



TECHNICAL REVIEW COMMITTEE

A TECHNICAL REVIEW REPORT

PREPARED FOR

**THE RURAL MUNICIPALITY
OF CARTIER**

STARLITE COLONY FARMS LTD.

S 1/2 04-10-02 WPM

TRC 12-089

April 20, 2022

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

Natural Resources and Northern Development (NRND)

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

Environment, Climate and Parks (ECP)

- 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 Relations (MR)

- 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

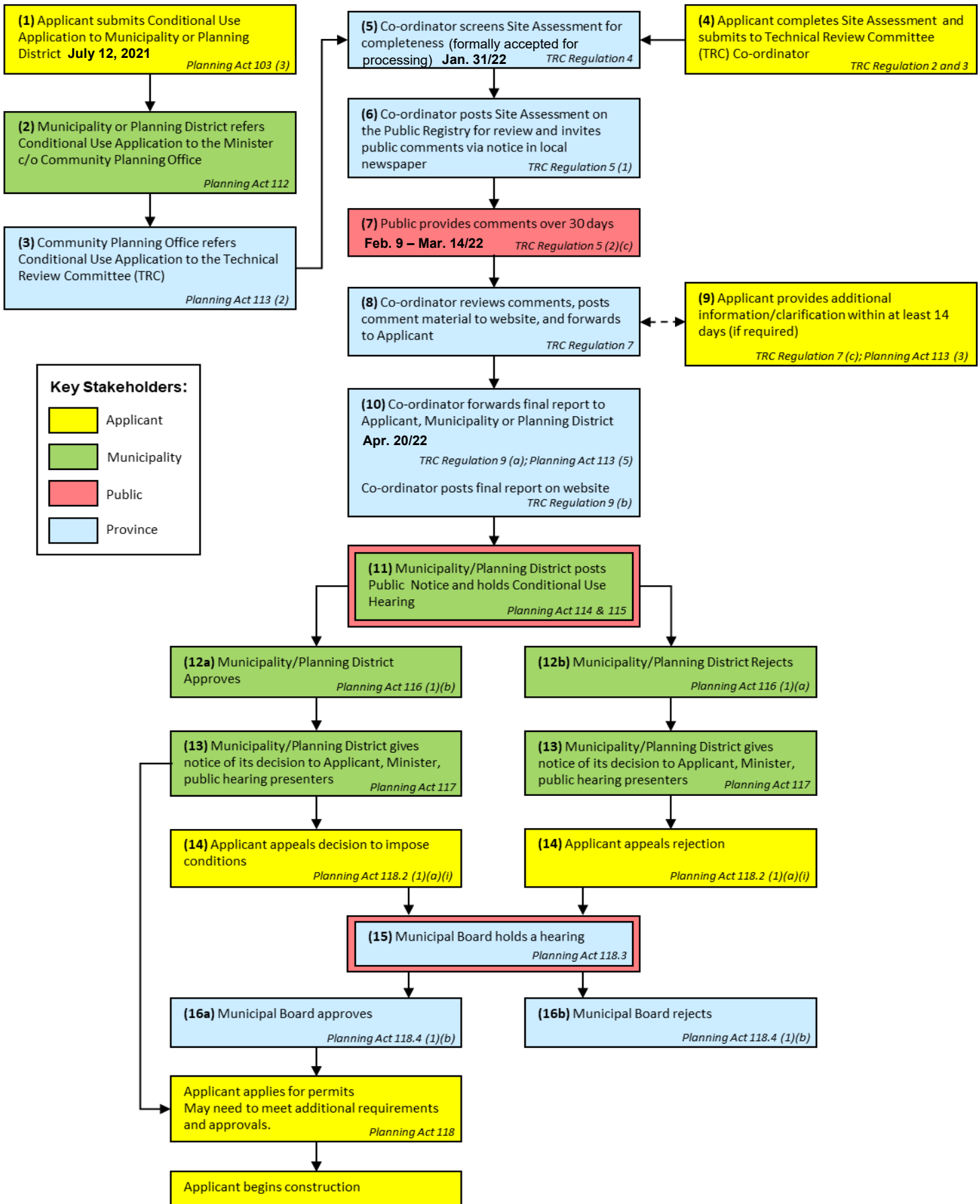
Purpose of TRC Reports

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: Starlite Colony Farms Ltd.

Site Location: S ½ 04-10-02 WPM. Refer to map below.

Proposal: To introduce 85,000 broiler chickens into an existing mixed livestock operation, increasing total Animal Units from 1,027 to 1,452.

