SITE ASSESSMENT

For Large Livestock Operation Proposals (300 Animal Units or more)

1.0 Purpose

The set up, or expansion, of a livestock operation that has 300 Animal Units or more is subject to **Part 7 of *The Planning Act***. This includes consideration as a conditional use by the municipal council or planning district board. It also includes a review by the Technical Review Committee (TRC) appointed by the Minister of Local Government. The **Technical Review Committee Regulation** requires a site assessment to help the committee do its review and allow people who will be affected by the livestock operation to comment on the proposal.

2.0 Assistance

For assistance in completing the Site Assessment Form please refer to the following.

For links to resources, click on the **highlighted underlined items.**

For additional information on a particular item, please click on the (?) **"Learn More"** icon.

For definitions, click on the **Glossary of Terms**.

For help with mapping, contact your **Community and Regional Planning Regional Office**.

For additional help, contact the **Technical Review Coordination Unit**.

3.0 Description of Livestock Operation

Operation legal name, if other than the owner's name:

Rocky Ridge Dairy

Operation location (project site): NE 12-05-05E

Rural Municipality (RM) of Hanover

Legal description: section, township, range or river lot(s)

NE 12-05-05E

Manitoba Premises Identification Number: MB1026719

Municipal tax roll number(s): 201900

Show the location of the operation (project site) on a location map. (See **Location Map** for example).

[X] Location Map attached

4.0 Nature of Project

☐ **New operation**

☒ **Expansion of existing operation**

State if any existing buildings will be replaced or demolished. If existing buildings will be reused or expanded, state how they will be reused or expanded.

A new free stall dairy barn will be added. No buildings will be demolished.

5.0 Proposed Type and Size of Operation

State the proposed type and size of the operation. (See **Animal Units Calculation Table**.)

Type of operation (Column B from Animal Units Calculation Table)	**Existing number of animals** (Column C from Animal Units Calculation Table)	**Total Animal Units** (Column F from Animal Units Calculation Table)
Mature cows (lactating)	current 145 mature cows	290 animal units
plus associated livestock	proposed 245 mature cows	490 animal units

☒ Animal Units Calculation Table attached

6.0 Animal Confinement Facilities

Outdoor Confined Livestock Area N/A

To ensure that it can be built in a way that the environment is protected, a permit is required for construction and expansion of **confined livestock areas** for operations with 300 Animal Units or more. Permits are required by the **Livestock Manure and Mortalities Management Regulation** (MR 42/98), under *The Environment Act*.

Confined Livestock Area: ☐ outdoor seasonal feeding area ☐ feedlot ☒ not applicable

Indoor Barn/Animal Housing

Indoor Animal Housing: ☒ barn ☐ other (describe) _____ ☐ not applicable

A permit under the Livestock Manure and Mortalities Management Regulation is not required for an indoor housing area or barn unless there is a manure storage facility within the building (an under barn storage capable of storing manure for 30 days or more).

Show all existing, proposed buildings and additions to existing buildings on the project site plan. See **Project Site Plan example** and the Project ***Site Plan Guide*** for help creating your site plan.

[X] Project Site Plan attached

7.0 Environmental Farm Planning
Environmental farm planning is a voluntary, confidential self-assessment process designed to help farm managers identify the environmental strengths and weaknesses of their operations.

Do you have an **Environmental Farm Plan** [x] yes [ ] no

If so, is it current (completed within past 5 years) [x] yes [ ] no

8.0 Water

Project Sites Unsuitable for Development

To protect water quality, the **Nutrient Management Regulation** (MR 62/2008), under *The Water Protection Act*, prohibits the set up or expansion of nutrient generating facilities in Nutrient Management Zone 4 (Agriculture Capability Class 6, 7 and unimproved organic soils) and Nutrient Buffer Zones. Nutrient generating facilities include barns, confined livestock areas and manure storage facilities.

Nutrient Buffer Zone as defined in section 3(3) of the regulation includes areas of land along water bodies such as rivers, lakes, streams and drains.

The proposed indoor housing area, barn, confined livestock area and/or manure storage facility:

will [ ]
will not [x]

be located within Nutrient Management Zone 4 (Class 6, 7 and unimproved organic soils) or any Nutrient Buffer Zone.

Determine the agriculture capability class(es) of the project site, and its limitations. This information is available from Manitoba Agriculture, Food and Rural Development (MAFRD) at 204-945-3869 in Winnipeg. Alternatively, use the following link:
Land Based Calculator.

Water Source
To be sustainable, a livestock operation must have access to a sufficient quantity and quality of water for livestock.

Water source for operation:

☐ pipeline (public)	☐ water co-operative
☒ proposed well	☒ existing well
☐ river	☐ lake
☐ dugout (dimensions : ____ x ___ x ____)	

If using an existing well, provide a copy of the water well log and logs for other wells on the property. Logs can be obtained from Manitoba Conservation and Water Stewardship by calling (204) 945-7418 in Winnipeg; 1-800-214-6497 toll free.

Note: A new well will be drilled on site to accomodate the expansion.

Source Water Analysis Reports

Annual livestock source water monitoring analysis reports must be submitted to Manitoba Conservation and Water Stewardship for any operations of 300 Animal Units or more.

If an existing livestock operation of 300 Animal Units or more, have you submitted an annual source water monitoring report for the current calendar year? [X] yes [ ] no

Will livestock have direct access to surface water (not including dugouts)? [ ] yes [X] no

If yes, identify:
Name of the surface water feature: N/A

List any steps that will be taken to prevent direct access of livestock to the water body.

Livestock will be housed in barns.

Water Requirements

Protecting the interests of domestic users and the environment, in addition to existing licensees, is the intended purpose of the water rights licensing scheme.

In order to protect the sustainability of water sources, all operations using more than 25,000 litres (5,499 imperial gallons) per day must possess a Water Rights Licence required by the Water Rights Regulation (MR 126/87) under *The Water Rights Act.*

For more information on the Water Rights Licensing process, contact the Water Use Licensing Section at (204) 945-3983 in Winnipeg; 1-800-214-6497 toll free.

Water Use
To calculate the total water use, go to the Water Requirement Calculation Table.

Maximum daily use: 36,814 [ ] imperial gallons or [X] litres
Maximum annual use: 13.44 [ ] acre-feet or [X] cubic decameters

[X] Water Requirement Calculation Table attached

Groundwater (Contamination Risk Protection)

Improper storage and handling of manure or mortalities increases the risk of contaminating groundwater. Beneficial management practices (BMP), mitigation measures and requirements for the permit process reduce this risk. Soil testing, manure management planning and proper engineering, along with construction and management of manure storage structures reduce the risk of contaminating groundwater.

Check off the mitigation measures used for the existing components of the operation that may pose a risk of contamination. Also check off any measures that may be used with the proposed components for this expansion, if applicable:

	Existing	Proposed	
Manure is stored in a storage facility built by permit or registered by Manitoba Conservation and Water Stewardship	[X]	[X]	
Storage includes leachate collection	[X]	[X]	
Earthen storage has between 400 and 500 days storage	[ ]	[ ]	N/A - using steel tank
Steel/concrete tank has between 250 and 500 days storage	[ ]	[X]	
Manure storage facility meets required setbacks	[X]	[X]	
Field storage (solid manure) locations are changed annually	[ ]	[ ]	N/A
Field storage meets required setbacks	[ ]	[ ]	N/A
All application fields are soil tested annually for nitrate-N and Olsen phosphorus	[X]	[X]	
All manure is applied according to a manure management plan	[X]	[X]	
Licensed commercial manure applicator is used to apply manure	[ ]	[ ]	Applied by owner
Abandoned wells have been properly sealed	[ ]	[ ]	None exist

Other:
Currently a steel glass lined 123' x 14' storage tank exists on site.
A additional new 134' x 20' tank is proposed.

Building in Flood Areas

The **Livestock Manure and Mortalities Management Regulation** prohibits an operator from putting a manure storage facility within the boundaries of the 100-year flood plain elevation. **Manure storage facilities** that are constructed with protection for a flood-water level at least 0.6 meters higher than the 100-year flood water level are exempt.

The **Designated Flood Area Regulation** under *The Water Resources Administration Act* requires a Designated Flood Area Permit before a proposed structure (such as a barn) can be built within a Designated Flood Area.

The flood protection level for structures located within a Designated Flood Area is the site specific design flood level plus freeboard, as provided by the Hydraulic Forecasting Branch of Manitoba Infrastructure and Transportation. Contact the Hydrologic Forecasting Branch at (204) 945-2121 in Winnipeg; 1-800-214-6497 toll free.

The proposed site:
is [ ] is not [X]

located in a Designated Flood Area: **Red River Valley Designated Flood Area** or **Lower Red River Designated Flood Area**

Note: At the time a permit is issued, verification is needed to ensure any proposed structure(s) are located within the 100-year flood plain elevation; or at an elevation set by Manitoba Infrastructure and Transportation.

Watershed Management Planning
Integrated watershed management planning is a co-operative effort by local residents, stakeholders and governments to create a long term plan to manage water and land-based activities for watersheds.

What are the names of the **watershed** and **sub-watershed** where the livestock operation and the fields identified for manure application are located?

Name of watershed(s): Rat - Marsh River Watershed

Name of sub-watershed(s): Lower Rat River Sub-watershed

Name of **Integrated Watershed Management Plan** for the proposed project site, if applicable: Rat River IWMP

For more on Integrated Watershed Management Planning, call Watershed Planning and Programs at (204) 945-7408 in Winnipeg; 1-800-214-6497 toll free.

9.0 Manure

The **Livestock Manure and Mortalities Management Regulation** sets requirements for the use, management and storage of livestock manure in agricultural operations, to ensure it is handled in an environmentally sound manner. For more information on this, call Manitoba Conservation and Water Stewardship at (204) 619-2230 in Winnipeg.

Improper storage, handling and/or land application of manure can contaminate water and/or cause unacceptable odours for neighbours. The following is used to assess the manure management system.

Manure Type
The type of manure generated and used by the operation influences storage, handling and land application options available.

What type(s) of manure will be generated?

☐ solid ☒ semi-solid ☐ liquid

Manure Volume or Weight
Manure production can be estimated using the Manure Production Calculator Table. The sizing of the manure storage is the responsibility of the operator and must be constructed in accordance with the **Livestock Manure and Mortalities Management Regulation**. Design and construction of a manure storage facility is dependent on the type of structure; earthen manure storage facilities must have between 400 and 500 days capacity, a steel or concrete storage tank must have between 250 and 500 days capacity. This ensures the facility has sufficient capacity eliminating the need for winter application.

What will be the total volume or weight of manure generated annually by the livestock operation? (See **Manure Production Calculator Table**.)

liquid volume: 2.23 million Imp gal solid weight: ____

☒ Manure Production Calculator Table attached

Manure Storage Type and Capacity

The type of storage system used will affect the capacity requirements for the manure storage facility or field storage area.

What type of **manure storage facility** will be used by the operation?

☐ under-barn concrete ☐ **earthen manure storage** ☐ concrete tank(s)
☒ steel tank(s) ☐ **field storage** ☐ **molehill**

Provide the dimensions of the existing and/or proposed manure storage facilities, if applicable. (See **Existing and Proposed Manure Storage Facility Dimensions Table**.)

☒ Existing and Proposed Manure Storage Facility Dimensions Table attached

Odour Control Measures (project site)

Barns and manure storage facilities can be significant sources of livestock odours. The use of manure storage covers and shelterbelts can reduce this, particularly for neighbours in the vicinity of the operation.

What odour control measures are you planning to use?

Manure storage cover: ☐ yes ☒ no

Type of cover: _____

Shelterbelt planting: ☐ yes ☐ no ☒ existing shelterbelt

Other measures (specify): _____

Manure Treatment

Under *The Environment Act*, the director must not issue a permit for the modification, expansion, or construction of a manure storage facility accommodating an increase in the number of animal units for pigs, unless the manure is treated using anaerobic digestion or another environmentally sound treatment that is similar to or better than anaerobic digestion, according to Manitoba Conservation and Water Stewardship.

Does your proposal include anaerobic digestion or another environmentally sound treatment for manure?

☐ yes ☒ no ☐ not applicable

If yes, please describe _____

Manure Application Method

The **Livestock Manure and Mortalities Management Regulation** requires the registration of annual manure management plans for new or expanding operations with 300 Animal Units or more.

Does the operation currently file an annual **Manure Management Plan** with Manitoba Conservation and Water Stewardship? (For operations with 300 Animal Units or more, only)

☒ yes ☐ no

Manure application methods and the season in which manure is applied affect odour, nutrient availability, crop response, land base requirements and the risk of water contamination.

Proposed application method:

☒ broadcast ☒ broadcast and incorporation within 48 hours ☐ injection

The **Livestock Manure and Mortalities Management Regulation** prohibits the application of manure from November 10 of one year to April 10 of the following year (winter application).

Time of year for application: ☐ spring ☐ summer ☒ fall

The **Livestock Manure and Mortalities Management Regulation** puts restrictions on fall application of manure in the Red River Valley Special Management Area.

The proposed spread fields:

are ☐

are not ☒

in the **Red River Valley Special Management Area**.

Land Available for Manure Application

The land available for manure application includes all suitable land (owned, leased or under agreement) that is available to the operation for manure application.

Under the **Livestock Manure and Mortalities Management Regulation** and the **Nutrient Management Regulation**, application of nutrients is not permitted on Agriculture Capability Class 6, 7 and unimproved organic soils (Nutrient Management Zone 4) and within Nutrient Buffer Zones.

Areas of a field that are Class 6, 7, unimproved organic soils (Nutrient Management Zone 4) or areas within the nutrient buffer zones are considered unsuitable for manure application. In addition, fields with 60 parts per million (ppm) Olsen phosphorus (P) in the top six inches (15 centimetres) of soil cannot be included in the land base calculation.

Nutrients cannot be applied within the Nutrient Buffer Zones as outlined in the Nutrient Management Regulation (62/2008) and illustrated in the **Setback Requirements From Water Features Table**.

Has the setback area for all water features been observed and excluded from land base calculations for this operation?

☒ yes ☐ no

Use the **Manure Application Field Characteristics Table** to determine the following:

Total suitable area available for manure application	844 acres

☒ Manure Application Field Characteristics Table attached

Copies of **soil test reports** that are no more than 12 months old must also be included with this submission.

☒ Soil test reports for the required area for manure application attached.

Land Required for Manure Application

Long term, land base requirements for manure application are calculated based on estimates of the quantity of nutrients (nitrogen and phosphorus) excreted by livestock and the removal of nutrients by the proposed crops.

Phosphorus

The quantity of phosphorus excreted by the livestock depends on the type, number and size of livestock, the quantity and availablility of phosphorus fed to the livestock and the amount retained by the livestock.

The removal of phosphorus by crops depends on the crops grown and the historical crop yield averages. (See the **Crop Rotation Table**).

The **Livestock Manure and Mortalities Management Regulation** requires that "sufficient land is available to the operator to implement an appropriate manure management plan" before Manitoba Conservation and Water Stewardship will issue a permit for a manure storage facility.

"*Certain Areas*" are defined by the **Livestock Manure and Mortalities Management Regulation** (M.R. 42/98) as areas where the amount of phosphorus in the manure produced annually by livestock in an area of not less than 93.24 km^2 is greater than two times the annual crop removal rate of P_2O_5 in that area. Currently the rural municipalities of Hanover and La Broquerie are considered to be "*certain areas*".

A livestock operation is considered to be located within a "*certain area*" if any part of the operation is located within the "*certain area*". This may include, but not limited to, barn(s), confined livestock area(s), field storage location(s), manure storage facility(ies), and/or spread filed(s).

In "*certain areas*" it is Manitoba Conservation and Water Stewardship policy to consider a manure storage facility permit if the operation shows it has access to sufficient suitable land to apply manure at a rate equivalent to one times the crop removal rate of phosphorus.

Is the livestock operation located in "*certain areas*"?

☒ yes ☐ no

In areas which are not considered to be "*certain areas*", Manitoba Conservation and Water Stewardship may issue a manure storage facility permit, if the operation shows it has access to sufficient suitable land to apply manure at a rate equivalent to two times the crop removal rate of phosphorus.

For more information on obtaining a manure storage facility permit, please contact Manitoba Conservation and Water Stewardship, Environmental Approvals branch at (204) 945-5081.

Use the **Land Base Calculator** to calculate the minimum area required for manure application.

Total minimum area required for manure application at two times crop removal, for operations outside of Hanover and La Broquerie	N/A
Total minimum area required for manure application at one times crop removal, for operations within Hanover and La Broquerie AND For the long-term sustainability of operations outside of Hanover and La Broquerie	843 acres

For more information on completing land base calculations, call Manitoba Agriculture, Food and Rural Initiatives (MAFRI) at (204) 945-3869 in Winnipeg.

☒ Land Base Calculator attached

Land Base Requirement Summary

By comparing the land **available** for manure application with the land **required** for manure application, state whether sufficient suitable land for manure application:

☐ has not been identified

☐ has been identified for two times the crop removal rate of phosphorus (for operations outside of the RMs of Hanover or La Broquerie)

☒ has been identified for one times the crop removal rate of phosphorus (for operations within the RMs of Hanover and La Broquerie)

Long-Term Environmental Sustainability

The Government of Manitoba has included phosphorus as a nutrient by which applications of manure, synthetic fertilizer and municipal waste sludge to agricultural lands may be limited.

Over the short-term for fields with low phosphorus, regulations allow manure to be applied to meet the nitrogen requirements of the crop. This often results in over-application of phosphorus and a build-up of phosphorus in soils. When soil test phosphorus levels reach 60 ppm Olsen P, manure application rates must consider how much phosphorus will be removed in the harvested portion of the crop. At 60 to 119 ppm Olsen P, the amount of phosphorus that can be applied cannot exceed twice (two times) what the crop can remove in order to slow the build-up of soil phosphorus. Once soil test phosphorus levels reach 120 ppm Olsen P, applications of phosphorus are restricted to no more than what the crop can remove (one times) in order to stop further soil test phosphorus build-up. At 180 ppm Olsen P, no additional phosphorus may be applied.

It should be noted that soil-test phosphorus levels of 60 ppm Olsen P or greater are agronomically very high and at these levels most crops will not benefit from additional phosphorus beyond starter phosphorus. As phosphorus levels build up in soils, the concentration of phosphorus in runoff increases.

Therefore, to remain environmentally sustainable over a long-term planning horizon of 25 years or more, phosphorus applications from applied manure and other nutrient sources such as commercial fertilizers must be balanced with crop removal to avoid further build-up in soils. Consequently, sufficient land must be available in relatively close proximity to the operation to balance phosphorus applications with crop phosphorus removals (one times) so that manure treatment and export of phosphorus from the region is not required.

[X] I acknowledge that up to 843 acres/hectares (one times crop removal from table above) may be required for the long term environmental sustainability of the operation.

10.0 Mortalities (Dead Animal) Disposal

The **Livestock Manure and Mortalities Management Regulation** sets requirements for the use, management and storage of livestock mortalities in agricultural operations. It helps ensure livestock mortalities are handled in an environmentally sound manner. Winter application of composted mortalities is prohibited.

