditions may be imposed respecting the storage, application, transport or use of manure from a livestock operation that is the subject of an application under this Division other than a condition permitted under clause (2)(c).
- As per Section 116(4), the approval of a livestock operation subject to this Division may be revoked if the applicant or the owner of the affected property fails to comply with the conditional use order or a condition imposed under subsection (2).
- Council should specify the type(s) of operation, legal land location, number of animal units in each livestock category and total animal units in its Conditional Use Order.
- As per Section 117, Council must send a copy of its (Conditional Use Order) to
 - a) the applicant;
 - b) the minister (c/o the Brandon Community Planning Office); and
 - c) every person who made representation at the hearing.
- Councils are requested to include in the 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, 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.

- 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.

Council is welcome to contact Manitoba Conservation 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.

Recommendations to Proponent

That any additional measures identified through subsequent Provincial licensing or permitting in order to minimize any identified risks to health, safety and the environment be undertaken.

That 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.

F. TECHNICAL REVIEW COMMITTEE MEMBERS

Name	Department	Title	Telephone
Don Malinowski Chair	Municipal Relations	Senior Planner Community Planning Branch	945-8353
Petra Loro	Agriculture and Resource Development	Livestock Environment Specialist Agri-Resource Branch	918-0325
Shannon Beattie	Conservation and Climate	Policy Analyst Sustainable Resource & Economic Policy Branch	792-6269
Jeff DiNella	Infrastructure	Senior Development Review Technologist Highway Planning and Design Branch	945-2664

Appendix A

2-81 Holding Co Ltd. Manitoba Agriculture and Resource Development November 2019

In areas of lower livestock intensity such as the RM of Minto-Odanah, 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 and could be brought into the 2-81 Holding Co Ltd manure management plan to balance phosphorus with crop removal, should it be necessary in the future.

In order to determine the land requirements for 2-81 Holding Co Ltd, nitrogen and phosphorus excretion by all of the livestock is compared to nitrogen utilization and phosphorus removal by the proposed crops to be grown. The calculation takes into consideration typical nutrient excretion rates for pigs, poultry and dairy as well as realistic, long-term crop yields from the Manitoba Agricultural Services Corporation (MASC) for the RM of Minto-Odanah.

Land suitability is determined using soil testing for phosphorus and soil survey to establish the agriculture capability. All of the lands with soil tests were below 60 ppm Olsen P, as required to be considered suitable. According to reconnaissance soil survey, the agriculture capability of the land included in the proposal is predominantly Class 1 to 5. The associated limitations include slope (T) and wetness (W). Class 1 to 5 soils are considered suitable for manure application. Small areas of Class 6 (E) have been mapped along the eroded slopes of drain channels. Areas of Class 6 should be confirmed through field inspection and, if present, excluded from the manure management plan.

2-81 Holding Co Ltd is required to demonstrate that they have access to at least 1589 acres of suitable land for manure application. 2-81 Holding Co Ltd Ltd has satisfied the Provincial land requirement by providing 2221 suitable acres with soil tests. 2-81 Holding Co Ltd has provided an additional 2889 acres for manure application without soil tests. 2-81 Holding Co Ltd Ltd has more than enough land for the long-term environmental sustainability of the operation.

Appendix B

Manitoba Agriculture and Resource Development

Staff in the Water Science and Watershed Management Branch have reviewed the site assessment for the 2-81 Holding Co Ltd proposal in the RM of Minto-Odanah and have the following comments:

- Nutrient management that avoids excess loss of nutrients to surface waters is needed on lands receiving manure in southern Manitoba because long-term trend analysis of total phosphorus and total nitrogen has shown significant increases in these nutrients in the Assiniboine and Red rivers (Jones and Armstrong 2002).
- The proponent plans to inject all liquid manure and incorporate all solid manure within 48 hours of broadcast. Injection of manure at appropriate rates poses lower environmental risk than other manure application methods. When solid manure is broadcast, immediate incorporation reduces losses of nitrogen via ammonia-volatilization and reduces the risk of N and P losses in runoff to surface waters. When incorporation is not possible, application timing can minimize runoff risk by avoiding periods when runoff risk is high. For example, avoiding application when heavy rains are forecast or when soils are saturated or frozen and during the last few weeks before the soil freezes in fall.
- 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 is planning to inject the liquid manure and incorporate the solid manure which will reduce N losses compared to broadcast without incorporation.
- 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. 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 further build-up in soils. Consequently, sufficient land base must be available such that manure can be applied at no more than 1 times crop P removal rates (P balance). For long-term planning purposes, the proponent needs to have sufficient land available to ensure that manure can be applied at 1 times crop P removal. The proponent acknowledges that 3,178 acres may be required for the long-term environmental sustainability of the operation. The proponent has identified 2,503 acres with appropriate soil tests and have an additional 2,607 acres available. Application to meet crop N requirements is estimated to use 1,542 acres. Application at 2 times the crop removal of P is estimated to use 1,589 acres (3,178 acres is estimated to achieve P balance 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).

- The provincial water well database indicates one production well on the proposed property at NE section of 13-16-17W. The draft report identified that this well is associated with the proposed livestock operation.
- If there are unused water wells on the site or spread fields these shall be properly sealed. A sealed well report must be filed with the Groundwater Management Section of Sustainable Development for each well sealed. Information on well sealing and the sealed well report are available from Sustainable Development (204-945-6959) or: https://www.gov.mb.ca/sd/water/groundwater/wells_groundwater/index.html. All but the most basic wells should be sealed by a well drilling professional. A list of currently licensed well drilling professionals can also be accessed from the above web page.