- Maintain 550 farrow to finish sows (688 Animal Units)
- Maintain 12,000 layer chickens (100 Animal Units)
- Maintain 18,000 pullet chickens (59 Animal Units)
- Maintain 18,000 heavy hen turkeys (180 Animal Units)
- Introduce 85,000 broiler chickens (425 Animal Units)

This will involve the following:

- Construction of one new barn.
- Earthen and field manure storage.
- Consuming a maximum of 21,431 imperial gallons of water per day from an existing well.
- Composting and rendering mortalities.
- Truck haul routes as shown in map below.

R.M. OF CARTIER

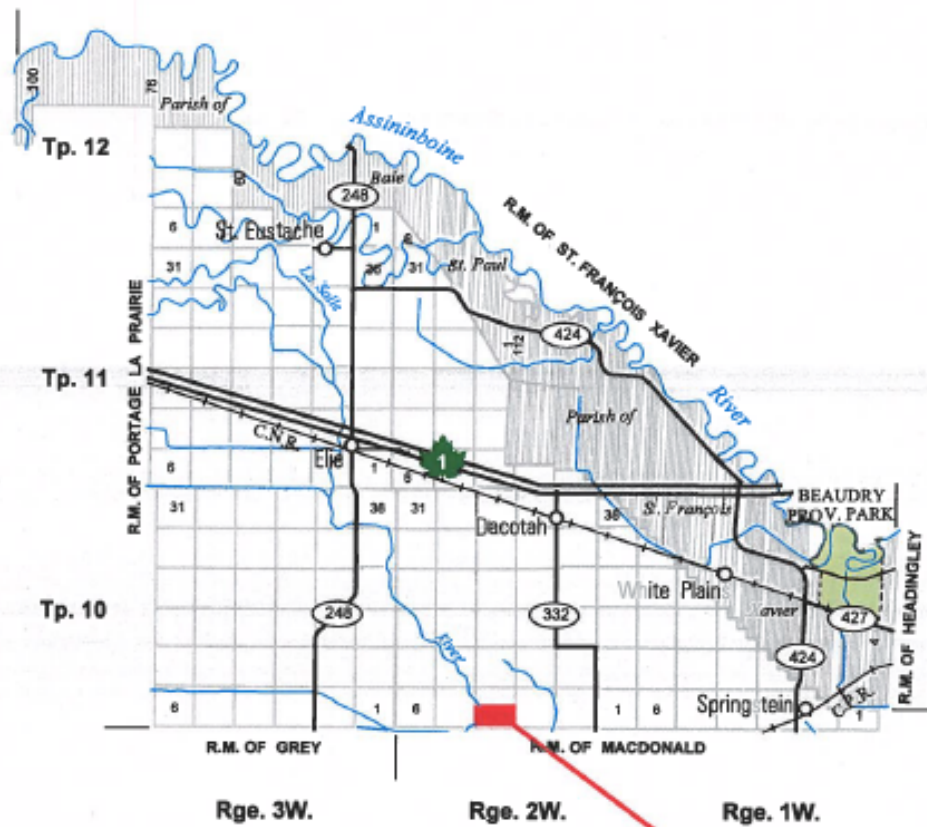
PROVINCE OF MANITOBA
 INFRASTRUCTURE
 HIGHWAY PLANNING AND DESIGN BRANCH
 GEOGRAPHIC & RECORDS MANAGEMENT SECTION
 WINNIPEG
 JANUARY 1, 2015