Type of disposal:
- ☐ rendering
- ☒ composting
- ☐ incineration (in approved incinerator only)

Mass Mortalities

☒ A plan for **mass mortalities** is in place.

What steps will be taken in the case of mass mortalities?

We intend to work with Manitoba Conservation if a catostrophic event takes place. Disposal will be by burial if suitable soils exist otherwise mortalities will be hauled to the Brady Road Landfill.

11.0 Project Site Description: Land Use Planning Considerations

For assistance contact your **Community and Regional Planning Regional Office**.

Development Plan and Zoning Bylaw

The Planning District or Municipal Development Plan and Zoning By-law adopted under ***The Planning Act,*** set policy and regulations for the use and development of land. A proposed livestock operation must comply with the requirements of this bylaw. In the absence of a By-law, the **Provincial Planning Regulation** under ***The Planning Act*** applies.

Development Plan

Every Development Plan must contain a livestock operation policy (LOP) that identifies areas where new or expanded livestock operations may be allowed. It must also set general standards for the location and setback of livestock operations. Identifying the Development Plan's land use designation and policies (for the planning district or municipality that affect the site) will help confirm the project site's compliance. The Development Plan designations for the spread fields (if something other than agricultural) will indicate the potential loss of the fields in the future due to possible development.

Name of Planning District	Hanover Municipality
Development Plan by-law number	#2170, #2171
Land use designation of project site	Rural
Livestock operation policies – quote supportive policy numbers	3.3
Other Development Plan policies – quote supportive policy numbers	Part 3 Rural Zones
Non-supportive Development Plan policies	

☒ The Development Plan livestock operation policies support the size and location of the proposed operation.

☒ The Development Plan designations support the long term use of the proposed spread fields.

Zoning By-law

Identifying the zoning for the project site, the proposed spread fields and the related zoning provisions, helps determine the project's compliance and the minimum separation distances needed between the operation and property boundaries and other natural features and land uses. The zoning bylaw contains specific regulations that govern location and setback of livestock operations.

What are the minimum project site requirements stated in the Zoning By-law?

	Project site dimensions	Minimum zoning bylaw site requirements
Minimum site area	160 acres	160 acres
Minimum site width	2640 ft	1000 ft
Minimum front yard	greater than 470 ft	164 ft
Minimum side and rear yard	greater than 1200 ft	164 ft

If any project (front, side or rear) yard site dimensions are less than the Zoning By-law minimum, a Variation Order from the Municipality will be required.

Separation Distances (Zoning Bylaw or Provincial Planning Regulation)
Using the proposed size of the operation (see **Animal Units Calculation Table**) and the type of animal housing and manure storage facility, complete the following table.

Indicate the distance from:

a. earthen manure storage facility or b. feedlot and
c. animal confinement facility or d. non-earthen manure storage facility…

…to the following land use features (if applicable)	**Indicate minimum separation distance required in the zoning bylaw or Provincial Planning Regulation (Check appropriate box(es)**		**If land use feature is less than the minimum separation distance**	
	☐ a. ☐ b.	☒ c. ☒ d.	Provide actual distance	Provide location or name of feature (e.g. Red River)
Residence/ dwelling		820 ft	approx 950 ft	Leroy Driedger (vacant) SW 18-5-6E
Designated area (non-agricultural)		4364 ft	approx 2.7 mi	Grunthal
Surface water		n/a	1.6 mi (2.7 km)	Joubert Creek
Surface watercourse		n/a	470 ft	1st order drain along Rd 30E
Crown land		n/a	approx 3 mi	
Wildlife Management Area		n/a	approx 5 mi	St Malo Wildlife Management area
Livestock operation		n/a	approx 2640 ft	Michael Jansen NW12-5-5E
Other significant features/land uses		n/a	approx 10.6 km approx 14.1 km approx 15.5 km	St Malo Prov Park St Malo WMA approx Rat River WMA approx

If Crown Lands are located within one mile, provide coding. Information can be obtained from the Interdepartmental Operations Crown Lands Plans through the **Manitoba Legislative Library** or contact Manitoba Conservation and Water Stewardship at (204) 619-2230.

If undesignated Crown Lands will be used for manure spreading purposes, including the laying of pipe or clearing activity, and use will require a Crown Lands General Permit disposition for the use and access of the subject Crown Lands Parcel(s).

In cases where minimum separation distances are not stated in the Zoning By-law or Development Plan, the minimum separation distances in the **Provincial Planning Regulation** apply.

Note: If any separation distance is less than the zoning by-law minimum, a Variation Order will be required from the Municipality.

Setback Distances (Livestock Manure and Mortalities Management Regulation)
Using the following table to indicate the distance from:

Feature	Structure	Minimum setback distance required	Provide actual distance (m)	Provide location or name of feature (e.g. Red River)
Surface watercourse, sinkhole, spring, or well	Manure storage facility	100 m	> 292 m	to 1st order drain along Rd 30E
	Field storage	100 m	N/A	No field storage used
	Composing site	100 m	> 330 m	to 1st order drain along Rd 30E(east property line)
	Confined livestock area	100 m	> 227 m	to 1st order drain along Rd 30E
Property Line	Manure storage facility	100 m	> 292 m	to east property line
	Composing site	100 m	> 330 m	to east property line
	Confined livestock area	100 m	> 227 m	to east property line

If any setback distances have not been met, please provide explanation below:

_____

_____

_____

Show: a) location of the project site, location and ownership of spread fields and b) land uses and significant features including dwellings (i) within a 1 mile radius of the project site and (ii) within and adjacent to each spread field on a Land Use & Spread Field Map. (See **Land Use & Spread Field Map Example**).

12.0 Truck Haul Routes and Access Points

One consideration with new or expanding livestock operations is the potential impact on existing public roads (municipal and provincial), access and the need for improvements or mitigation. Complete the following table.

Vehicle Type	Estimated Average Number of times per day accessing		Access from PTH/PR onto site will mainly require a Left or Right Hand Turn Please check one				Access onto PTH/PR from site will mainly require a Left or Right Hand Turn Please check one			
	Provincial Trunk Highway (PTH)	Provincial Road (PR)	Provincial Trunk Highway (PTH)		Provincial Road (PR)		Provincial Trunk Highway (PTH)		Provincial Road (PR)	
			LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT
Truck		1				X			X	
Tractor Trailer		1				X			X	
Other – Specify silage harvest		>10				X			X	

Identify what roads and access points will be used for the proposed operation? (See **Truck Haul Routes and Access Points Map** for an example).

For help with mapping, contact your **Community and Regional Planning Regional Office**.

☒ Truck Haul Routes and Access Points Map attached

13.0 Conservation Data Centre Report

A Conservation Data Centre Report must be requested and the response attached to this site assessment. The request may be submitted electronically at:
www.gov.mb.ca/conservation/cdc

Were rare species identified in the Conservation Data Centre Report?

☐ Yes
☒ No

14.0 Supporting Documents

Check off the supporting documents included in this submission:

- [x] Contact Information and Privacy and Publication Notice
- [x] Location Map (shows proposed project within rural municipality)
- [x] Animal Units Calculation Table
- [x] Water Requirement Calculation Table
- [x] Manure Production Calculator Table
- [x] Existing and Proposed Manure Storage Facility Dimensions Tables (if applicable)
- [x] Manure Application Field Characteristics Table
- [x] Crop Rotation Table
- [x] Recent manure application field soil sample results (Nitrate- N lb/ac at 0-6 and 6-24 inch depths, Phosphorus – ppm at 0-6 inch depth)
- [x] Land Base Calculator
- [x] Project Site Plan (proposed operation showing current and proposed structures)
- [x] Land Use and Spread Field Map (location and ownership of operation, spread fields, location and distance to non-agricultural uses, development plan designation, zoning for project site and spread fields)
- [x] Truck Haul Routes and Access Points Map (with routes and access points on municipal/provincial roads and/or provincial trunk highways)
- [x] Response from the Conservation Data Centre
- [ ] Other, please specify:

_____

_____

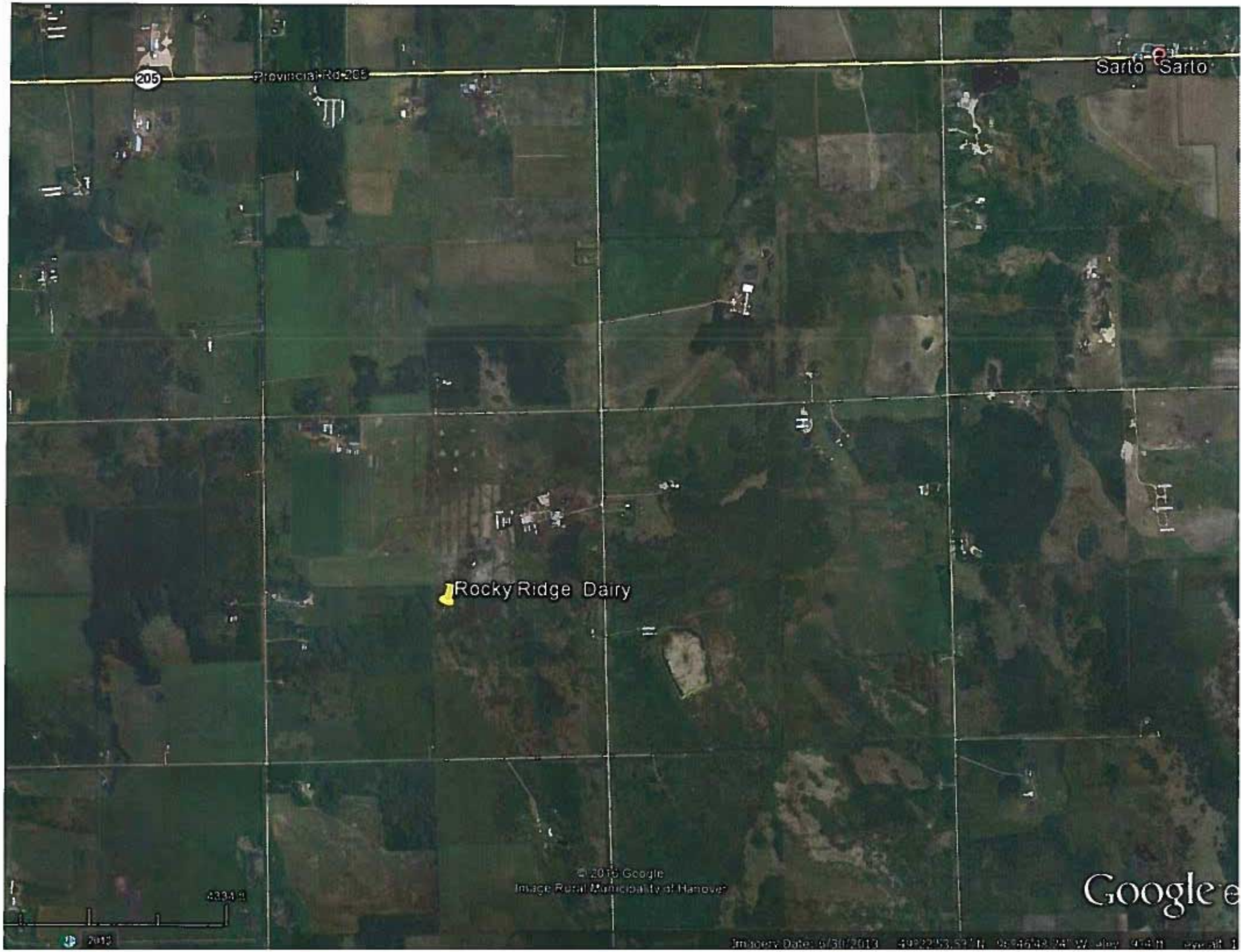
_____

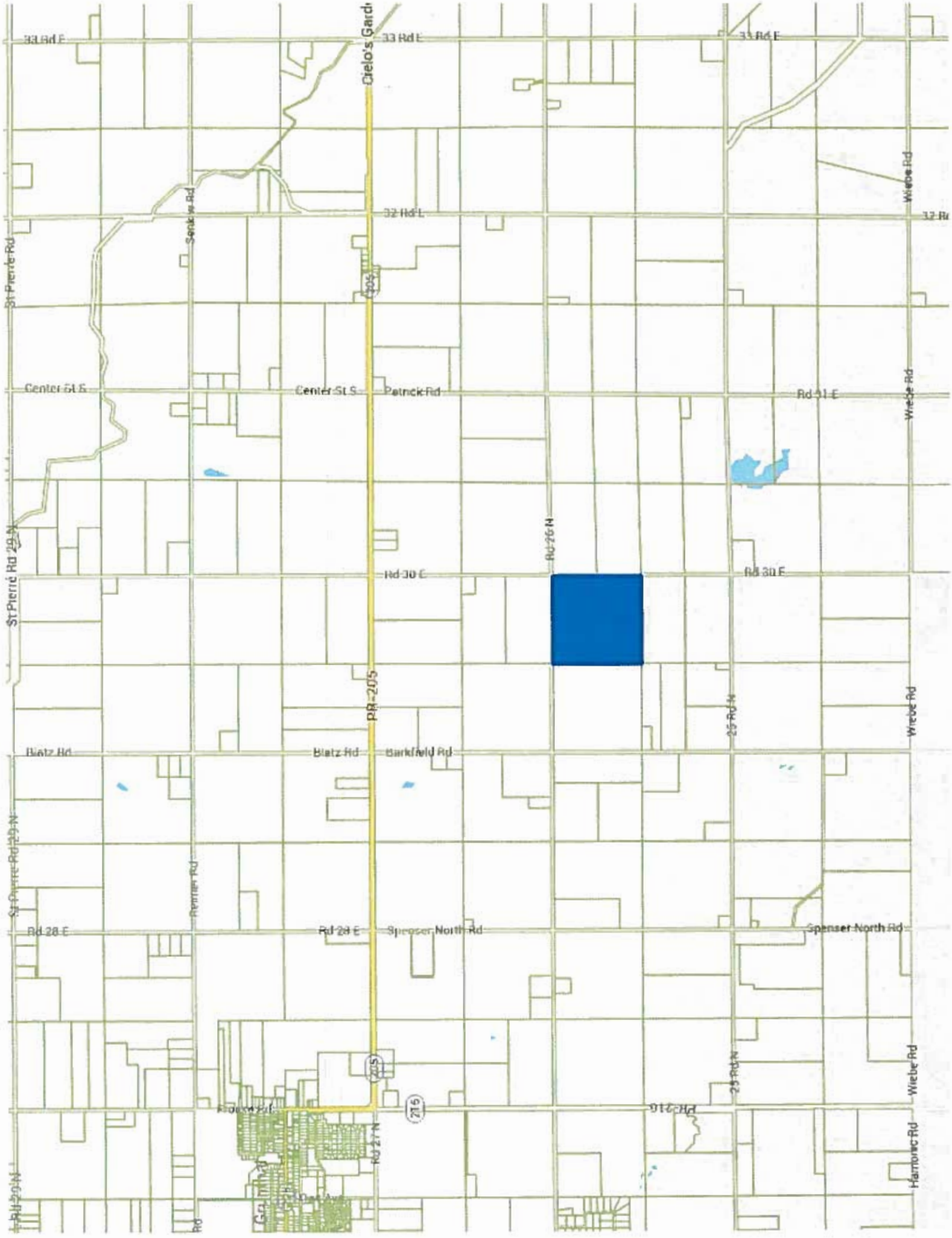
15.0 Declaration

I do hereby verify that the Information contained in the Site Assessment and all required Supporting Documents is accurate and complete to my knowledge

Date: 08/07/2016

Signature: 


205
Provincial Rd 205
Sarto
Sarto
Rocky Ridge Dairy
© 2015 Google
Image Rural Municipality of Hanover
Google


33 Rd E
Cielo's Gard
33 Rd E
33 Rd E
Senkow Rd
32 Rd E
Wiebe Rd
St Pierre Rd
Center St E
Center St S
Petnick Rd
Rd 31 E
Wiebe Rd
St Pierre Rd 29 N
Rd 26 N
Rd 30 E
Rd 30 E
PR-205
25 Rd N
Wiebe Rd
Blatz Rd
Blatz Rd
Barkfield Rd
St Pierre Rd 29 N
Renner Rd
Rd 28 E
Rd 28 E
Spenser North Rd
Spenser North Rd
205
25 Rd N
Wiebe Rd
216
PR 216
Rd 27 N
Harmonie Rd
Rd 29 N

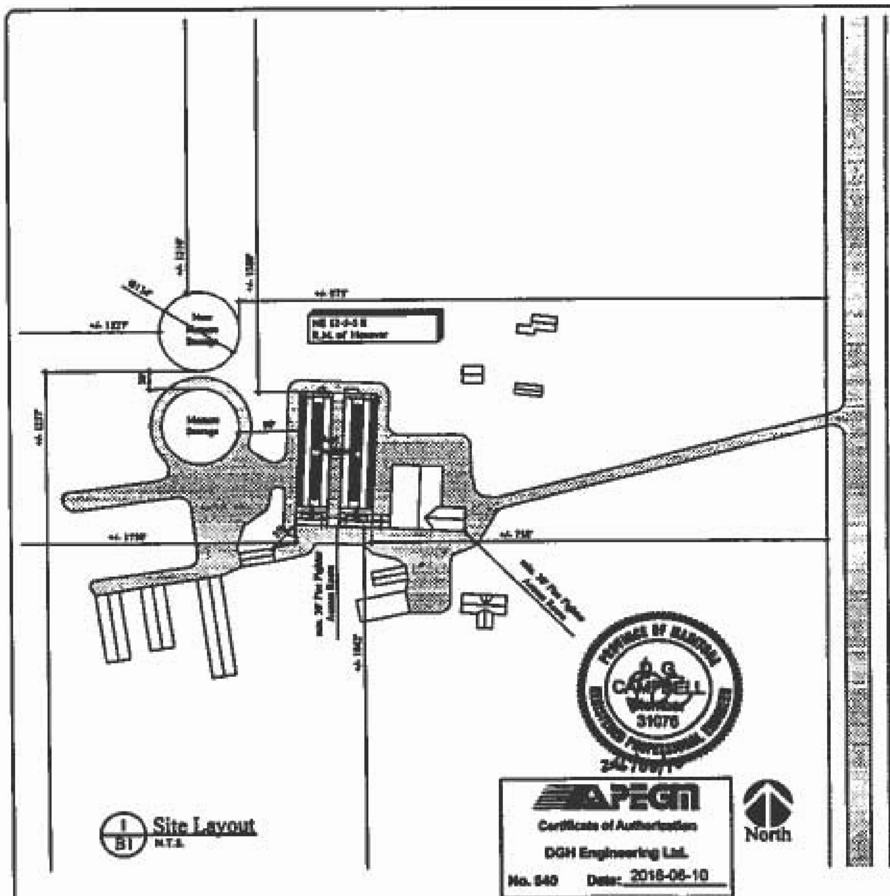
Animal Units Calculation Table

A	B	C	D	E	F	G
Animal Type	Type of Operation	Existing Number of Animals	Proposed Additional Number of Animals	Animal Units per Head	Total Animal Units	Annual Confinement Period (Days)
Dairy [1]	Mature cows (lactating and dry) including associated livestock	145	100	2	490.00	
	Mature cows (lactating and dry)			1.35	-	
	Heifers (0 to 3 months)			0.16	-	
	Heifers (4 to 13 months)			0.41	-	
	Heifers (> 13 months)			0.87	-	
	Bulls			1.35	-	
	Veal calves			0.13	-	
Beef	Beef cows including associated livestock			1.25	-	
	Backgrounder			0.5	-	
	Summer pasture / replacement heifers			0.625	-	
	Feeder cattle			0.769	-	
Pigs	Sows - farrow to finish (234-254 lbs)			1.25	-	
	Sows - farrow to weanling (up to 11 lbs)			0.25	-	
	Sows - farrow to nursery (51 lbs)			0.313	-	
	Boars (artificial insemination units)			0.2	-	
	Weanlings, Nursery (11-51 lbs)			0.033		
	Growers / Finishers (51-249 lbs)			0.143	-	
Chickens	Broilers			0.005	-	
	Roasters			0.01	-	
	Layers			0.0083	-	
	Pullets			0.0033	-	
	Broiler breeder pullets			0.0033	-	
	Broiler breeder hens			0.01	-	
Turkeys	Broilers			0.01	-	
	Heavy Toms			0.02	-	
	Heavy Hens			0.01	-	
Horses	Mares			1.333	-	
Sheep	Ewes			0.2	-	
	Feeder lambs			0.063	-	
Other Livestock	Type:				-	
	Type:				-	
				Total AUs	490.00	

Footnotes:

[1] There are 2 methods for calculating animal units for dairy (Farm Practices Guidelines for Dairy Producers in Manitoba, 1995). You can enter the total number of mature cows in the milking herd under the "Mature cows (lactating and dry) including associated livestock" category and the animal units will be calculated by multiplying this number by 2. This calculation assumes 85 lactating, 15 dry, 12 heifers (0 to 3 months), 36 heifers (4 to 13 months) and 50 heifers (> 13 months) for an operation with 100 mature cows. "Associated livestock" includes all of the heifer calves and replacement heifers. Alternatively, you can enter animal numbers in the individual categories (mature cows, heifers (0 to 3 months), heifers (4 to 13 months) and heifers (> 13 months)) and they will be summed at the bottom of the table. Bulls and veal calves are always calculated separately.

For all other livestock or operation types please inquire with your
Manitoba Agriculture, Food and Rural Initiatives GO office to determine the animal units per head.
www.gov.mb.ca/agriculture/contact/agoffices.html



NOTES CONCERNING BUILDING LOCATION:

1. THIS SITE PLAN IS BASED ON INFORMATION PROVIDED BY THE OWNER, AND NOT ON A SURVEY OR ACTUAL SITE MEASUREMENTS. DGH ENGINEERING IS TO BE ADVISED BEFORE START OF CONSTRUCTION OF ANY UN-SHOWN FEATURES ON THIS OR THE ADJACENT SITES THAT MIGHT IMPACT ON THE PROJECT EITHER DURING CONSTRUCTION OR DURING FUTURE USE.
2. THE 'NORTH' ORIENTATION REFERS TO NOMINAL NORTH RATHER THAN TRUE OR MAGNETIC NORTH.
3. ANY DIMENSIONS THAT SHOW THE LOCATION OF EXISTING FEATURES ARE APPROXIMATE ONLY, AND ARE TO BE CONFIRMED BEFORE CONSTRUCTION START AS REQUIRED BY A CERTIFIED MANITOBA LAND SURVEYOR.
4. THE CORNERS OF THE FOUNDATION FOOTPRINT ARE TO BE LOCATED ON SITE BEFORE CONSTRUCTION START BY A CERTIFIED MANITOBA LAND SURVEYOR.
5. IF CERTIFICATION TO CODE IS TO BE PROVIDED BY DGH ENGINEERING, THEN A BUILDING LOCATION CERTIFICATE AND A ZONING MEMO ARE TO BE SUBMITTED TO DGH ENGINEERING ALONG WITH THE REQUEST FOR CERTIFICATION.
6. ALL TOPSOIL IS TO BE REMOVED FROM THE BUILDING FOOTPRINT AND USED FOR RE-GRADING OR STOCK PILED ON SITE.
7. THE TOP OF THE CONCRETE FLOOR SLAB IS TO BE SET AT LEAST 12 INCHES HIGHER THAN THE CROWN OF THE ROAD AT THE VEHICLE ACCESS.
8. THE FINISHED GRADE IS TO SLOPE AWAY FROM THE BUILDING ON ALL SIDES, AT A MINIMUM SLOPE OF 1 IN 12, TO MEET THE EXISTING GRADE.
9. SITE GRADING IS TO BE FINISHED TO ENSURE THAT SURFACE RUN-OFF WILL DRAIN NEITHER ONTO THE ADJACENT PROPERTIES NOR ONTO THE ADJACENT STREETS.

NOTES CONCERNING FIREFIGHTER ACCESS ROUTE:

A PORTION OF ROADWAY OR YARD PROVIDED AS A REQUIRED ACCESS ROUTE FOR FIRE DEPARTMENT USE SHALL:

- HAVE A CLEAR WIDTH OF NOT LESS THAN 6 M (19'9").
- HAVE A CENTRELINE RADIUS NOT LESS THAN 12 M (39'7").
- HAVE AN OVERHEAD CLEARANCE NOT LESS THAN 5 M (16'5").
- HAVE A CHANGE OF GRADIENT NOT MORE THAN 1 IN 12.5 OVER A MINIMUM DISTANCE OF 15 M (49'3").
- BE CONSTRUCTED TO SUPPORT TYPICAL FARM AND FIREFIGHTING EQUIPMENT AND BE SURFACED WITH COMPACTED GRANULAR MATERIAL TO PERMIT ACCESS IN ALL CLIMATIC CONDITIONS,
- HAVE TURNAROUND FACILITIES FOR ANY DEAD-END PORTION OF THE ACCESS ROUTE MORE THAN 90 M (295'3") LONG, AND
- BE CONNECTED WITH A PUBLIC ROAD

Construction

Rock Ridge Dairy

Siteplan

B1

Google e
© 2013 Google
Image Rural Municipality of Hanover
335 ft

Dairy Barn Water Requirement Estimator*

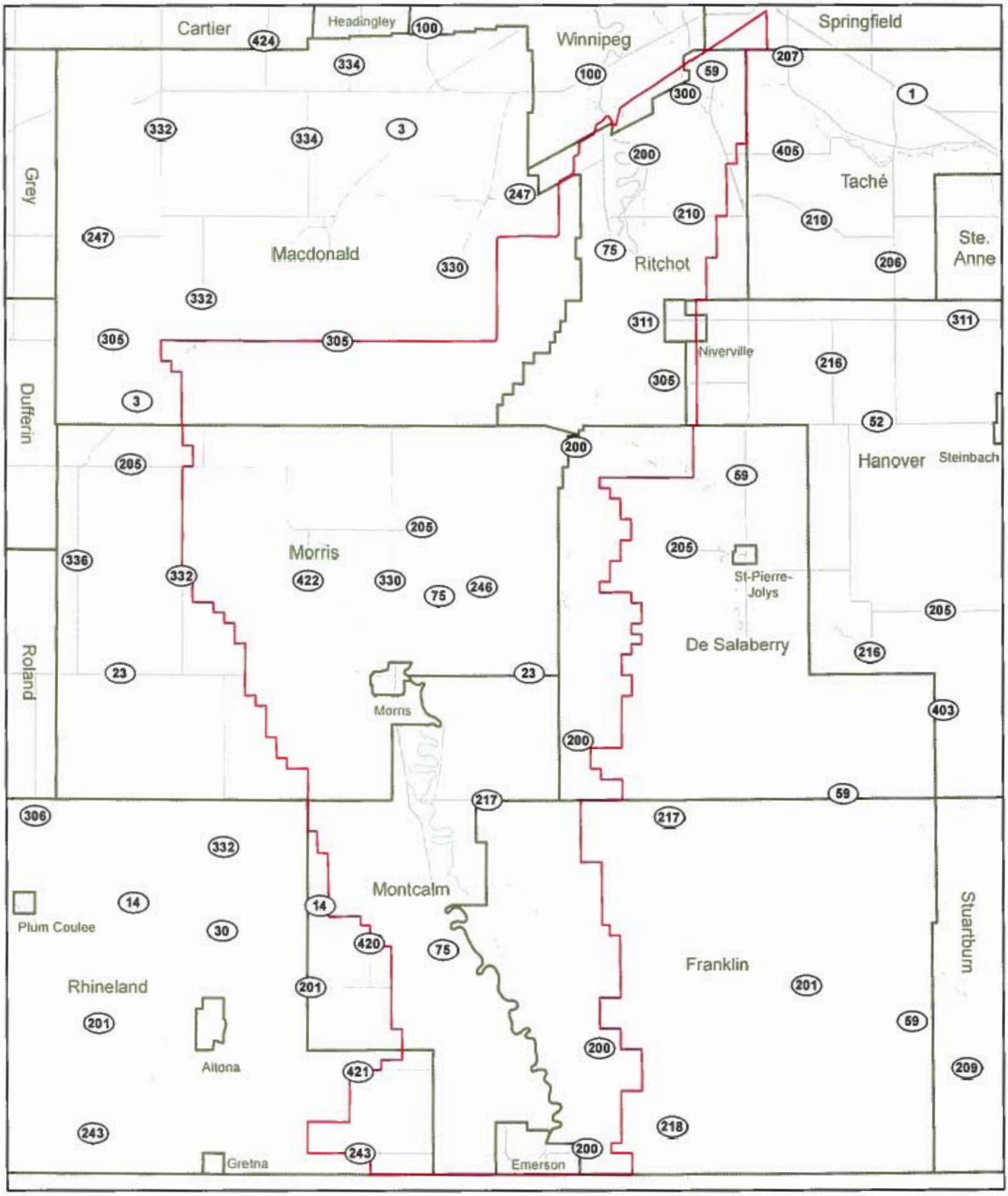
Enter the following farm data:

Number of lactating/milking cows**	207
Average milk production (litres)	35
Parlor or tie stall (P/TS)	P
Collection yard if free stall (Y/N)	N
Plate cooler (Y/N)	N
Milkings per day	2
Plate cooler water reused? (Y/N)	N

Total water needs estimate per day:	
Litres	36814
Imperial gallons	8109
Cubic decametres	0.04

Total water needs estimate per year:	
Litres	13437128
Imperial gallons	2959720
Cubic decametres	13.44

*Calculations are based on Manitoba AVERAGES for
- Feed composition

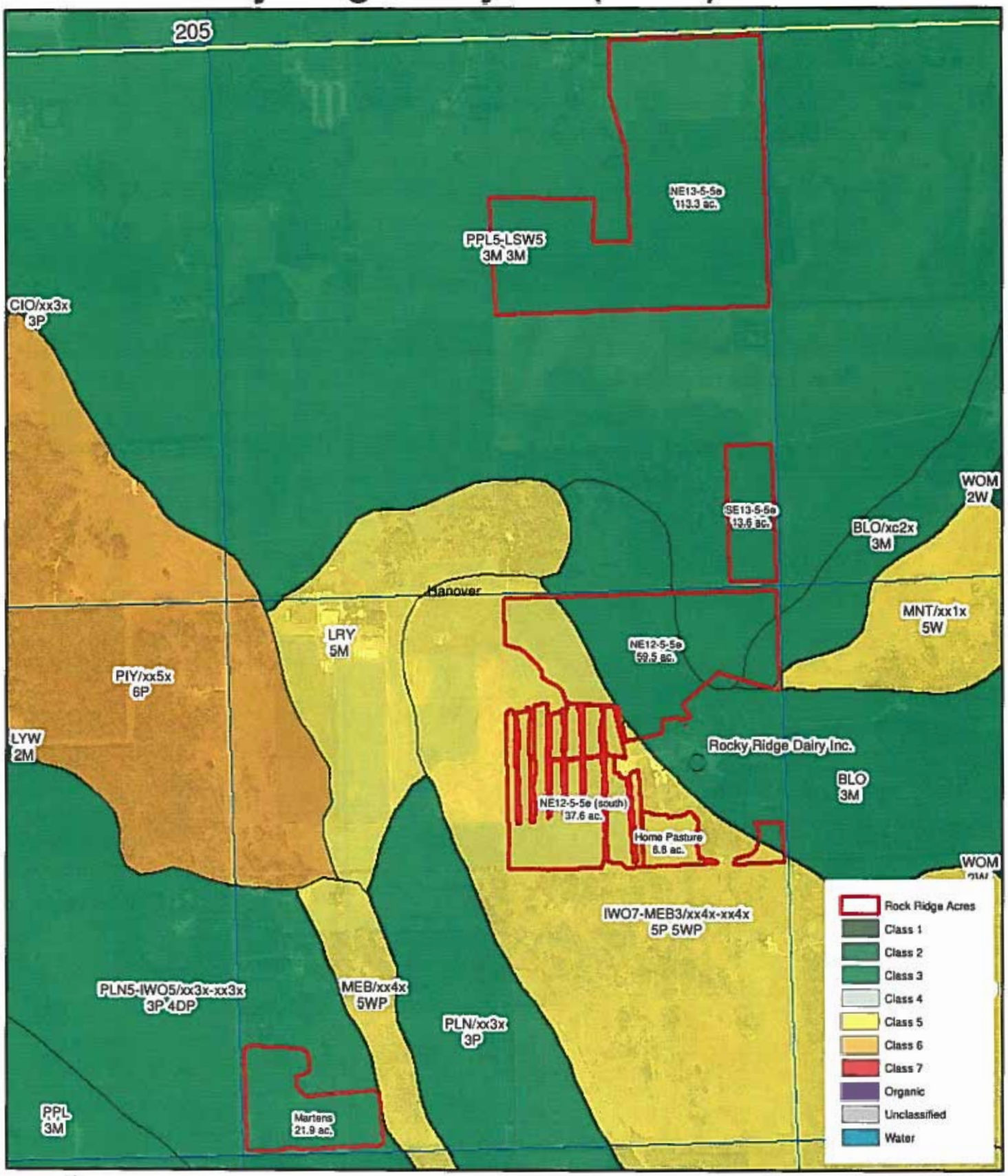


Municipal Boundaries
Provincial Roadways
Designated Flood Area

Red River Designated Flood Area

Manitoba
Dept. of Local Government

Rocky Ridge Dairy Inc. (North) Soils

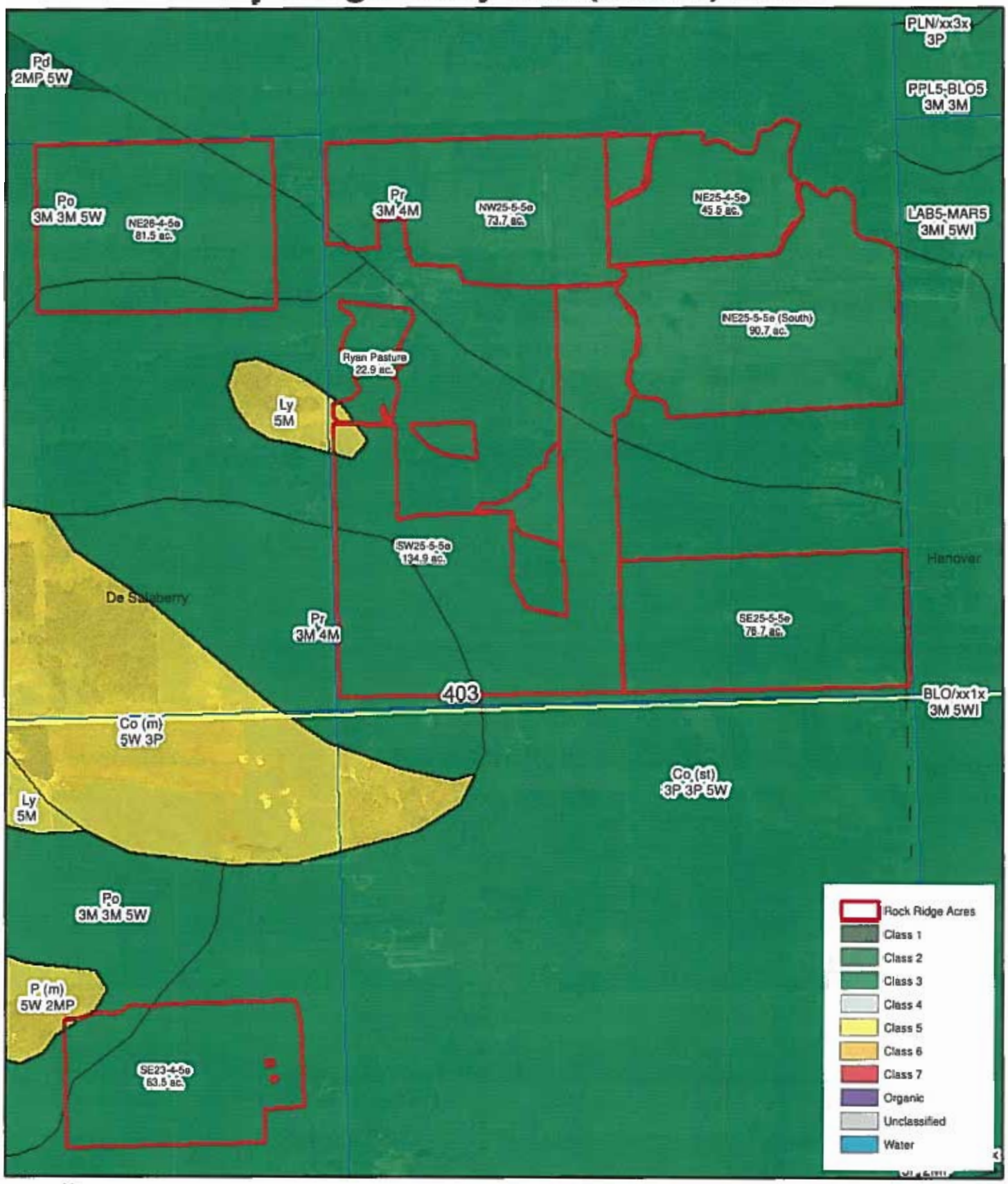


N
W E
S

0 0.15 0.3 0.6 0.9 Miles

AGRA - GOLD Consulting Ltd.

Rocky Ridge Dairy Inc. (South) Soils



N
W E
S

0 0.15 0.3 0.6 0.9 Miles

AGRA - GOLD Consulting Ltd.

RAT-MARSH RIVER WATERSHED

The Rat-Marsh River Watershed is located in southeastern Manitoba. The two main rivers in the watershed are the Rat River and Marsh River. The Rat River begins in the Sandilands Provincial Forest near the town of Carrick and flows west and northwest to the downstream confluence with the Red River about three kilometres north of Ste Agathe. The two main tributaries of the Rat River are Joubert Creek and Sand River. The Marsh River begins approximately fifteen kilometres southeast of Morris and flows north through the Red River Valley joining the Rat River near Ste Agathe.

The Rat-Marsh River Watershed has a drainage area of approximately 2,180 square kilometres (1,080 square miles) with over 850 kilometres (528 miles) of waterways. The watershed includes land in the municipalities of De Salaberry, Stuartburn, Franklin, Morris, Montcalm, Ritchot, Hanover, La Broquerie, and Piney and has a population of approximately 10,000 people. As illustrated in Figure 1, the Rat-Marsh River Watershed is comprised of three sub-watersheds: Upper Rat River sub-watershed, Lower Rat River sub-watershed, and Marsh River sub-watershed.