REVISED: APRIL 2015



LEGEND

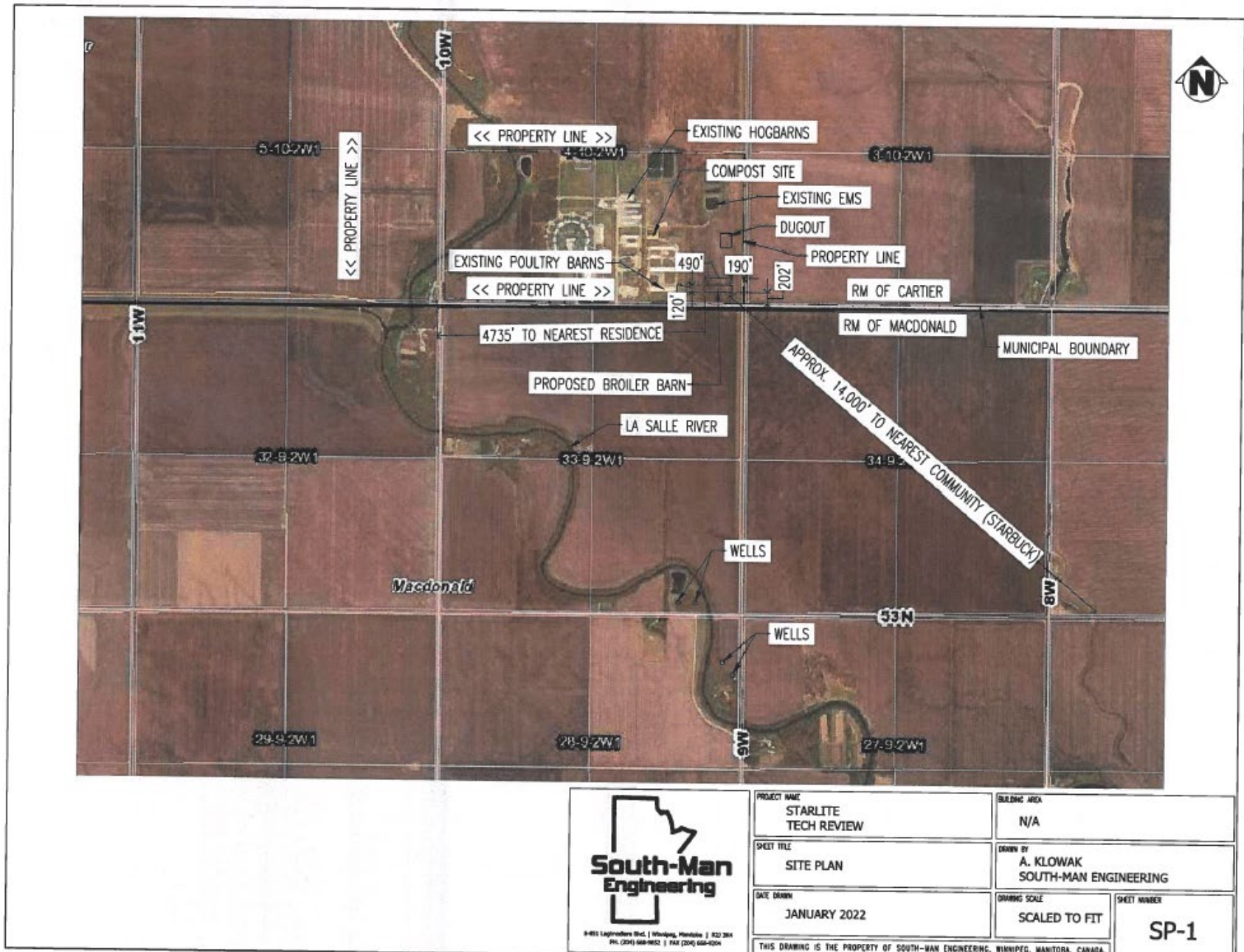
TRANS-CANADA HIGHWAY		ACCESS ROADS	
PROVINCIAL ROADS		RAILWAYS	



**Starlite Colony
 SE 4-10-2W
 RM of Cartier**

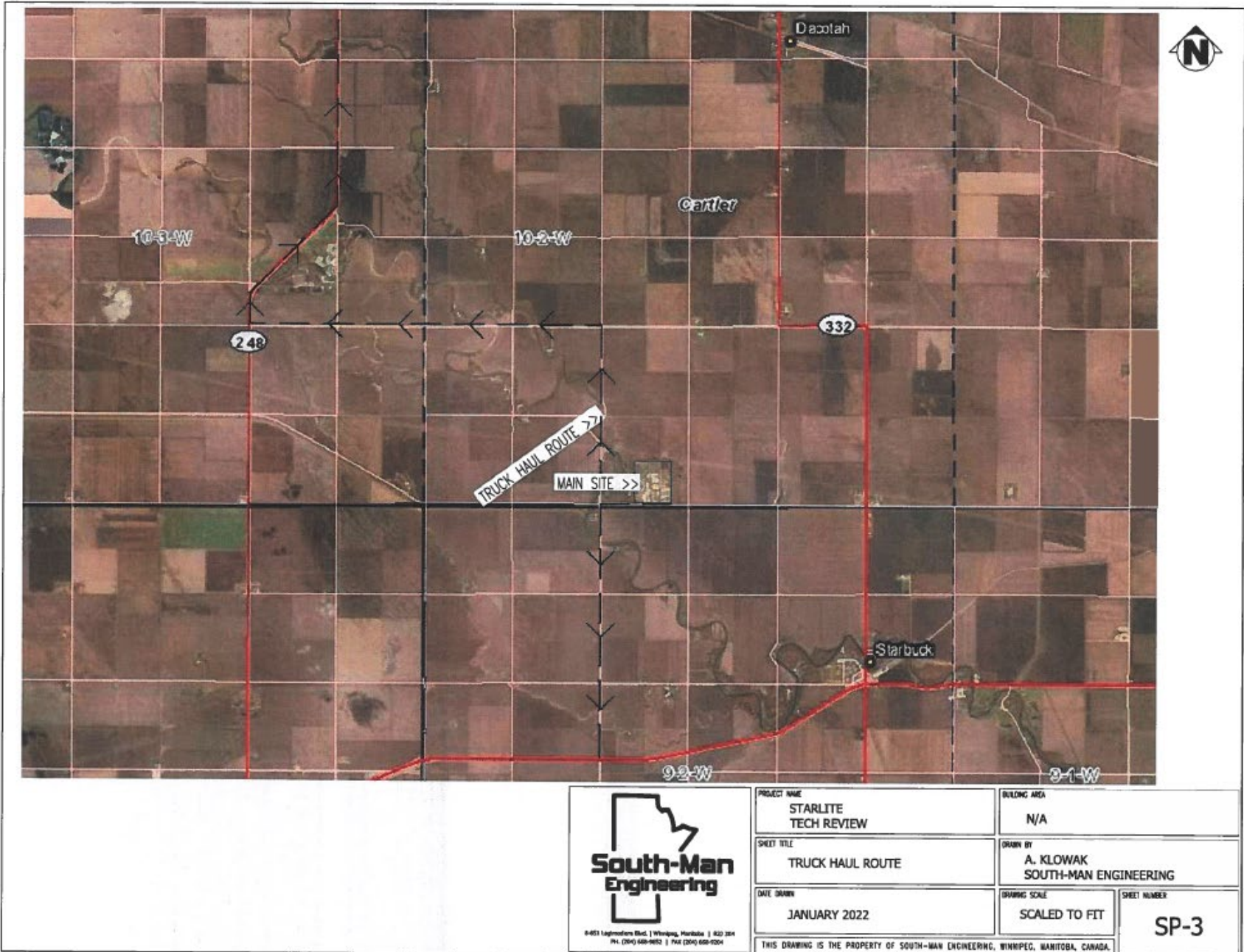
Project Site

SHEET 1 of 1



PROJECT NAME STARLITE TECH REVIEW	BUILDING AREA N/A
SHEET TITLE SITE PLAN	DRAWN BY A. KLOWAK SOUTH-MAN ENGINEERING
DATE DRAWN JANUARY 2022	DRAWING SCALE SCALED TO FIT
THIS DRAWING IS THE PROPERTY OF SOUTH-MAN ENGINEERING, WINNIPEG, MANITOBA, CANADA.	
	SHEET NUMBER SP-1

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C. SITE ASSESSMENT OVERVIEW

Provincial Technical Overview of TRC 12-089 – Starlite Colony Farms Ltd.				
Item No.	Provincial Requirements	Confirmed	Related Provincial Safeguards	Dept.
1	Submitted complete site assessment	X	Technical Review Committee Regulation requires an applicant to submit a completed site assessment. A completed site assessment was submitted with the TRC application.	MR
2	Clearly identified the current and proposed type and number of animals and animal units	X	Starlite Colony Farm Ltd. is currently seeking Conditional Use approval to add 85,000 broiler chickens (425 Animal Units) to their existing livestock inventory. The total size of the livestock operation will be 1452 AU.	AGR
3	Project clearly defined as: <u>animal confinement facility</u>	X	Proposed additional 85,000 broiler chickens (425 Animal Units).	ECP
		X	The project is clearly defined as a new animal confinement facility (ACF) for the additional livestock to be contained in a new animal confinement facility. A new barn (total area of 58,000 square feet) is to be built to contain the additional 85,000 broiler chickens (425 Animal Units). The present livestock facility also includes previously existing species that include sows (pigs), turkeys, and chickens (layers and pullets).	MR

Provincial Technical Overview of TRC 12-089 – Starlite Colony Farms Ltd.