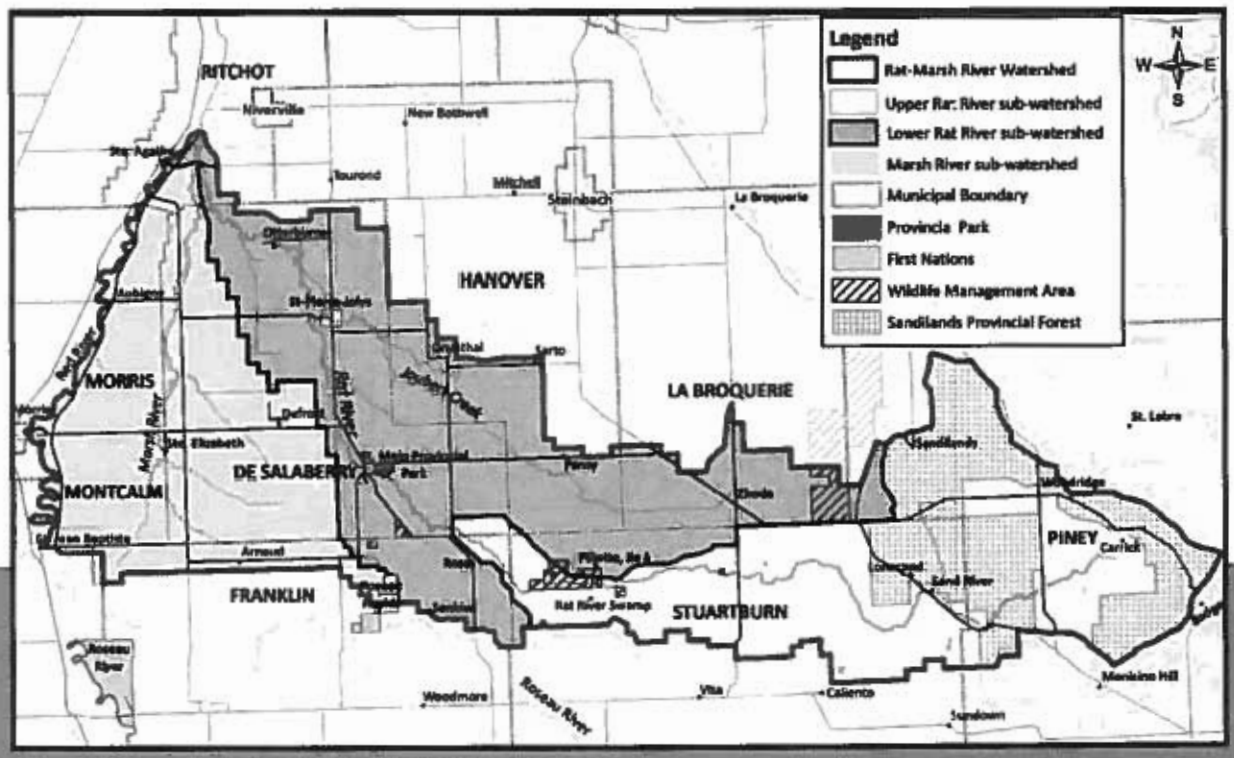
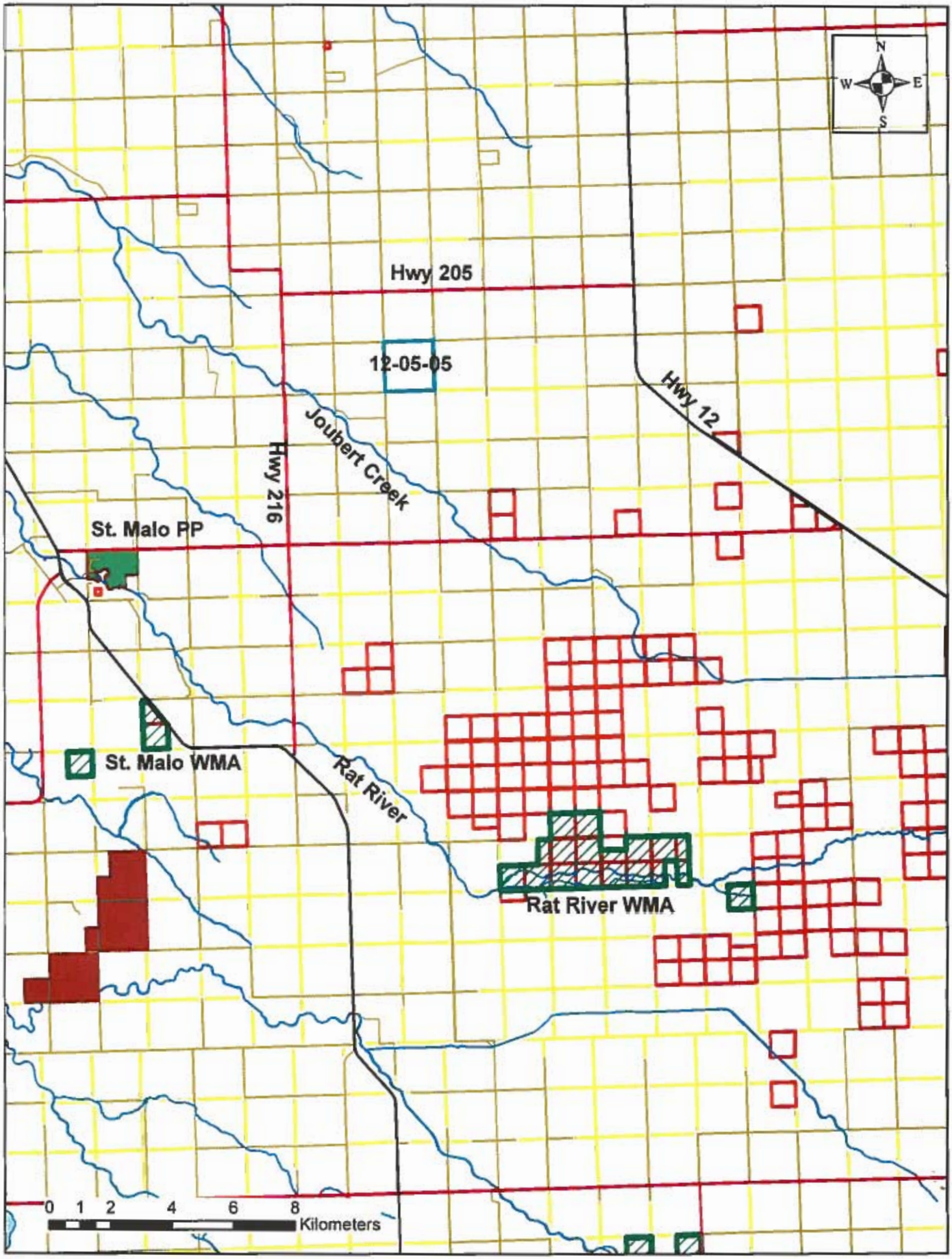


Figure 1: Sub-watersheds in the Rat-Marsh River Watershed


N
W
E
S
Hwy 205
12-05-05
Hwy 12
Joubert Creek
Hwy 216
St. Malo PP
St. Malo WMA
Rat River
Rat River WMA
0 1 2 4 6 8
Kilometers

Animal Type (A)	Animal Sub-type (B)	Daily Manure Production				Production Period [2] (Days) (G)	Number of Animals [3] (Capacity) (H)	Total Manure Volume (ft^3) (FxGxH)	Total Manure Volume for Semi-Solid and Liquid Manure (Imp Gal)
		References (C)	Manure Type (D)	Default Manure Production (ft^3/animal/day) (E)	Operation Manure Production [1] (ft^3/animal/day) (F)				
Dairy (milking cows[4] and associated livestock)	Free Stall	Table 6, pg 59, FPGs for Dairy 1995	Semi-Solid [5]	3.5	4	365	245	357,709.00	2,228.471.0
			Solid	3.4				-	
			Liquid [5]	3.5				-	0.0
	Tie Stall		Semi-Solid [5]	3.6				-	0.0
			Solid	3.5				-	
			Liquid [5]	3.8				-	0.0
	Loose Housing		Solid	3.0				-	
	Milking Parlour Manure and Washwater		Liquid	0.5					
Beef	Beef cows including associated livestock	pg 117, FPGs for Hogs 1998	Solid	1.2				-	
	Backgrounder (200 day)		Solid	0.73				-	
	Summer pasture / replacement heifers		Solid	0.85				-	
	Feeder cattle		Solid	1.1				-	
Pigs	Sows - farrow to finish (234 - 254 lbs)	MAFRI website, FPGs for Pigs 2007	Liquid	2.3				-	0.0
	Sows - farrow to wean (up to 11 lbs)		Liquid	0.8				-	0.0
	Sows - farrow to nursery (51 lbs)		Liquid	1				-	0.0
	Weanlings, Nursery (11 - 51 lbs)		Liquid	0.1				-	0.0
	Grower / Finisher (51 - 249 lbs)		Liquid	0.25				-	0.0

Animal Type	Type of Operation		Yearly Manure Production		Production Period [2] (Days)	Number of Birds [3] (Capacity)	Total Manure Volume (ft^3) (F/365xGxH)	Total Manure Volume for Semi-Solid and Liquid Manure (Imp Gal)
			Default Manure Production (ft^3/year/bird space)	Operation Manure Production [1] (ft^3/year/bird space)				
Chickens	Broilers – floor [6]	Table 3, pg 85, FPGs for Poultry 2000	1.23				-	
	Broiler breeder hens [7]		2.3				-	
	Broiler breeder pullets [8]		0.99				-	
	Roasters – floor [9]		1.18				-	
	Layers – cage [8]		2.33				-	0.0
	Layers – floor [7]		1.68				-	
	Layers – solid pack [9]						-	
	Pullets – cage [8]		0.71				-	0.0
	Pullets – floor [7]		0.75				-	
	Pullets – solid pack [9]						-	
Turkeys	Broilers [6]	Table 3, pg 85, FPGs for Poultry 2000	2.83				-	
	Heavy toms [6]		5.56				-	
	Heavy hens [6]		3.32				-	

Sizing of a manure storage facility in accordance with all requirements of the *Livestock Manure and Mortalities Management Regulation* (M.R. 42/98) is the responsibility of the operator.

Instructions and footnotes:

[1] ENTER the manure production estimate for your operation. If no estimate is available, use the default value provided in colum E. References for default daily and yearly manure production are provided in column C.

[2] ENTER the number of days worth of manure that will be produced. For earthen manure storage facilities the minimum storage requirement is 400 days. For steel and concrete manure storage facilities the minimum storage requirement is 250.

[3] ENTER the total number of animals or birds that the operation can hold (e.g. barn or feedlot capacity)

[4] Milking cows includes all lactating and dry cows

[5] Default manure production estimates for semi-solid and liquid dairy manure include manure and washwater from the milking parlour

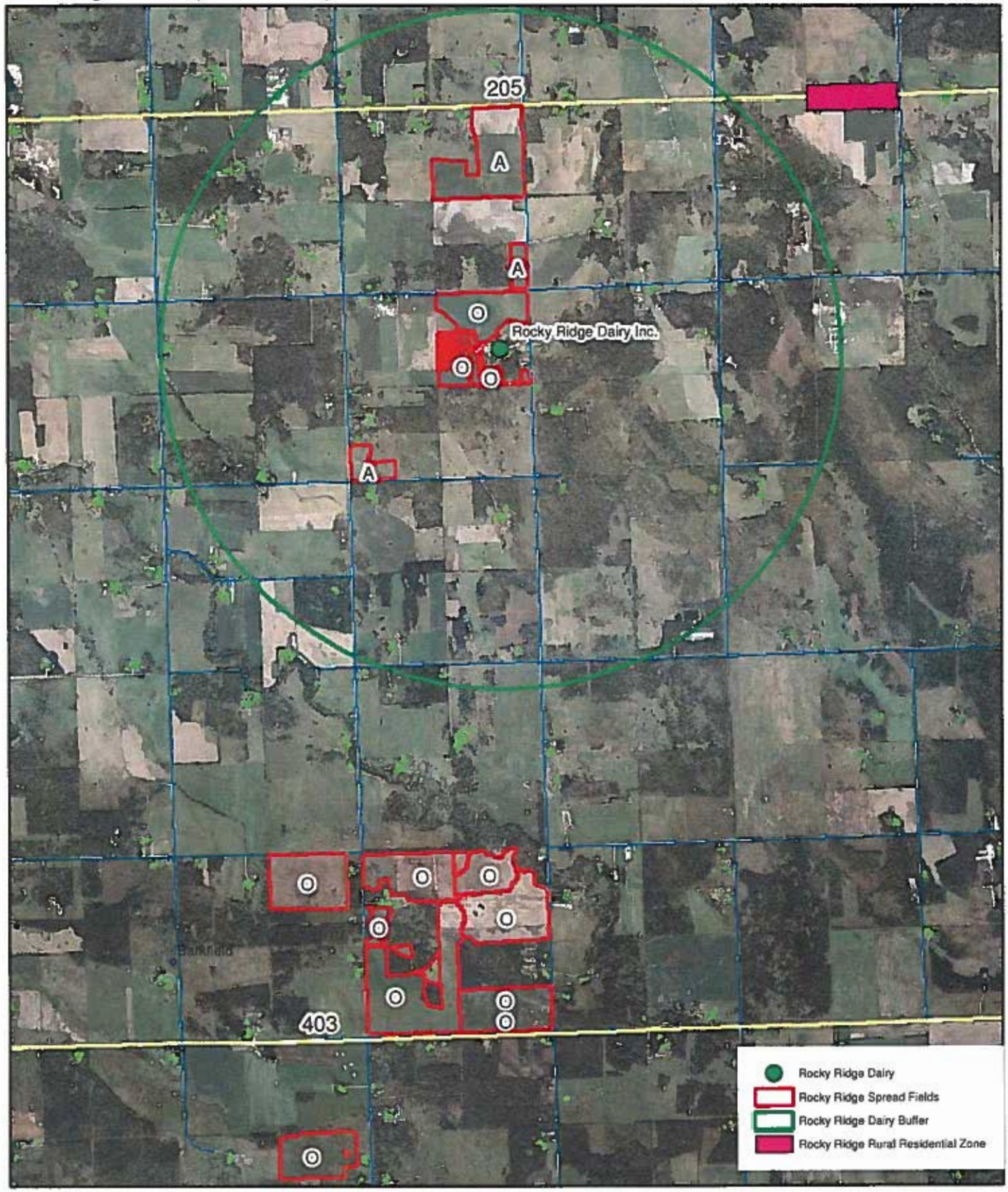
[6] 2 inches of wood shavings or 4 inches of straw placed on floor. Manure and litter removed from barn at 25% moisture content, with a density of 20 lb/ft^3

[7] One-third litter floor, two-thirds slatted floor. Manure and litter removed from barn at 40% moisture content, with a density of 25 lb/ft^3

[8] Manure removed from barn at 90% moisture content with a density of 59 lb/ft^3

[9] Poultry operations using litter (solid pack) must provide an estimate of yearly manure production

Rocky Ridge Dairy Inc. Land Use & Spread Field Map



N
W E
S

0 0.475 0.95 1.9 2.85 Miles

AGRA-GOLD Consulting Ltd.

Existing and Proposed Manure Storage Facility Dimension Table

If applicable, indicate the dimensions of any existing manure storage facility (MSF) that will be used to store manure from the proposed project:

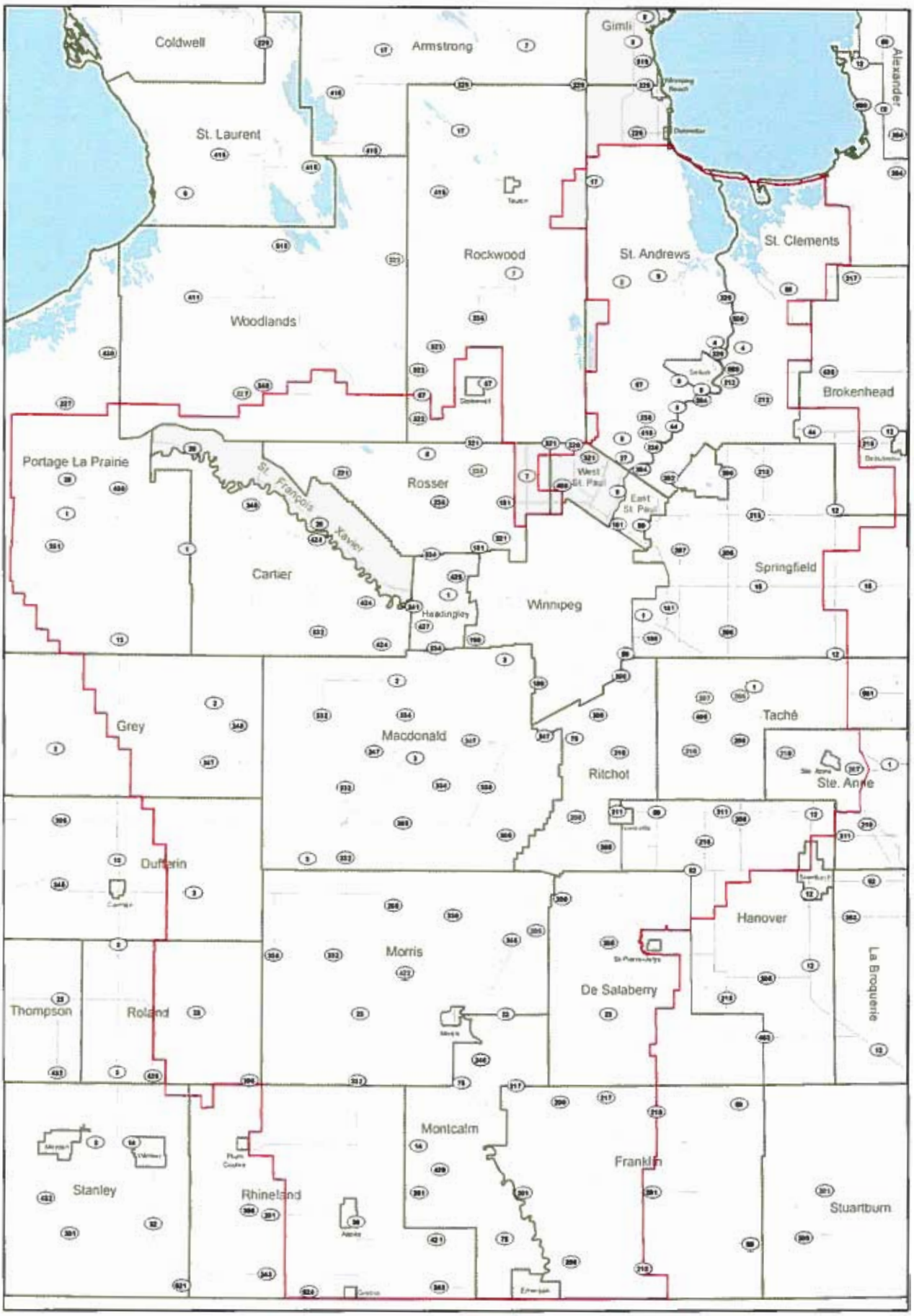
CELL	Existing Manure Storage Facility Dimensions						Storage Capacity (days)
	Width	Length	Depth	Height (Above Grade)	Slope (H:L)		
					Inside	Outside	
Primary	ft	ft	ft	ft			
Secondary	ft	ft	ft	ft			
Tertiary	ft	ft	ft	ft			
Circular Tank	Diameter		Height	Depth (Above Grade)			
	123 ft		14 ft	14 ft			157

Permit/Registration # _____LM0900_____

If available, indicate the dimensions of any proposed manure storage facility (MSF) that will be used to store manure from the proposed project:

CELL	Proposed Manure Storage Facility Dimensions						Storage Capacity (days)
	Width	Length	Depth	Height (Above Grade)	Slope (H:L)		
					Inside	Outside	
Primary	ft	ft	ft	ft			
Secondary	ft	ft	ft	ft			
Tertiary	ft	ft	ft	ft			
Circular Tank		Diameter	Height	Depth			
		134 ft	20 ft	20 ft			273

The construction, modification or expansion of any manure storage structure requires a permit from Manitoba Conservation as per the *Livestock Manure and Mortalities Management Regulation (M.R. 42/98).*



Red River Valley

Special Management Area

Municipal Boundaries
Provincial Roadways
Red River Valley Special Management Area

Manitoba
Dept. of Local Government

Setback Requirements From Water Features

Setback requirements extracted from the Livestock Manure and Mortalities Management Regulation (MR 42/98) and the Nutrient Management Regulation (MR 62/2008).

Surface water or Groundwater Feature		Manure Application Method	Manure Application Setback Width (metres) with Permanently Vegetated Buffer Width (metres)	Manure Application Setback Width (metres) with no Permanently Vegetated Buffer	Regulation Source for Setback Width
Lakes	Designated as vulnerable in Nutrient Management Regulation schedule[1]	Any method	30 m setback, consisting of 30 m permanently vegetated buffer	35 m setback	Nutrient Management Regulation (MR 62/2008)
	-	Injection or low-level application followed by immediate incorporation	15 m setback, consisting of 15 m permanently vegetated buffer	20 m setback	Livestock Manure and Mortalities Management Regulation (MR 42/98)
		High-level broadcast or low-level application without incorporation	30 m setback, including 15 m permanently vegetated buffer	35 m setback	
Rivers, creeks, streams and large unbermed drains, designated as an Order 3 or greater drain on a plan of Manitoba Water Stewardship, Planning and Coordination, that shows designations of drains	Designated as vulnerable in Nutrient Management Regulation schedule[1]	Any method	15 m setback, consisting of 15 m permanently vegetated buffer	20 m setback	Nutrient Management Regulation (MR 62/2008)
	-	Injection or low-level application followed by immediate incorporation	3 m setback, consisting of 3 m permanently vegetated buffer	8 m setback	Livestock Manure and Mortalities Management Regulation (MR 42/98)
		High-level broadcast or low-level application without incorporation	10 m setback, including 3 m permanently vegetated buffer	15 m setback	
Groundwater feature[2]	-	Any method	15 m setback, consisting of 15 m permanently vegetated buffer	20 m setback	Nutrient Management Regulation (MR 62/2008)
Major wetland, bog, marsh or swamp[3] and constructed storm water retention ponds	-	Any method	3 m setback, consisting of 3 m permanently vegetated buffer	8 m setback	
Wetland, bog, marsh or swamp not defined as major	-	Any method	Distance between the water's edge and the high water mark		
Roadside ditch or an Order 1 or 2 drain	-	Any method	No direct application to ditches and Order 1 and 2 drains		

1 Designated as vulnerable if listed in the schedule in the Nutrient Management Regulation under the Water Protection Act

2 Groundwater feature means a sinkhole, a spring or a well other than a monitoring well

3 As defined in 1(2) in the Nutrient Management Regulation under the Water Protection Act. For the purposes of this regulation, a wetland, bog, marsh or swamp is major if it:

- has an area greater than two hectares (4.94 acres)
- is connected to one or more downstream water bodies or groundwater features
- contains standing water or saturated soils for periods of time sufficient to support the development of hydrophytic vegetation

MANURE APPLICATION FIELD CHARACTERISTICS TABLE

	A	B	C	D	E	F	G	H	I	J	K
Field	Legal Description	Rural Municipality	O/L/A	Total Acreage	Setbacks, including features	Net Acreage for Manure Application	Agriculture Capability Class and Subclass	Soil Nitrate (lb/acre) 0-24 inches	Soil Phosphorus (ppm Olsen P) 0-6 inches	Development Plan Designation	Zoning
1	NE13-5-5e Field 2	Hanover	A	113.3		113.3	3m	18	35	"Rural Area" Bylaw 2170	"R" Rural Zone Bylaw 2171
2	SE13-5-5e (SE) Field 4	Hanover	A	13.6		13.6	3m	8	51	"Rural Area" Bylaw 2170	"R" Rural Zone Bylaw 2171
3	NE12-5-5e (N) Field 5 Home N	Hanover	O	59.5		59.5	3m, 5p	60	34	"Rural Area" Bylaw 2170	"R" Rural Zone Bylaw 2171
4	NE12-5-5e (S) Field 6 Home S	Hanover	O	37.6		37.6	3m, 5p	100	44	"Rural Area" Bylaw 2170	"R" Rural Zone Bylaw 2171
5	NE12-5-5e Home Pasture	Hanover	O	8.8		8.8	3m, 5p	3	6	"Rural Area" Bylaw 2170	"R" Rural Zone Bylaw 2171
6	SW12-5-5e Field 7 Martens	Hanover	A	21.9		21.9	3p	108	6	"Rural Area" Bylaw 2170	"R" Rural Zone Bylaw 2171
7											
8	NE25-4-5e (N) Field 8	DeSalaberry	O	45.5		45.5	3m	68	50	"Agriculture 1" 2194-04	"Agriculture 1 Zone" 2208-5
9	NE25-4-5e (S) Field 9	DeSalaberry	O	90.7		90.7	3m	15	34	"Agriculture 1" 2194-04	"Agriculture 1 Zone" 2208-5
10	SE25-4-5e Field 10	DeSalaberry	O	76.7		76.7	3m, 3p	4	4.9	"Agriculture 1" 2194-04	"Agriculture 1 Zone" 2208-5
11	NW25-4-5e Field 11	DeSalaberry	O	73.7		73.7	3m, 3p, 5m	160	29	"Agriculture 1" 2194-04	"Agriculture 1 Zone" 2208-5
12	SW25-4-5e Field 12	DeSalaberry	O	134.9		134.9	3m, 3p, 5m	73	49	"Agriculture 1" 2194-04	"Agriculture 1 Zone" 2208-5
13	NE26-4-5e Field 13	DeSalaberry	O	81.5		81.5	3m, 3p	5	4.9	"Agriculture 1" 2194-04	"Agriculture 1 Zone" 2208-5
14	NWSW25-4-5e Ryan Pasture	DeSalaberry	O	22.9		22.9	3p, 5m	3	4.1	"Agriculture 1" 2194-04	"Agriculture 1 Zone" 2208-5
15	SE23-4-5e Field 15	DeSalaberry	O	63.5		63.5	3m, 3p, 5m	181	26	"Agriculture 1" 2194-04	"Agriculture 1 Zone" 2208-5
16											
17											
19											
20											
					Total Net Acreage for	844					

Manure Application:

A. Enter the legal description for each parcel of land that will receive manure: Sec, Twp, Rge or River Lot (including parish).
B. Identify the Rural Municipality in which the parcel is located.
C. Indicate how the land has been secured for manure application: O – Own / L – Lease / A – Agreement
D. Enter the total acreage for the parcel.
E. Enter setbacks from surface water or groundwater features that reduce the land available for manure application; include identification of type of feature (e.g. ttm, Order 3 drain).
F. Enter the net long-term acreage available for manure application for the parcel after taking into account setbacks and excluding Class 6, 7 and unimproved organic soils.
G. Enter the agriculture capability class and subclass ratings for the acreage available for manure application.
H. Provide soil test results for nitrate-N in lb/ac at the 0-24 inch depth. Soil test results must be no more than 12 months old and must be completed by an accredited soil-testing laboratory.
I. Provide soil test results for phosphorus ppm Olsen P at 0-6 inch depth. Soil test results must be no more than 12 months old and must be completed by an accredited soil-testing laboratory.
J. Please indicate the Development Plan and its by-law number in addition to the map designation for each field
K. Please indicate the Zoning By-law and its by-law number in addition to the zoning for each field

Manure Spread Agreement

This agreement made this 13 day of June, 2016

Between Rocky Ridge Dairy Inc. (Livestock Operator)

And: George Wiebe (Landowner)

The Landowner grants the Livestock Operator full and exclusive rights to applying ~~hog~~ Dairy manure onto the described land subject to the following terms and agreements.

1. The Livestock Operator agrees to apply manure in such a way that it complies with Environmental Regulations and that it follows general soil fertility recommendations.

2. The Landowner agrees to allow the Livestock Operator or its agents full rights of access to the described land for the purpose of soil testing, manure application and other related activities.

3. Should the Landowner decide to sell the land described, the Landowner shall notify the Livestock Operator prior to selling so that the Livestock Operator can transfer the existing manure spreading agreement to the new owner if desired.

4. This agreement will remain in effect for a period of 3 years.

Listed Land

SE 13-5-5E

Land Owner Name: George + Sheryl Wiebe

Land Owner Signature: George Wi

Barn Owner Name: Hotze Woudstra

Barn Owner Signature: [signature]

Date: June 13 2016

Manure Spread Agreement

This agreement made this 12 day of JUNE, 2016

Between Rocky Ridge Dairy Inc. (Livestock Operator)

And: DAVID MARTENS (Landowner)

The Landowner grants the Livestock Operator full and exclusive rights to applying cow manure onto the described land subject to the following terms and agreements.

1. The Livestock Operator agrees to apply manure in such a way that it complies with Environmental Regulations and that it follows general soil fertility recommendations.

2. The Landowner agrees to allow the Livestock Operator or its agents full rights of access to the described land for the purpose of soil testing, manure application and other related activities.

3. Should the Landowner decide to sell the land described, the Landowner shall notify the Livestock Operator prior to selling so that the Livestock Operator can transfer the existing manure spreading agreement to the new owner if desired.

4. This agreement will remain in effect for a period of 3 years.

Listed Land

SW 12-5-5E

Land Owner Name: DAVID MARTENS

Land Owner Signature: David Martens

Barn Owner Name: Hotze Woudstra

Barn Owner Signature: HW

Date: June 12 2016

Manure Spread Agreement

This agreement made this 29 day of June, 2016

Between Rocky Ridge Dairy Inc. (Livestock Operator)

And: ED PYLYPJUK (Landowner)

The Landowner grants the Livestock Operator full and exclusive rights to applying cow manure onto the described land subject to the following terms and agreements.

1. The Livestock Operator agrees to apply manure in such a way that it complies with Environmental Regulations and that it follows general soil fertility recommendations.
2. The Landowner agrees to allow the Livestock Operator or its agents full rights of access to the described land for the purpose of soil testing, manure application and other related activities.
3. Should the Landowner decide to sell the land described, the Landowner shall notify the Livestock Operator prior to selling so that the Livestock Operator can transfer the existing manure spreading agreement to the new owner if desired.
4. This agreement will remain in effect for a period of 3 years.

Listed Land

13-5-5 E

Land Owner Name: ED PYLYPJUK

Land Owner Signature: [signature]

Barn Owner Name: Hotze Woudstra

Barn Owner Signature: [signature]

Date: June 29 2016

Report Number: C15272-10304
Account Number: 95094

A & L Canada Laboratories Inc.

2136 Jetstream Road. London, Ontario. N5V 3P5
Telephone: (519) 457-2575 Fax: (519) 457-2664

C15272-10304

To: AGRI-TREND AGROLOGY
BOX 60
12 ASHLAND DRIVE
SANFORD, MB R0G 2J0
Attn: BRAD SCHNELL
204-736-3368

For: ROCKY RIDGE DAIRY INC.
(204) 736-2245
(204) 736-3368
Grower Code: 137964

Field: 02 - NE 13-5-5e

SOIL TEST REPORT

Reported Date: Printed Date:2015-10-02 Page:1

Sample Number	Legal Land Descpt:	Depth	Lab Number	Organic Matter	Phosphorus - P ppm Bicarb	Phosphorus - P ppm Bray-P1	Potassium K ppm	Magnesium Mg ppm	Calcium Ca ppm	pH	Buffer	CEC meq/100g	Percent Base Saturations % K	% Mg	% Ca	% H	% Na
1-A	137964	6	59965	2.0	35	63	34	370	2830	7.8		17.5	0.5	17.6	80.9		1.2
1-B	137964	24	59966	0.3			10	230	7200	8.4		38.0	0.1	5.0	94.6		0.3

Sample Number	Sulfur ppm	Nitrate Nitrogen ppm	Zn ppm	Mn ppm	Fe ppm	Cu ppm	B ppm	Mo ppm	CaCO3	EC mmhos/cm	%P	Al ppm	%Al	K/Mg Ratio	GFI	NH4N ppm	Na ppm
1-A	21	3									5	181	0.0	0.03	44		48
1-B	14	2												0.02			28

W

SOIL FERTILITY GUIDELINES (lbs/ac)

Sample Number	Crop	Yield Goal	Lime Tons/Acre	N	P2O5	K2O	Mg	Ca	S	Zn	Mn	Fe	Cu	B

* Recs are based on building nutrients to a level to maintain soil health. Banding and/or precision placement techniques can be utilized to increase fertilizer efficiency.
* If this report contains soil in excess of 7500 ppm Ca it may or may not effect the calculated Cation Exchange Capacity. Excessive seed placed fertilizer can cause injury.

The results of this report relate to the sample submitted and analyzed.

* Crop yield is influenced by a number of factors in addition to soil fertility.

Results Authorized By: Ian McLachlin, Vice President

No guarantee or warranty concerning crop performance is made by A & L.

Report Number: C15272-10305
Account Number: 95094

A & L Canada Laboratories Inc.

2136 Jetstream Road, London, Ontario, N5V 3P5
Telephone: (519) 457-2575 Fax: (519) 457-2664

C15272-10305

To: AGRI-TREND AGROLOGY
BOX 60
12 ASHLAND DRIVE
SANFORD, MB R0G 2J0
Attn: BRAD SCHNELL
204-736-3368

For: ROCKY RIDGE DAIRY INC.
(204) 736-2245
(204) 736-3368
Grower Code: 58532

Field: 04 Wiebe SE 13-5-5 E

Reported Date: Printed Date:2015-10-02

SOIL TEST REPORT

Sample Number	Legal Land Descpt:	Depth	Lab Number	Organic Matter	Phosphorus - P ppm Bicarb	Phosphorus - P ppm Bray-P1	Potassium K ppm	Magnesium Mg ppm	Calcium Ca ppm	pH pH	pH Buffer	CEC meq/100g	Percent Base Saturations % K	% Mg	% Ca	% H	% Na
1-A	58532	6	59967	1.8	51	111	151	355	3480	8.3		21.1	1.8	14.0	82.6		1.7
1-B	58532	24	59968	0.4			22	285	6290	8.6		34.1	0.2	7.0	92.1		0.9

Sample Number	Sulfur ppm	Nitrate Nitrogen ppm	Zn ppm	Mn ppm	Fe ppm	Cu ppm	B ppm	Mo ppm	CaCO3	EC mmhos/cm	%P	Al ppm	%Al	K/Mg Ratio	GFI	NH4N ppm	Na ppm
1-A	22	1									9	122	0.0	0.13	54		82
1-B	38	1												0.03			67

W

SOIL FERTILITY GUIDELINES (lbs/ac)

Sample Number	Crop	Yield Goal	Lime Tons/Acre	N	P2O5	K2O	Mg	Ca	S	Zn	Mn	Fe	Cu	B

* Recs are based on building nutrients to a level to maintain soil health. Banding and/or precision placement techniques can be utilized to increase fertilizer efficiency.
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The results of this report relate to the sample submitted and analyzed.

* Crop yield is influenced by a number of factors in addition to soil fertility.

Results Authorized By: **Ian McLachlin, Vice President**

No guarantee or warranty concerning crop performance is made by A & L.

Report Number: C15272-10306
Account Number: 95094

A & L Canada Laboratories Inc.

2136 Jetstream Road, London, Ontario, N5V 3P5
Telephone: (519) 457-2575 Fax: (519) 457-2664

C15272-10306

To: AGRI-TREND AGROLOGY
BOX 60
12 ASHLAND DRIVE
SANFORD, MB R0G 2J0
Attn: BRAD SCHNELL
204-736-3368

For: ROCKY RIDGE DAIRY INC.
(204) 736-2245
(204) 736-3368
Grower Code: 58533

Field: 05 Home N NE 12-5-5 E

Reported Date: Printed Date:2015-10-02

SOIL TEST REPORT

Sample Number	Legal Land Descpt:	Depth	Lab Number	Organic Matter	Phosphorus - P ppm Bicarb	Phosphorus - P ppm Bray-P1	Potassium K ppm	Magnesium Mg ppm	Calcium Ca ppm	pH pH	pH Buffer	CEC meq/100g	Percent Base Saturations % K	% Mg	% Ca	% H	% Na
1-A	58533	6	59969	3.7	34	54	74	535	7200	8.2		41.0	0.5	10.9	87.8		1.0
1-B	58533	24	59970	1.2			26	740	7200	8.3		42.5	0.2	14.5	84.8		0.7

Sample Number	Sulfur ppm	Nitrate Nitrogen ppm	Zn ppm	Mn ppm	Fe ppm	Cu ppm	B ppm	Mo ppm	CaCO3	EC mmhos/cm	%P	Al ppm	%Al	K/Mg Ratio	GFI	NH4N ppm	Na ppm
1-A	28	9									4	9	0.0	0.05	46		91
1-B	31	7												0.01			69

W

SOIL FERTILITY GUIDELINES (lbs/ac)

Sample Number	Crop	Yield Goal	Lime Tons/Acre	N	P2O5	K2O	Mg	Ca	S	Zn	Mn	Fe	Cu	B

* Recs are based on building nutrients to a level to maintain soil health. Banding and/or precision placement techniques can be utilized to increase fertilizer efficiency.
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The results of this report relate to the sample submitted and analyzed.

* Crop yield is influenced by a number of factors in addition to soil fertility.

Results Authorized By: **Ian McLachlin, Vice President**

No guarantee or warranty concerning crop performance is made by A & L.

Report Number: C15287-10088
Account Number: 95094

A & L Canada Laboratories Inc.