Item No.	Provincial Requirements	Confirmed	Related Provincial Safeguards	Dept.
4	Identified all existing and proposed buildings and structures and related separation distances	X	<p>The new animal confinement facility that will contain an additional 425 animal units with an overall total number of 1452 Animal Units (including all species) meets are minimum required separation distances.</p> <p>The minimum requirement separation distance to the nearest residence for an animal confinement facility with a total of 1452 animal units is 1132 feet and the actual distance is 4735 feet (residence to the west). The minimum requirement separation distance to the nearest designated area for an animal confinement facility with a total of 1452 animal units is 6037 feet and the actual distance is 14,000 feet (Starbuck).</p> <p>The proposed site for the new broiler barn that will contain the additional 85,000 broiler chickens (425 A.U.) requires a minimum site area of 80 acres with a site foot requirement of 600 feet. The minimum front yard requirement is 125 feet with a minimum side yard requirement of 50 feet.</p> <p>The proposed site is 160 acres with a minimum width of 2,640 feet. The front yard is 202 feet (to the south) and the side yard (to the east) of 190 feet.</p> <p>The proposed new facility meets all minimum required separation distances and zoning by-law setback requirements in the “AG” Agricultural General Zone.</p>	MR
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.	ECP
6	Identified suitable water source: existing well and a water consumption rate of 21,431 imperial gallons per day	X	Starlite Colony Farms Ltd. currently holds a valid Water Rights Licence with the Water Use Licensing Section; however, they need to submit an application to amend the existing licence in order to include the additional animals.	ECP

Provincial Technical Overview of TRC 12-089 – Starlite Colony Farms Ltd.

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 livestock operation policy that guide 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 S ½ of 4-10-2 WPM in the RM of Cartier, is designated Rural General Policy Area (White Horse Plains Planning District By-law No. 1-2016) and the proposal complies with Development Plan Policies 3.1.17 to 3.1.24 (Livestock Policies).</p> <p>Zoning The proposed site is zoned “AG” Agricultural General Zone (RM of Cartier Zoning By-law No. 1658-18) and has a minimum site area requirement of 80 acres with a minimum site width requirement of 600 feet. It has minimum front yard requirement of 125 feet with a minimum side yard requirement of 50 feet for the new proposal site for the construction of the new barn.</p> <p>The proposed project complies with the minimum site requirements in the “AG” Agricultural General Zone (RM of Cartier Zoning By-law No. 1658-18).</p>	MR

Provincial Technical Overview of TRC 12-089 – Starlite Colony Farms Ltd.

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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 wells located on the SE 33-9-2W and NE 28-9-2W. The provincial water well database contains information for wells associated with the proposed livestock operation. The proposal indicates no abandoned wells present on the site or spread fields, however the database indicates that there are wells present within the proposed spread field locations at NW4-10-2W, N1/2 32-9-2W, W1/2 20-9-2W & NW25-9-2W. The information was conveyed to the proponent during the pre-screening process with the expectation that the proponent needs to make an attempt to identify the wells and relevant setback to manure spread needs to be determine and if the wells are no longer in use or abandoned they must be sealed and a sealed well report must be filed with the Groundwater Management Section of MB Environment, Climate and Parks. Information on well sealing and well sealing reports are available from MB Environment, Climate and Parks (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>	ECP
9	Identified suitable manure storage methods: Manure from additional broiler chickens will be stored as field storage. Manure from existing hog operation will be stored in earthen manure storage facility.	X	The proponent has indicated that solid manure generated at the facility will be stored as field storage. Sections 7(1) to 7(8) of the Livestock Manure and Mortalities Management Regulation sets out requirements for field storage, including setback distances and residency time.	ECP
10	Identified acceptable manure application methods	X	The proponent must submit and adhere to a manure management plan approved for the facility per the Livestock Manure and Mortalities Management Regulation (MR 42/98).	ECP

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11	Mortalities disposal methods identified: rendering for existing hog operation and composting for proposed additional broiler chickens.	X	The proponent has indicated that mortalities for existing hog operation are rendered and mortalities for proposed broiler chickens will be composted. This is considered acceptable under the Livestock Manure Mortalities Management Regulation.	ECP
12	Proposed suitable setback distances from water and property lines for manure, livestock and mortalities	X	The proponent indicated all setback distances meet minimum requirements set out in the Livestock Manure and Mortalities Management Regulation MR 42/98.	ECP
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. However, the proposed project site is subject to flooding from the La Salle River. The applicant has indicated that the site is protected by a dike. MTI recommends that the dike is at a height of 240.82 metres (790.10 feet) CGVD28 or greater to reach the Flood Protection Level for this area.	MTI
14	Proposed acceptable odour control measures	X	The proponent has indicated that the location for the broiler barn has some existing shelterbelts and that additional shelterbelts will be planted. 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 proposed broiler facility for the new addition of 85,000 broiler chickens (425 A.U.) will produce solid manure with a high proportion of straw bedding with minimal potential for offensive odours once field stored. The proposed barn site is sheltered on the west side by an existing shelterbelt and infrastructure. An additional shelterbelt will be planted on both the east and south sides of the barn for additional odor control.	MR