2136 Jetstream Road, London, Ontario, N5V 3P5
Telephone: (519) 457-2575 Fax: (519) 457-2664

C15287-10088

To: AGRI-TREND AGROLOGY
BOX 60
12 ASHLAND DRIVE
SANFORD, MB R0G 2J0
Attn: BRAD SCHNELL
204-736-3368

For: ROCKY RIDGE DAIRY INC.
(204) 736-2245
(204) 736-3368
Grower Code: 58534

Field: 06 Home S NE - 12 - 5 - 5 - E

Reported Date: Printed Date:2015-10-16

SOIL TEST REPORT

Sample Number	Legal Land Descpt:	Depth	Lab Number	Organic Matter	Phosphorus - P ppm Bicarb	Phosphorus - P ppm Bray-P1	Potassium K ppm	Magnesium Mg ppm	Calcium Ca ppm	pH pH	pH Buffer	CEC meq/100g	Percent Base Saturations % K	% Mg	% Ca	% H	% Na
1-A	58534	6	13503	5.0	44	92	65	740	5520	8.0		34.1	0.5	18.1	80.8		0.9
1-B	58534	24	13504	1.1			25	435	4940	8.3		28.6	0.2	12.7	86.5		0.7

Sample Number	Sulfur ppm	Nitrate Nitrogen ppm	Zn ppm	Mn ppm	Fe ppm	Cu ppm	B ppm	Mo ppm	CaCO3	EC mmhos/cm	%P	Al ppm	%Al	K/Mg Ratio	GFI	NH4N ppm	Na ppm
1-A	25	14									7	37	0.0	0.03	42		67
1-B	14	12												0.02			49

W

SOIL FERTILITY GUIDELINES (lbs/ac)

Sample Number	Crop	Yield Goal	Lime Tons/Acre	N	P2O5	K2O	Mg	Ca	S	Zn	Mn	Fe	Cu	B

* Recs are based on building nutrients to a level to maintain soil health. Banding and/or precision placement techniques can be utilized to increase fertilizer efficiency.
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The results of this report relate to the sample submitted and analyzed.

* Crop yield is influenced by a number of factors in addition to soil fertility.

No guarantee or warranty concerning crop performance is made by A & L.

Results Authorized By: Ian McLachlin, Vice President

FarmersEdge

Farmers Edge Laboratories
1357 Dugald Road
Winnipeg, Manitoba Canada
R2J 0H3
Phone: 1 204 233 4099

Report To: Agri-Trend
Box 60
Sanford, Manitoba R0G 2J0

Attention: Brad Schnell
Client ID: 13-0044

Grower: ROCKY RIDGE DAIRY
Grower Field Name: HOME PASTURE
Reference Field Name:
Legal Location: NE12-5-5e
Total Acres:
Sampler:

Lot Number: 160516_004
Date Sampled: 2016/05/13
Received Date 2016/05/16
Date Reported: 2016/05/17

Sample ID	Depth	N ppm	P* ppm	K ppm	S ppm	Ca ppm	Mg ppm	Na ppm	B ppm	Cu ppm	Fe ppm	Mn ppm	Zn ppm	Cl ppm	pH	EC dS/m	OM %
160516_004-01	0-6	1	6.0	84	3	2300	500	20							7.7	0.37	3.5
160516_004-02	6-24	<1			<2										8.0	0.35	

	N	P	K	S
0-6 lb/Ac:	2	12	168	6
6-24 lb/Ac:	<6			<12
Total lb/Ac measured:	3	12	168	8
Estimated lb/Ac to 24 inch:	3			8

CEC (meq/100g): 15.9 | Ca Base Saturation (%): 72.0 | Mg Base Saturation (%): 26.0
Base Saturation (%): 100.0 | K Base Saturation (%): 1.4 | Na Base Saturation (%): 0.6
Sand (%): | Silt (%): | Clay (%): | Texture:

Recommendation:

Comments:

* Bicarbonate-Extractable (Olsen) Phosphate

Report Number: C15287-10089
Account Number: 95094

A & L Canada Laboratories Inc.

2136 Jetstream Road, London, Ontario, N5V 3P5
Telephone: (519) 457-2575 Fax: (519) 457-2664

C15287-10089

To: AGRI-TREND AGROLOGY
BOX 60
12 ASHLAND DRIVE
SANFORD, MB R0G 2J0
Attn: BRAD SCHNELL
204-736-3368

For: ROCKY RIDGE DAIRY INC.
(204) 736-2245
(204) 736-3368
Grower Code: 58535

Field: 07 Martens SW - 12-5-5E

Reported Date: Printed Date:2015-10-16

SOIL TEST REPORT

Sample Number	Legal Land Descpt:	Depth	Lab Number	Organic Matter	Phosphorus - P ppm Bicarb	Phosphorus - P ppm Bray-P1	Potassium K ppm	Magnesium Mg ppm	Calcium Ca ppm	pH	pH Buffer	CEC meq/100g	Percent Base Saturations % K	% Mg	% Ca	% H	% Na
1-A	58535	6	13505	1.7	6	11	7	135	940	8.2		5.9	0.3	19.1	79.6		1.3
1-B	58535	12	13506	0.8	8	12	21	245	2890	8.3		16.8	0.3	12.2	86.2		1.5
1-C	58535	24	13507	0.4			22	250	3680	8.3		20.7	0.3	10.0	88.7		1.1

Sample Number	Sulfur ppm	Nitrate Nitrogen ppm	Zn ppm	Mn ppm	Fe ppm	Cu ppm	B ppm	Mo ppm	CaCO3	EC mmhos/cm	%P	Al ppm	%Al	K/Mg Ratio	GFI	NH4N ppm	Chloride Cl ppm	Na ppm
1-A	5	13	1.4	7	41	0.4	0.1	0.10	3.1	0.2	1	76	0.0	0.02	40		23	17
1-B	12	13									1	103	0.0	0.02	45			56
1-C	15	14												0.03				51

W

SOIL FERTILITY GUIDELINES (lbs/ac)

Sample Number	Crop	Yield Goal	Lime Tons/Acre	N	P2O5	K2O	Mg	Ca	S	Zn	Mn	Fe	Cu	B

* Recs are based on building nutrients to a level to maintain soil health. Banding and/or precision placement techniques can be utilized to increase fertilizer efficiency.
* If this report contains soil in excess of 7500 ppm Ca it may or may not effect the calculated Cation Exchange Capacity. Excessive seed placed fertilizer can cause injury.

The results of this report relate to the sample submitted and analyzed.

* Crop yield is influenced by a number of factors in addition to soil fertility.

No guarantee or warranty concerning crop performance is made by A & L.

Results Authorized By: Ian McLachlin, Vice President

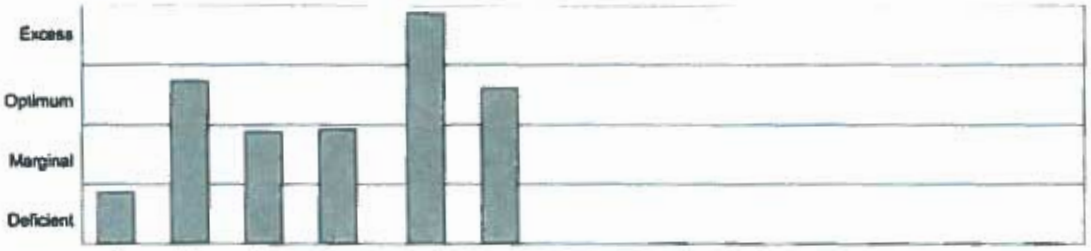
ENTERED

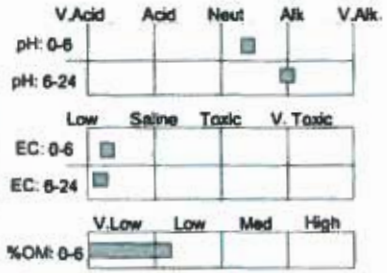
Farmers Edge Laboratories
1357 Dugald Road
Winnipeg, Manitoba Canada
R2J 0H3
Phone: 1 204 233 4099

Report To:	Agri-Trend	**Grower:**	ROCKY RIDGE DAIRY	**Lot Number:**	160531_011
	Box 60	**Grower Field Name:**	8	**Date Sampled:**	2016/05/31
	Sanford, Manitoba R0G 2J0	**Reference Field Name:**		**Received Date**	2016/05/31
		Legal Location:	NE 25-4-5 E1	**Date Reported:**	2016/06/01
Attention:	Brad Schnell	**Total Acres:**	40		
Client ID:	13-0044	**Sampler:**			

Nitrate Phosphorus Potassium Sulfur Calcium Magnesium Sodium Boron copper iron manganese zinc chloride

Sample ID	Depth	N ppm	P* ppm	K ppm	S ppm	Ca ppm	Mg ppm	Na ppm	B ppm	Cu ppm	Fe ppm	Mn ppm	Zn ppm	Cl ppm	pH	EC dS/m	OM %
160531_011-01	0-6	18	50.0	140	8	1600	170	11							7.4	0.51	2.5
160531_011-02	6-24	5			2										8.0	0.28	





	N	P	K	S
0-6 lb/Ac:	36	100	280	15
6-24 lb/Ac:	32			13
Total lb/Ac measured:	68	100	280	28
Estimated lb/Ac to 24 inch:	68			28

CEC (meq/100g):	9.8	Ca Base Saturation (%):	81.0	Mg Base Saturation (%):	14.0
Base Saturation (%):	100.0	K Base Saturation (%):	3.8	Na Base Saturation (%):	0.5
Sand (%):		Silt (%):		Clay (%):	
Texture:					

Recommendation:	Comments:
	* Bicarbonate-Extractable (Olsen) Phosphate

Interpretive Guidelines and Class Limits are based on accepted guidelines. The client is advised to consult with an agronomic professional for detailed interpretation.
Farmer's Edge Laboratories limits liability to the cost of the analysis.

FarmersEdge

ENTERED

Farmers Edge Laboratories
1357 Dugald Road
Winnipeg, Manitoba Canada
R2J 0H3
Phone: 1 204 233 4099

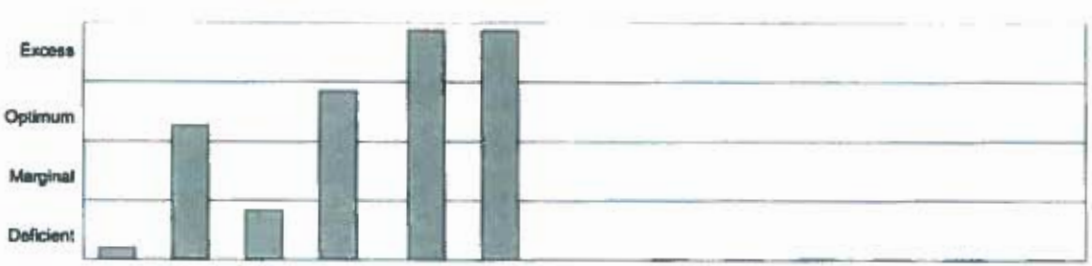
Report To: Agri-Trend
Box 60
Sanford, Manitoba R0G 2J0

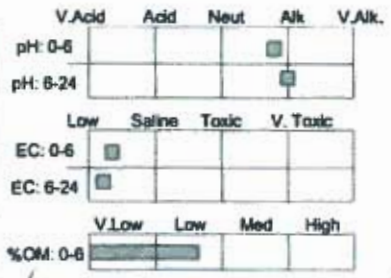
Attention: Brad Schnell
Client ID: 13-0044

Grower: ROCKY RIDGE DAIRY
Grower Field Name: 9
Reference Field Name:
Legal Location: NE 25-4-5 E1
Total Acres: 95
Sampler:

Lot Number: 160531_012
Date Sampled: 2016/05/31
Received Date 2016/05/31
Date Reported: 2016/06/01

Sample ID	Depth	N ppm	P* ppm	K ppm	S ppm	Ca ppm	Mg ppm	Na ppm	B ppm	Cu ppm	Fe ppm	Mn ppm	Zn ppm	Cl ppm	pH	EC dS/m	OM %
160531_012-01	0-6	4	34.0	61	16	3900	520	24							7.8	0.62	3.3
160531_012-02	6-24	1			7										8.0	0.34	





	N	P	K	S
0-6 lb/Ac:	8	68	122	32
6-24 lb/Ac:	7			40
Total lb/Ac measured:	15	68	122	72
Estimated lb/Ac to 24 inch:	15			72

CEC (meq/100g):	24.0	Ca Base Saturation (%):	81.0	Mg Base Saturation (%):	18.0
Base Saturation (%):	100.0	K Base Saturation (%):	0.7	Na Base Saturation (%):	0.4
Sand (%):		Silt (%):		Clay (%):	
Texture:					

Recommendation:	Comments:
	* Bicarbonate-Extractable (Olsen) Phosphate

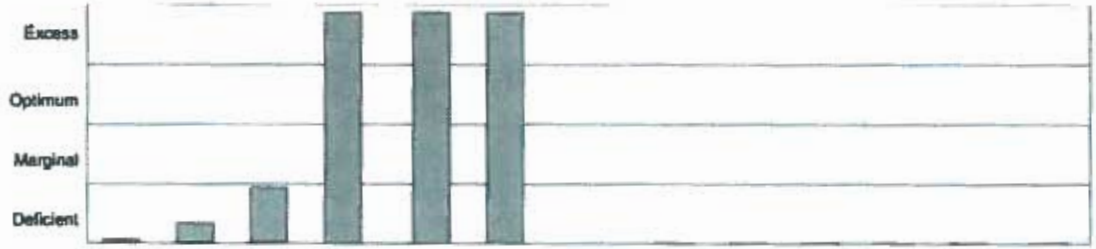
FarmersEdge

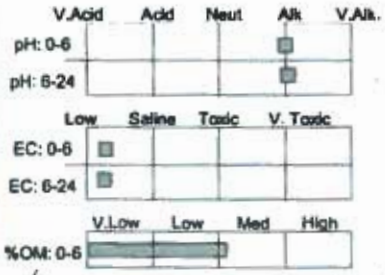
ENTERED

Farmers Edge Laboratories
1357 Dugald Road
Winnipeg, Manitoba Canada
R2J 0H3
Phone: 1 204 233 4099

Report To:	Agri-Trend	**Grower:**	ROCKY RIDGE DAIRY	**Lot Number:**	160531_013
	Box 60	**Grower Field Name:**	10	**Date Sampled:**	2016/05/31
	Sanford, Manitoba R0G 2J0	**Reference Field Name:**		**Received Date**	2016/05/31
		Legal Location:	SE 25-4-5 E1	**Date Reported:**	2016/06/01
Attention:	Brad Schnell	**Total Acres:**	80		
Client ID:	13-0044	**Sampler:**			

Sample ID	Depth	N ppm	P* ppm	K ppm	S ppm	Ca ppm	Mg ppm	Na ppm	B ppm	Cu ppm	Fe ppm	Mn ppm	Zn ppm	Cl ppm	pH	EC dS/m	OM %
160531_013-01	0-6	1	4.9	70	15	4300	640	24							8.0	0.50	4.5
160531_013-02	6-24	<1			11										8.1	0.45	





	N	P	K	S
0-6 lb/Ac:	3	10	140	30
6-24 lb/Ac:	<6			66
Total lb/Ac measured:	4	10	140	96
Estimated lb/Ac to 24 inch:	4			96

CEC (meq/100g):	27.0	Ca Base Saturation (%):	80.0	Mg Base Saturation (%):	19.0
Base Saturation (%):	100.0	K Base Saturation (%):	0.7	Na Base Saturation (%):	0.4
Sand (%):		Silt (%):		Clay (%):	

Texture:

Recommendation:	Comments:
	* Bicarbonate-Extractable (Olsen) Phosphate

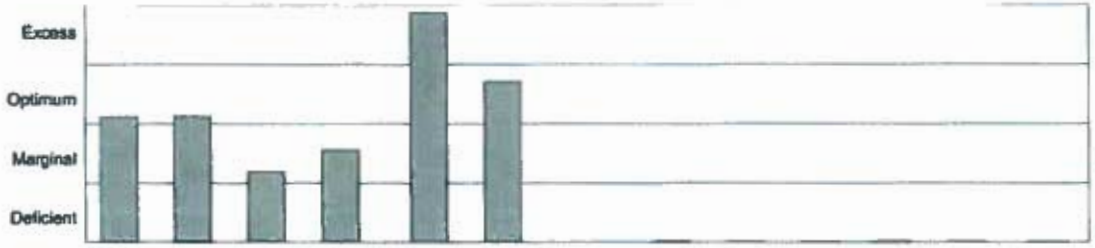
FarmersEdge

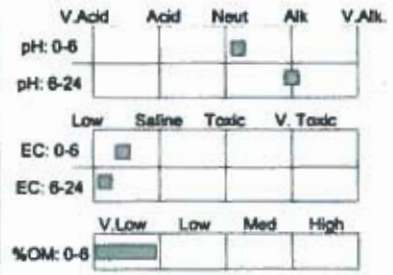
ENTERED

Farmers Edge Laboratories
1357 Dugald Road
Winnipeg, Manitoba Canada
R2J 0H3
Phone: 1 204 233 4099

Report To:	Agri-Trend	**Grower:**	ROCKY RIDGE DAIRY	**Lot Number:**	160531_014
	Box 60	**Grower Field Name:**	11	**Date Sampled:**	2016/05/31
	Sanford, Manitoba R0G 2J0	**Reference Field Name:**		**Received Date**	2016/05/31
		Legal Location:	NW 25-4-5 E1	**Date Reported:**	2016/06/01
Attention:	Brad Schnell	**Total Acres:**	80		
Client ID:	13-0044	**Sampler:**			

Sample ID	Depth	N ppm	P* ppm	K ppm	S ppm	Ca ppm	Mg ppm	Na ppm	B ppm	Cu ppm	Fe ppm	Mn ppm	Zn ppm	Cl ppm	pH	EC dS/m	OM %
160531_014-01	0-6	65	29.0 ✓	89 ✓	4 ✓	1300 ✓	190 ✓	6 ✓							7.2 ✓	0.83	1.9 ✓
160531_014-02	6-24	5 ✓			2 ✓										8.0 ✓	0.26	





	N	P	K	S
0-6 lb/Ac:	130	58	178	8
6-24 lb/Ac:	30			12
Total lb/Ac measured:	160	58	178	20
Estimated lb/Ac to 24 inch:	160			20

CEC (meq/100g):	8.4 ✓	Ca Base Saturation (%):	78.0 ✓	Mg Base Saturation (%):	19.0 ✓
Base Saturation (%):	100.0 ✓	K Base Saturation (%):	2.7 ✓	Na Base Saturation (%):	0.3 ✓
Sand (%):		Silt (%):		Clay (%):	
Texture:					

Recommendation:	Comments:
	* Bicarbonate-Extractable (Olsen) Phosphate

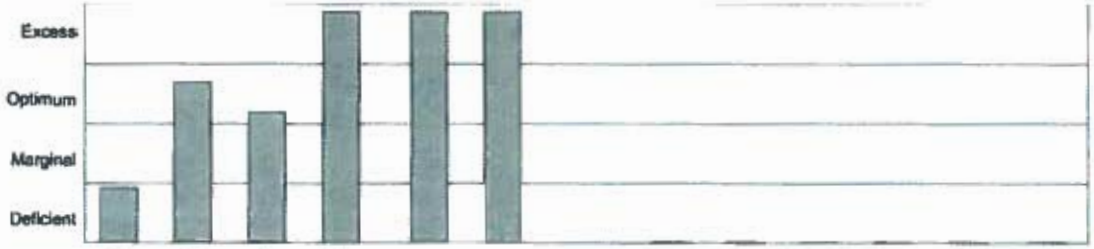
FarmersEdge

ENTERED

Farmers Edge Laboratories
1357 Dugald Road
Winnipeg, Manitoba Canada
R2J 0H3
Phone: 1 204 233 4099