Provincial Technical Overview of TRC 12-089 – Starlite Colony Farms 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 required land base for Starlite Colony Farm Ltd. is 2,053 acres. Starlite Colony Farm Ltd. has exceeded the land requirement by demonstrating that it has access to 5,053 suitable acres. Additional detail can be found in the appendix.	AGR
		X	During manure spreading, setback distances to all groundwater and surface water features as prescribed under the Livestock Manure and Mortalities Management Regulation should be considered as a minimum distance.	ECP
16	Indicated if spread fields are located in the Red River Valley Special Management Area or any other regularly inundated area	X	The proponent has indicated that some spread fields are located within the Red River Valley Special Management Area or any other regularly inundated area.	ECP
17	Proposed spread fields that meet development plan and zoning by-law requirements	X	The proposed spread fields meet the development plan and Zoning By-law requirements. The proposal meets and is compliance with the Livestock policies of the White Horse Plains Development Plan By-law No. 1-2016 (policies 3.1.17 to 3.1.24) and meets separation distances in the Zoning By-law in the “AG” zone (RM of Cartier Zoning By-law No. 1658-18).	MR

Provincial Technical Overview of TRC 12-089 – Starlite Colony Farms Ltd.

Item No.	Provincial Requirements	Confirmed	Related Provincial Safeguards	Dept.
18	Proposed acceptable manure transportation methods: dragline and solid spreader.	X	The transport of livestock manure is subject to Section 9 of the Livestock Manure and Mortalities Management Regulation. The proponent has indicated a dragline will be used for liquid manure from existing hog operation and a solid spreader will be used for proposed additional broiler chickens as means of manure transportation. This is considered acceptable under the Livestock Manure and Mortalities Management Regulation.	ECP
		X	Please be advised that any structures placed within the controlled area of PTH 12 or any Provincial Truck Highway (PTH) and PR 248 and PR 332 or any Provincial Road (PR) (125 feet from the edge of the highway right-of-way) requires a permit from our office. The contact is Sheena del Rosario at (204) 583-2433 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 PTH 12 or any PTH or PR requires permission from our regional office in Steinbach. Please contact the Regional Planning Technologist, Rob Crang at (204) 945-8955 or Rob.Crang@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 PTH 12 or any PTH and PR (125 feet from the edge of the right-of-way).	MTI
		X	Multiple Provincial Waterways are within the general area around the proposed project site. If any Provincial Waterway are crossed by manure hoses then Provincial Waterway Authorization will be required under section 14(4) of the Water Resource Administration Act. Provincial Waterway Authorization can be applied for at https://forms.gov.mb.ca/pww/ Provincial Waterways in the general area of the proposed project site include the La Salle River, Elm Creek Channel, and Starbuck Drain.	MTI
19	Identified suitable trucking routes and access points	X	<u>The primary proposed truck haul route will utilize an existing municipal road connecting onto PR 248 and/or PTH 12.</u> <u>We don't anticipate a significant increase in use.</u>	MTI
20	Identified proposed trucking routes – local roads	X	The proposed site is accessed by municipal road Starlite Rd 54 NW, PR 248 and PR 332 and PTH 1 and PTH 2. As per section 116(2) of The Planning Act, 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

Provincial Technical Overview of TRC 12-089 – Starlite Colony Farms Ltd.

Item No.	Provincial Requirements	Confirmed	Related Provincial Safeguards	Dept.
21	Known rare species will not be impacted on new sites/lands	X	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). This review is based on existing data known to the MBCDC of the Wildlife and Fisheries 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.	NRND

Provincial Departments: Agriculture (AGR); Environment, Climate & Parks (ECP); Transportation and Infrastructure (MTI); Municipal Relations (MR)

D. PUBLIC COMMENTS AND DISPOSITIONS

Public Comment Summary	
Gail	<p>Commenter has following concerns for their opposition:</p> <ul style="list-style-type: none"> • Concerns with treatment of cattle waste • Concerns with proximity to waterways and pollution of major waterways as a result (Assiniboine River, Selkirk, Winnipeg) • Concerns with monitoring of wastewater treatment
Dale and Carol Fossay Road 8 West	<p>Commenter has following reasons for their support:</p> <ul style="list-style-type: none"> • Support for the Starlite's land stewardship and animal care • Support for the current operations as long time neighbours of Starlite operations
Brenda Borley and Greg Shirliff	<p>Commenters do not oppose the operation but raise the following concerns:</p> <ul style="list-style-type: none"> • Concerns with odour and manure • Asking that odour control be a conditional approval of the expansion • Concerns with current odour control issues from Starlite hog operation
Larry Trudeau 28-9-2W	<p>Commenter has the following concerns for their opposition:</p> <ul style="list-style-type: none"> • Concern with effect on residents water beyond 3 kilometres and suggests a meeting with MacDonald Water Treatment Facility • Concerns with recent inconsistent aquifer levels due to the existing livestock operation and the stress on the system the new operation will bring • Concerns with drought and water supply • Concerns with lack of support from Provincial bodies to address his existing concerns • Concerns with extraction methods • Concerns with pumping rates
Timothy and Tanis Kendall 8-10-2W Cartier	<p>Commenter has following concerns for their opposition:</p> <ul style="list-style-type: none"> • Concerns with current odour control issues for existing Starlite operation • Concerns with non-compliance with odour control orders • Concerns that odour control orders won't be effective

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

See Appendix B for the proponent's response to the public comments.

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(1) 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) 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 and total animal units 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 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 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.

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 <i>Branch</i>	Contact
Erin McCleery	Municipal Relations	Manager, Winnipeg Office <i>Community Planning and Development Branch</i>	204-945-1143
Petra Loro	Agriculture	Livestock Environment Specialist <i>Land Use and Ecosystem Resilience Branch</i>	204-918-0325
Barsha Sagan	Environment, Climate and Parks	Environmental Engineer <i>Environmental Approvals Branch</i>	204-795-7175
Jeff DiNella	Transportation and Infrastructure	Senior Development Review Technologist <i>Highway Planning and Design Branch</i>	204-945-2664

Appendix A

Land Use and Ecosystem Resilience Branch – Agriculture

In areas of lower livestock intensity such as the RM of Cartier, 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 poultry production were used to estimate nutrient excretion for Starlite Colony Farm Ltd. Realistic, 6-year average crop yields from the Manitoba Agricultural Services Corporation (MASC) for the RMs of Cartier and MacDonald 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. Reconnaissance soil survey is available to determine the agriculture capability of the land. The agriculture capability of the land included in the proposal is primarily Class 2 and 3. The primary limitation in the area is wetness (W) with some areas of salinity (N) and density (D).

The required land base for Starlite Colony Farm Ltd. is 2053 acres. Starlite Colony Farm Ltd. has exceeded the land requirement by demonstrating that they have access to 5053 suitable acres.

Water Science and Watershed Management Branch – Environment, Climate and Parks (ECP)

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 fall and manure will be either be injected (liquid) or incorporated within 48 hours (solid). Injection or incorporation will reduce the risk to surface water when compared to surface broadcast alone.

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 apply manure by injection or broadcast with incorporation which will reduce N losses compared to methods 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. 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, 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 3769 acres may be required for the operation. The proponent has identified 5053 acres for manure application at this time. Application to meet crop N requirements is estimated to use 2053 acres. Application at 2 times the crop removal of P is estimated to use 1885 acres (3769 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.

Appendix B – Proponent Response



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E-mail: sme@southmaneng.com

**Re: Starlite Colony – Technical Review
Public Comment Response**

In support of the Technical Review the following responses have been prepared to comments and concerns expressed by residents neighbouring the proposed operation.

Dale and Carol Fossay -

The supportive comments of Dale and Carol are greatly appreciated. Extensive efforts have been made by the colony over its history to respect and live in harmony with their neighbours. The support of the Fossay's reinforce the fact that the colony's efforts have been noticed and appreciated.