Report To:	Agri-Trend	**Grower:**	ROCKY RIDGE DAIRY	**Lot Number:**	160531_015
	Box 60	**Grower Field Name:**	12	**Date Sampled:**	2016/05/31
	Sanford, Manitoba R0G 2J0	**Reference Field Name:**		**Received Date**	2016/05/31
		Legal Location:	SW 25-4-5 E1	**Date Reported:**	2016/06/01
Attention:	Brad Schnell	**Total Acres:**	90		
Client ID:	13-0044	**Sampler:**			

Sample ID	Depth	N ppm	P* ppm	K ppm	S ppm	Ca ppm	Mg ppm	Na ppm	B ppm	Cu ppm	Fe ppm	Mn ppm	Zn ppm	Cl ppm	pH	EC dS/m	OM %
160531_015-01	0-6	23 ✓	49.0 ✓	210 ✓	15 ✓	4200 ✓	1200 ✓	46 ✓							8.4 ✓	0.75	4.9 ✓
160531_015-02	6-24	5 ✓			12 ✓										8.7 ✓	0.48	



	N	P	K	S
0-6 lb/Ac:	46	98	420	30
6-24 lb/Ac:	27			72
Total lb/Ac measured:	73	98	420	102
Estimated lb/Ac to 24 inch:	73			102

CEC (meq/100g):	31.5 ✓	Ca Base Saturation (%):	66.0 ✓	Mg Base Saturation (%):	31.0 ✓
Base Saturation (%):	100.0	K Base Saturation (%):	1.7 ✓	Na Base Saturation (%):	0.6 ✓
Sand (%):		Silt (%):		Clay (%):	
Texture:					

Recommendation:	Comments:
	* Bicarbonate-Extractable (Olsen) Phosphate

NAPT 2013

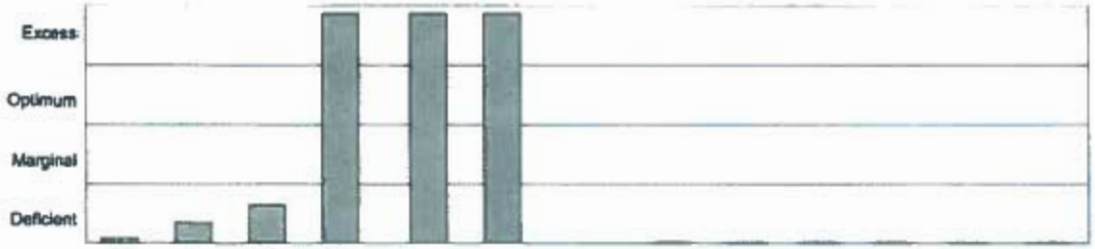
FarmersEdge

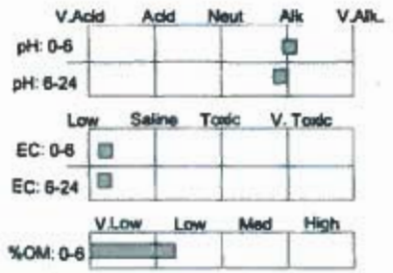
ENTERED

Farmers Edge Laboratories
1357 Dugald Road
Winnipeg, Manitoba Canada
R2J 0H3
Phone: 1 204 233 4099

Report To:	Agri-Trend	**Grower:**	ROCKY RIDGE DAIRY	**Lot Number:**	160531_016
	Box 60	**Grower Field Name:**	13	**Date Sampled:**	2016/05/31
	Sanford, Manitoba R0G 2J0	**Reference Field Name:**		**Received Date**	2016/05/31
		Legal Location:	NE 26-4-5 E1	**Date Reported:**	2016/06/01
Attention:	Brad Schnell	**Total Acres:**	80		
Client ID:	13-0044	**Sampler:**			

Sample ID	Depth	N ppm	P* ppm	K ppm	S ppm	Ca ppm	Mg ppm	Na ppm	B ppm	Cu ppm	Fe ppm	Mn ppm	Zn ppm	Cl ppm	pH	EC dS/m	OM %
160531_016-01	0-6	2 ✓	4.9 ✓	47 ✓	10 ✓	2600 ✓	290 ✓	13 ✓							8.1 ✓	0.42	2.6 ✓
160531_016-02	6-24	<1 ✓			14 ✓										7.9 ✓	0.38	





	N	P	K	S
0-6 lb/Ac:	4	10	94	20
6-24 lb/Ac:	<8			84
Total lb/Ac measured:	5	10	94	104
Estimated lb/Ac to 24 inch:	5			104

CEC (meq/100g):	15.5 ✓	Ca Base Saturation (%):	83.0 ✓	Mg Base Saturation (%):	15.0 ✓
Base Saturation (%):	100.0 ✓	K Base Saturation (%):	0.8 ✓	Na Base Saturation (%):	0.4 ✓
Sand (%):		Silt (%):		Clay (%):	
Texture:					

Recommendation:	Comments:
	* Bicarbonate-Extractable (Olsen) Phosphate

FarmersEdge

Farmers Edge Laboratories
1357 Dugald Road
Winnipeg, Manitoba Canada
R2J 0H3
Phone: 1 204 233 4099

Report To: Agri-Trend
Box 60
Sanford, Manitoba R0G 2J0

Attention: Brad Schnell
Client ID: 13-0044

Grower: ROCKY RIDGE DAIRY
Grower Field Name: RYAN PASTURE
Reference Field Name:
Legal Location: NW 25-5-5e
Total Acres:
Sampler:

Lot Number: 160516_003
Date Sampled: 2016/05/13
Received Date 2016/05/16
Date Reported: 2016/05/17

Sample ID	Depth	N ppm	P* ppm	K ppm	S ppm	Ca ppm	Mg ppm	Na ppm	B ppm	Cu ppm	Fe ppm	Mn ppm	Zn ppm	Cl ppm	pH	EC dS/m	OM %
160516_003-01	0-6	1	4.1	59	3	4500	460	12							8.0	0.41	4.1
160516_003-02	6-24	<1			<2										7.8	0.34	

	N	P	K	S
0-6 lb/Ac:	2	8	118	6
6-24 lb/Ac:	<6			<12
Total lb/Ac measured:	3	8	118	8
Estimated lb/Ac to 24 inch:	3			8

CEC (meq/100g):	26.3	Ca Base Saturation (%):	85.0	Mg Base Saturation (%):	14.0
Base Saturation (%):	100.0	K Base Saturation (%):	0.6	Na Base Saturation (%):	0.2
Sand (%):		Silt (%):		Clay (%):	

Texture:

Recommendation:

Comments:

* Bicarbonate-Extractable (Olsen) Phosphate

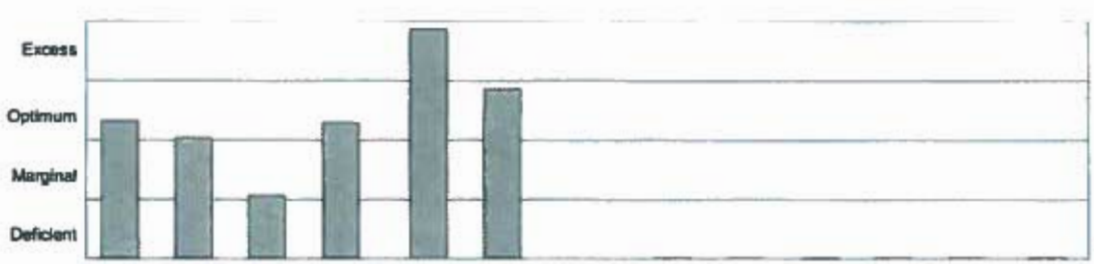
FarmersEdge

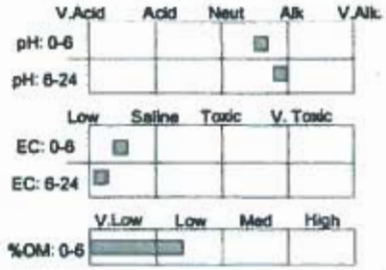
ENTERED

Farmers Edge Laboratories
1357 Dugald Road
Winnipeg, Manitoba Canada
R2J 0H3
Phone: 1 204 233 4099

Report To:	Agri-Trend	**Grower:**	ROCKY RIDGE DAIRY	**Lot Number:**	160531_017
	Box 60	**Grower Field Name:**	15	**Date Sampled:**	2016/05/31
	Sanford, Manitoba R0G 2J0	**Reference Field Name:**		**Received Date**	2016/05/31
		Legal Location:	SE 23-4-5 E1	**Date Reported:**	2016/06/01
Attention:	Brad Schnell	**Total Acres:**	65		
Client ID:	13-0044	**Sampler:**			

Sample ID	Depth	N ppm	P* ppm	K ppm	S ppm	Ca ppm	Mg ppm	Na ppm	B ppm	Cu ppm	Fe ppm	Mn ppm	Zn ppm	Cl ppm	pH	EC dS/m	OM %
160531_017-01	0-6	62 ✓	26.0 ✓	79 ✓	13 ✓	1900 ✓	220 ✓	10 ✓							7.6 ✓	0.88	2.8 ✓
160531_017-02	6-24	10 ✓			3 ✓										7.9 ✓	0.26	





	N	P	K	S
0-6 lb/Ac:	124	52	158	26
6-24 lb/Ac:	57			18
Total lb/Ac measured:	181	52	158	44
Estimated lb/Ac to 24 inch:	181			44

CEC (meq/100g):	11.7 ✓	Ca Base Saturation (%):	83.0 ✓	Mg Base Saturation (%):	15.0 ✓
Base Saturation (%):	100.0 ✓	K Base Saturation (%):	1.7 ✓	Na Base Saturation (%):	0.4 ✓
Sand (%):		Silt (%):		Clay (%):	
Texture:					

Recommendation:	Comments:
	* Bicarbonate-Extractable (Olsen) Phosphate

CROP ROTATION TABLE

A	B	C	D	E
Expected Crops in the Rotation	Acreage	Historical Yield	Units	Source of Yield Information
Grain Corn	325.73	99.54	Bu/ac	On Farm Crop Insurance
Silage Corn	150.91	3.727	Tons/ac	On Farm Crop Insurance
Alfalfa	207.57	2.98	Ton/ac	On Farm Crop Insurance
Grass/Hay (includes greenfeed)	85.12	3.42	Tons/ac	On Farm Crop Insurance
Oats	31.7	83	Bu/ac	On Farm Crop Insurance
Pasture	31.7	.5	Ton/ac	Landbase Calc. Sheet
Total Net Acreage for Manure Application				

A. List all of the crop(s) to be grown in the rotation on the acreage that will receive manure.
B. Indicate the average acreage for each crop over the rotation. For example, if there are 720 suitable acres available for manure and approximately 40 these acres will be used to grow canola, enter 288. The total of column B should add up to Total Net Acreage for Manure Application provided in the Manure Application Field Characteristic Table.
C. Enter the historical yield average for each crop. Long-term yield averages can be determined using MASC data (http://www.masc.mb.ca/masc.nsf/index.html?OpenPage) or on-farm yield records. If on-farm yield records are used, please provide copies.
D. Enter the units for the yields provided (e.g. bu/acre, tons/acre).
E. Enter the source of the historical yield average provided.

Rocky Ridge Dairy Inc. Crop Rotation and Acre Calculation

FieldName	Legal Land Desc.	GPS Ac	Crop Insurance Zone	Risk Area	Ag Capability			Soil test Results	
					Best Soil	Limiting Soil	Class 5 Acres	N	P
2	NE13-5-5e	113.3	i	14	3m			18	35
04 Wiebe	SE13-5-5e	13.6	i	14	3m			8	51
05 Home N	NE12-5-5e	59.5	i	14	3m	5p	16.8	60	34
06 Home S	NE12-5-5e	37.6	i	14	3m	5p	38.4	100	44
Home Pasture	NE12-5-5e	8.8	i	14	3m	5p	7.4	8	6
Martens	SW12-5-5e	21.9	i	14	3p			108	6
	North Totals	**254.7**					**62.6**		
8	NE25-4-5e	45.5	h	14	3m			68	50
9	NE25-4-5e	90.7	h	14	3m			15	34
10	SE25-4-5e	76.7	h	14	3m, 3p			4	4.9
11	NW25-4-5e	73.7	h	14	3m, 3p	5m (minor)		160	29
12	SW25-4-5-e	134.9	h	14	3p, 3m	5m (minor)	1.7	73	49
13	NE26-4-5e	81.5	h	14	3m, 3p			5	4.9
15	SE23-4-5e	63.5	h	14	3p, 3m	5m (minor)	0.2	181	26
Ryan Pasture	NWSW25-4-5e	22.9	h	14	3p	5m	1	8	4
	South Totals	**589.3**					**2.9**		
	Grand Total	**844.0**					**65.5**		

	Crop Ins. Rocky R.	Yield Goal	
Alfalfa	2.98	5	tons/ac
Oats	83	120	bu/ac
Gr. Corn	99.54	150	bu/ac
Silage Corn	3.727		Tons/ac
Greenfeed/Grasses	3.42		tons/ac

Rocky Ridge Crop Insurance Records

Grain Corn

Year	Acres	Yield	not seeded	Bushels
2014	48	90		4320
2013	48	190		9120
2012	48	59		2832
2011	75	100		7500
2011	70	97	10	6790
2010	77	100		7700
2013	70	190		13300
2012	70	89		6230
2011	65	50		3250
2010	65	85		5525
2012	77	71		5467
2011			60	0
2014	28	100		2800
2013	116	196		22736
2012	116	76		8816
2014	40	120		4800
2014	20	95		1900
2011	20	100		2000
2010	20	95		1900
2014	50	75		3750
	1123		90	120736

Total Acres: 1213
Weighted Yield: 99.54

Alfalfa

Year	Acres	Yield	not seeded	tons
2014	97	3.29		302.66
2013	92	5.9		542.8
2013		established		
2014	77	4.84		372.68
2014	80	3.6		288
2013	80	3.18		254.4
2012	80	1.82		145.6
2011		0	80	0
2012	40	1.36		54.4
2011	40	0.32	12	12.8
2010	100	3.29		329
				0
				0
				0
				0
				0
				0
				0
				0
	681		92	2302.96

Total Acres: 773
Weighted Yield: 2.96

Silage Corn

Year	Acres	Yield	not seeded	tons
2010	78	17		1326.0
2014	70	5.84		408.8
2014		0	86	0.0
2014	60	13.1		786.0
2013	60	24.2		1452.0
2012	60	11.2		672.0
2011	43	7.68		330.2
2011	5	7.35		36.8
2013		0	20	0.0
2013	20	11.1		222.0
2014	12	10.7		128.4
2013	12	22		264.0
2012	12	8.68		104.2
2011	12	7.2		86.4
2010	12	14		168.0
				0.0
				0.0
				0.0
				0.0
	454		106	5984.8

Total Acres: 562
Weighted Yield: 10.65
*.33 for Dry Base: 3.727

Greenfeed/Grasses

Year	Acres	Yield	not seeded	Weighted Yld
2013	77	3.18		244.9
2013	40	3.18		127.2
2011	100	1.48		148.0
2010	100	5.84		584.0
	317			1084.1

Total Acres: 317
Weighted Yield: 3.42

Oats

Year	Acres	Yield	not seeded	Bushels
2010	80	83		6640
2010	80	83		6640
	160			13280

Total Acres: 160
Weighted Yield: 83.00

Crop Rotation	Acres	%	Of Acreage	
Grain Corn	1213	0.400994	325.73	40%
Alfalfa	773	0.255554	207.57	25%
Silage Corn	562	0.185794	150.91	18%
Greenfeed/Grasses	317	0.104794	85.12	10%
Oats	160	0.052894	42.96	5%
	3025		812.30	99%
Pasture			31.70	4%
Grand Total Acres			844.00	103%

Greenfeed and Grasses were combined in the Land-base calc.
SE23-4-5e - was not included in the above calc. as there was only 1 year of data that showed too wet to seed
Even though alfalfa fields had varying degrees of grasses growing in them they were entered as Alfalfa as Dairy producers re-seed these as grass content becomes too high.
Note: In 2012 on NE25-4-5e Alfalfa was reestablished and underseeded to oats and was not insured therefore I removed from the calculation
To determine actual rotation, Crop insurance data from 2010-2014 was used, not crops growing in 2016 as this indicates longer term average of crops grown. (these numbers may vary from year to year)

Type	Storage Type	Volatilization	Animal Numbers	Weight In (lb)	Weight Out (lb)	Average Animal Wt (lb)	Days on Feed per Cycle (days)	Number of Cycles per Year	N Excreted Per Head Adjusted for Storage N Loss (lb/yr/head)	P2O5 Excreted per Head Per Year (lb/yr/head)
Lactating Cows	Liquid Uncovered Steel/Concrete	10%	0	1400	1440	1420	365	1	0	0
Dry Cows	Liquid Uncovered Steel/Concrete	10%	0	1440	1440	1440	365	1	0	0
Calves, 0-3 months	Liquid Uncovered Earthen	30%	0	90	275	183	365	1	0	0
Calves, 4-13 months	Liquid Uncovered Earthen	30%	0	275	810	543	365	1	0	0
Replacements, >13 months	Liquid Uncovered Earthen	30%	0	810	1250	1030	365	1	0	0
Mature Cows, plus associated livestock	Liquid Uncovered Steel/Concrete	10%	245	n/a	n/a	n/a	n/a	n/a	82142	33902

Crop	Removal P2O5	Removal N	Uptake N	Units	Yield	Units	Acreage	Removal P2O5 (lb)	Removal N (lb)	Uptake N (lb)
Alfalfa	13.8	58	58	lb/ton	2.98	ton/ac	207.57	8536	35876	35876
Barley Grain	0.42	0.97	1.39	lb/bu		bu/ac		-	-	-
Barley Silage	11.8	34.4	34.4	lb/ton		ton/ac		-	-	-
Canola	1.04	1.93	3.19	lb/bu		bu/ac		-	-	-
Corn Grain	0.44	0.97	1.53	lb/bu	99.54	bu/ac	325.73	14266	31450	49607
Corn Silage	12.7	31.2	31.2	lb/ton	3.727	tons/ac	150.91	7143	17548	17548
Dry Edible Beans	1.39	4.17		lb/cwt		cwt/ac		-	-	-
Fababeans	1.79	5.02	8.4	lb/cwt		cwt/ac		-	-	-
Flax	0.65	2.13	2.88	lb/bu		bu/ac		-	-	-
Grass Hay	10	34.2	34.2	lb/ton	3.42	tons/ac	85.12	2911	9956	9956
Lentils	1.03	3.39	5.08	lb/cwt		cwt/ac		-	-	-
Oats	0.26	0.62	1.07	lb/bu	83	bu/ac	42.96	927	2211	3815
Pasture (grazed)	10	34.2	34.2	lb/ton	0.5	ton/ac	31.7	159	542	542
Peas	0.69	2.34	3.06	lb/bu		bu/ac		-	-	-
Potatoes	0.09	0.32	0.57	lb/cwt		cwt/ac		-	-	-
Rye	0.45	1.06	1.67	lb/bu		bu/ac		-	-	-
Soybeans	0.84	3.87	5.2	lb/bu		bu/ac		-	-	-
Sunflower	1.1	2.8		lb/cwt		cwt/ac		-	-	-
Wheat - Spring	0.59	1.5	2.11	lb/bu		bu/ac		-	-	-
Wheat - Winter	0.51	1.04	1.35	lb/bu		bu/ac		-	-	-
						Sub Total	843.99	33942	97584	117345
						Estimated Average Removal/Uptake (lb/ac)		40.2	115.6	139.0
						Additional Acres				
						Crop Planned on Additional Acres				
						Total Acreage	843.99			

Note: Additional acres include acres for which crop removal or soil data is limited or unavailable.