Timothy and Tanis Kendall -

Odour concerns are a significant factor in livestock production and some level of odour production is unfortunately inevitable. Significant and costly measures have been implemented in the past to mitigate the odour production and impacts on neighbouring residents from the earthen manure storage used to store manure produced from the hog operation. A synthetic cover had been installed on the primary cell of the earthen storage at considerable cost with the intent of capturing and utilizing the collected gases. Unfortunately after several years of trying to operate the collection system it was deemed ineffective due to poor gas production during a significant portion of the year. Several years later the synthetic cover had deteriorate and became ineffective for odour control. Since that time, straw covering has been utilized on the primary and secondary cells of the storage. The application of the straw cover is employed in the spring of each year after the ice cover has melted. Intermittent touch ups during the summer have been done in the past when winds or storms have impacted the floating straw layer.

In addition to the straw cover that is installed each year, enzyme have been added to the feed and directly to the in-barn collection pits as a means to reduce odour production as well. Shelterbelt trees were planted and maintained over the years. Still in their growth stage, the full effect of the shelterbelt trees have not been realized. As the trees grow it is anticipated that their effectiveness will continue to increase over time.

The proposed broiler barn will have no impact on the existing earthen manure storage as the manure will be handled as a solid instead of a liquid. As a mixture of straw bedding and manure, the potential for odour production from the proposed operation is expected to be minimal and significantly less pungent than liquid

manure. Frequent removal of manure between batches of birds will minimize the potential for anaerobic decomposition which is main contributor to odour production. Once removed from the barn, the manure will be stockpiled and aerated several times throughout the decomposition process to further reduce the potential for offensive odours. This composting process will also alleviate odour production commonly associated with field application. If the composting process has been effective, the end product that is field applied is inert and should not produce any noticeable odours. Incorporation of the manure into the soil using cultivation equipment will further minimize the potential for odours.

Brenda Borley and Greg Shirtliff -

The support of Brenda and Greg is appreciated by the colony. The colony would like to express their intent to mitigate nuisance odours as much as possible as these odours are not only offensive to neighbours but equally offensive to the colony themselves. Measures to mitigate odour production are as outlined in the response above for Timothy and Tanis Kendall.

Gail -

To clarify, the proposed operation is for the addition of broiler chickens. These birds will be confined to the production facility and will not have any access to the outdoors nor any surface water sources. Manure from the proposed operation will be composted and field applied at agronomic rates suitable to the crops to be grown. The field application of manure will be administered through a manure management plan that is filed with the Province on an annual basis. The volume of manure applied per acre is determined based on the nutrient content of the manure and soil test results for the fields that will receive the manure such that the nutrients are applied at rates similar to that which the crop will remove. Intermittent auditing by the province ensures compliance with the manure management plan to prevent over application.

Shortly after surface application the manure will be incorporated into the soil in order to minimize the potential for nutrients to escape into the environment and impact downstream surface water sources. Unlike discharges of treated sewage from domestic sources such as the City of Winnipeg into water bodies, it is intended to utilize the nutrients within the manure to sustain crop production instead of being released to the environment. For this reason, it is not intended to provide any treatment to the manure produced.

Larry Trudeau –

Confined river aquifers consisting of shallow sand and gravel layers or pockets are more susceptible to fluctuations in water levels in comparison with deep bedrock aquifers in other regions of the province. Recharge rates in this case are directly dependent on water levels and available flow within the river to which these aquifers are connected. Given the shallow elevation of Mr. Trudeau's well, it is not unreasonable to expect that water availability will be impacted by a larger user such as Starlite Colony, particularly during low flow periods in the river. The drought conditions experienced in 2021 has made the colony aware that under such extreme conditions their current water supply is maximized and is unable to supply additional demand such as that required to support the proposed operation. Based on this realization

the colony has decided to utilize rural water to supply the proposed operation and thereby eliminate any further demand on their existing wells. It is also proposed to begin establishment of a water dugout as part of the new development. This water source will be utilized to substitute water that would otherwise be drawn from the wells to further reduce the demand on the existing wells. Replenishment of the water within the dugout will be facilitated through surface runoff. A water rights license will be procured to facilitate any withdrawal of water from municipal or provincial surface water sources. Runoff from the colony's own property will be directed to the dugout as the primary source of recharge.

I trust the responses provided adequately address the concerns expressed and demonstrates that the colony is willing to make significant efforts to avoid conflicts and impacts on their neighbours. Ultimately, their goal is to have as little impact on the community and surrounding neighbours as practically feasible, yet still have the ability to grow to support their families. In the absence of any significant manufacturing or commercial enterprise on site, agriculture and particularly livestock production is the most viable method to achieve this growth as increasing land base for crop production is limited within the region.

Respectfully Submitted,

South-Man Engineering

Per,



Peter Grieger, P. Eng