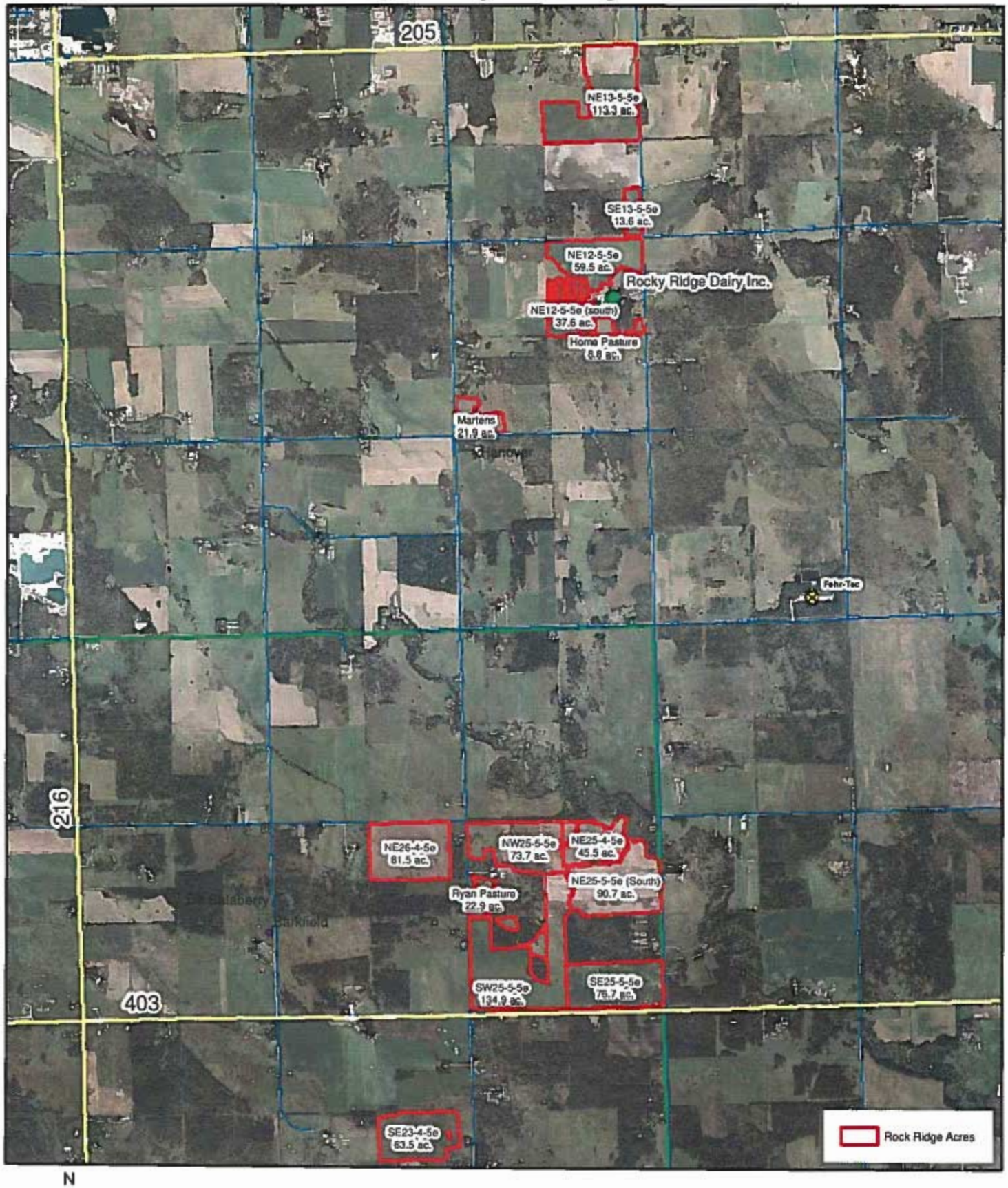
Last revised August 20, 2014

Species	Animal Category/Operation type	N (lb/year)	P2O5 (lb/year)
Pigs	Gestating Sow	0	0
	Nursing Sow	0	0
	Nursing Litter	0	0
	Live Cull Sows	0	0
	Bred Gilts	0	0
	Gilts	0	0
	Boars	0	0
	Weanlings	0	0
	Growers/finishers	0	0
	Sows, farrow to 5 kg	0	0
	Sows, farrow to 23 kg	0	0
	Sows, farrow to finish	0	0
Beef	Mature Cows (>2 years old)	0	0
	Bred Heifer (14 mo - 2 years)	0	0
	Replacement Heifers (7 mo-14 mo)	0	0
	Unweaned Calves (0-7 mo)	0	0
	Bulls	0	0
	Mature Cows and Bred Heifers, plus associated livestock	0	0
	Feedlot Cattle - long keep	0	0
	Feedlot Cattle - short keep	0	0
	Backgrounders - pasture	0	0
	Backgrounders - confined	0	0
Dairy	Lactating cow	0	0
	Dry cow	0	0
	Calf, 0-3 months	0	0
	Calf, 4-13 months	0	0
	Replacements, >13 months	0	0
	Mature Cows, plus assoc livestock	82142	33902
Sheep	Ewes	0	0
	Replacement Ewes	0	0
	Rams	0	0
	Lambs	0	0
	Ewes, plus assoc livestock	0	0
	Feeder	0	0
Chickens	Broilers	0	0
	Broiler Breeder Pullets	0	0
	Broiler Breeder Hens	0	0
Layers	Layer Pullets	0	0
	Layer Hens	0	0
	Breeder Pullets	0	0
	Breeder Hens	0	0
Turkeys	Broiler Hens (0-9 wks)	0	0
	Hens (0-11 wks)	0	0
	Heavy Hens (0-14 wks)	0	0
	Light Toms (0-12 wks)	0	0
	Toms (0-13 wks)	0	0
	Heavy Toms (0-15 wks)	0	0
	Breeding Hen Growers (0-30 wks)	0	0
	Breeding Hens (30-60 wks)	0	0
	Breeding Tom Grower (0-18 wks)	0	0
	Breeding Tom Grower (0-30 wks)	0	0
	Breeding Tom (30-60 wks)	0	0
	Total	82142	33902

Note: Be sure all livestock species on your farm are represented in this table, not just the livestock in the proposed expansion.

Nutrients Excreted	lbs
Nitrogen	82142
P2O5	33902
Crop Nutrient Use	**lb/ac**
Nitrogen Uptake	139.0
P2O5 Removal	40.2
Land Base Requirements	**acres**
Acres for Nitrogen Uptake	591
Acres for 2 x P2O5 Removal	422
Acres for 1 x P2O5 Removal	843

Rocky Ridge Dairy Inc.

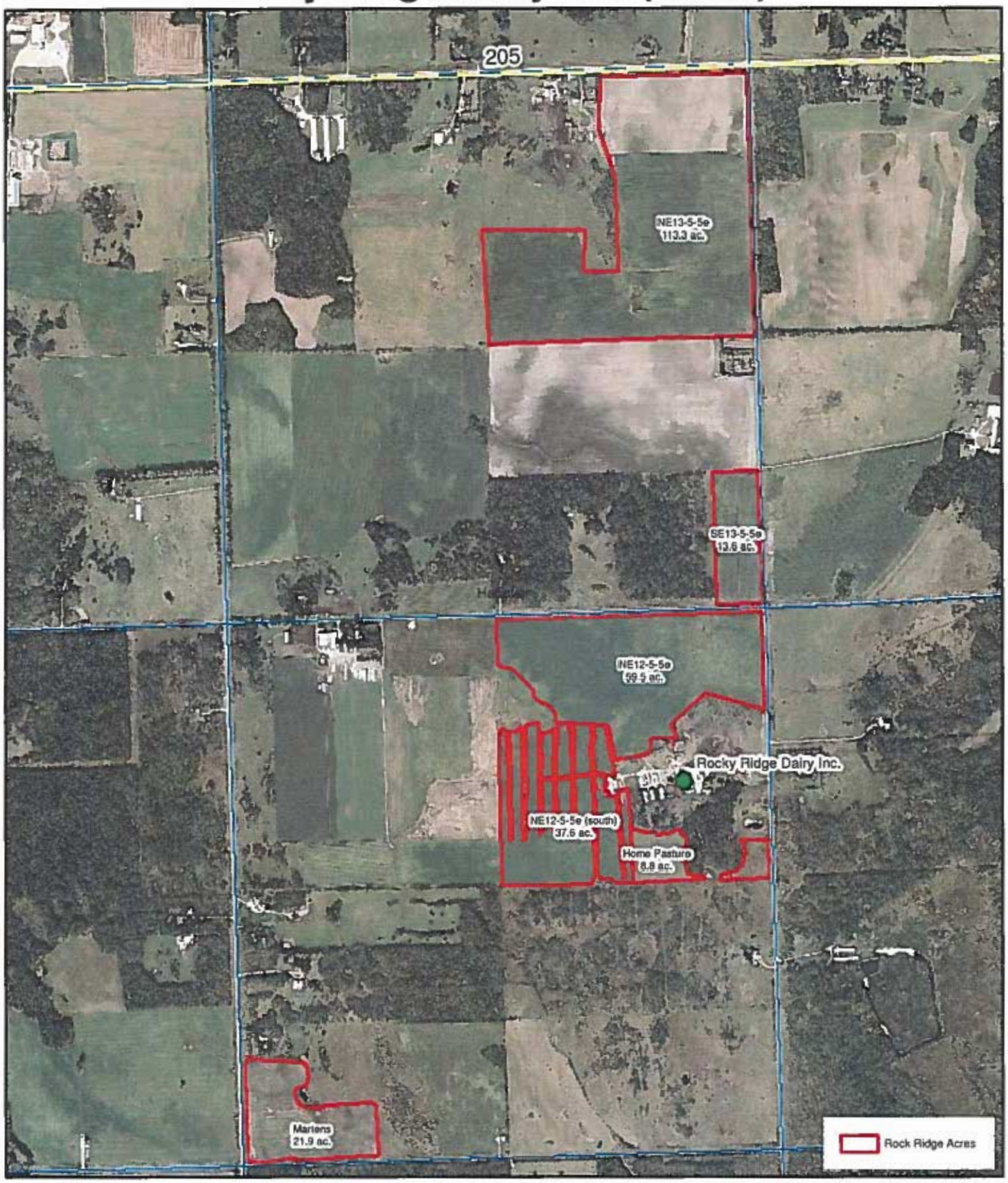


N
W E
S

0 0.45 0.9 1.8 2.7 Miles

AGRA - GOLD Consulting Ltd.

Rocky Ridge Dairy Inc. (North)

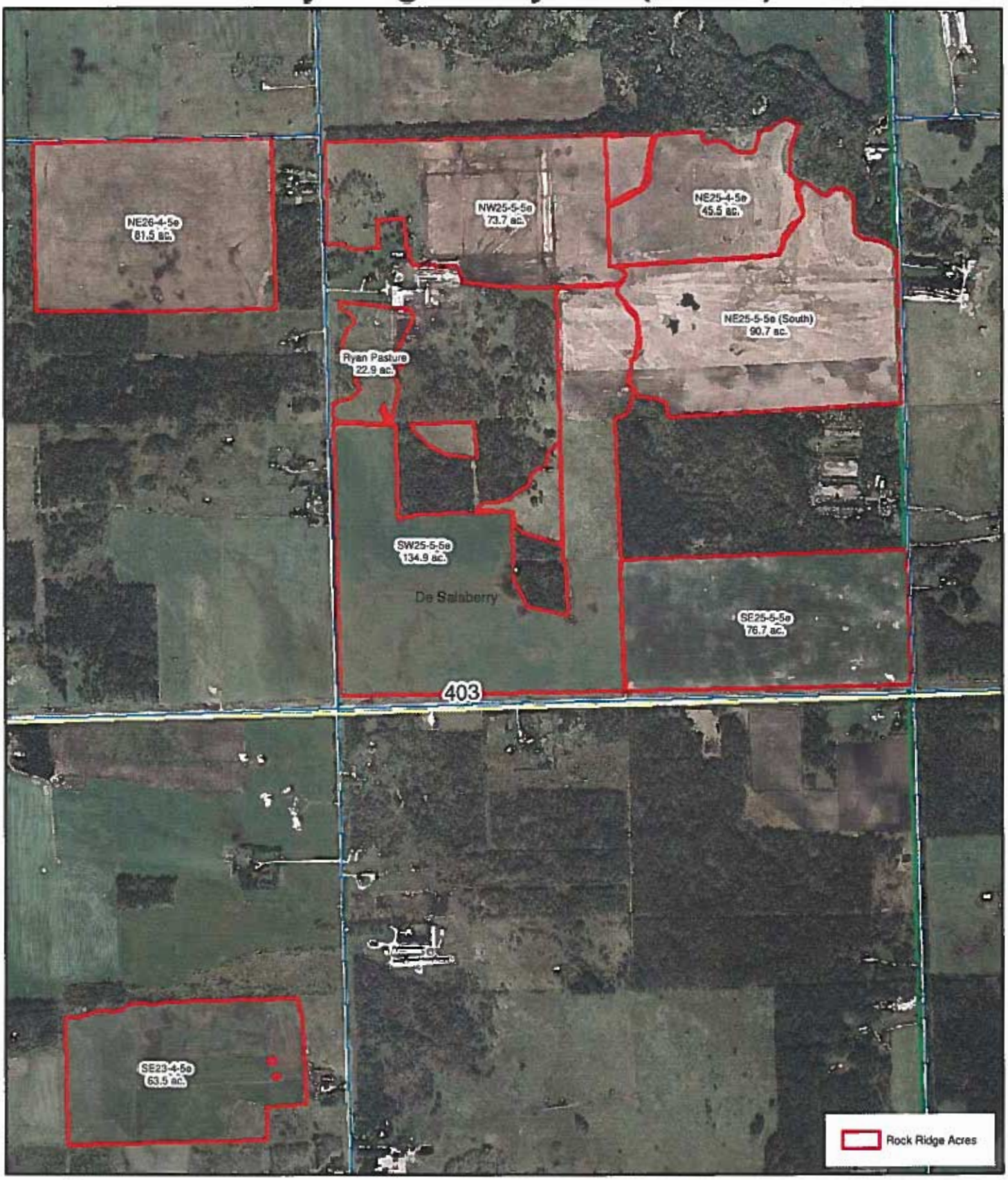


N
W E
S

0 0.15 0.3 0.6 0.9 Miles

AGRA - GOLD Consulting Ltd.

Rocky Ridge Dairy Inc. (South)

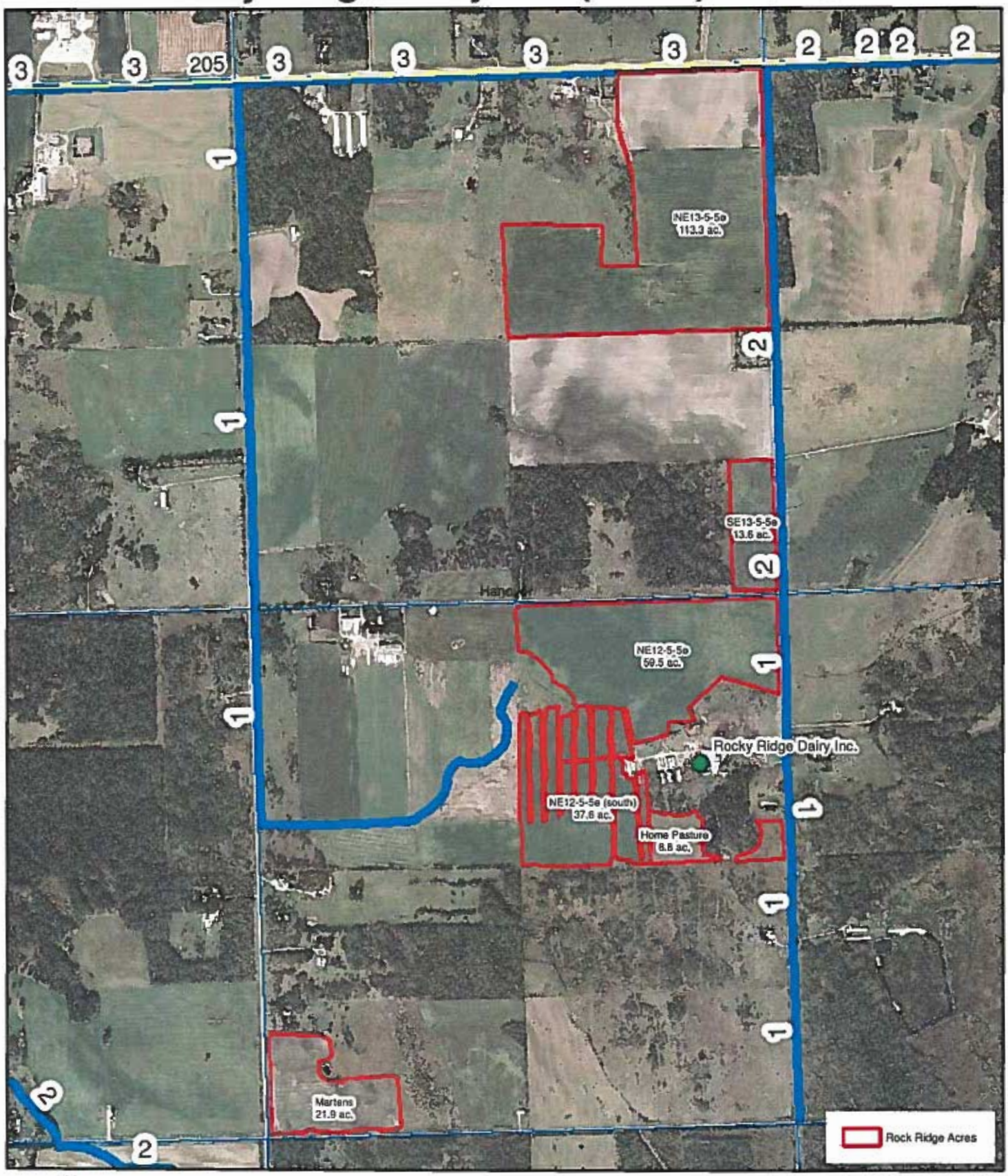


N
W E
S

0 0.15 0.3 0.6 0.9 Miles

AGRA - GOLD Consulting Ltd.

Rocky Ridge Dairy Inc. (North) Drains

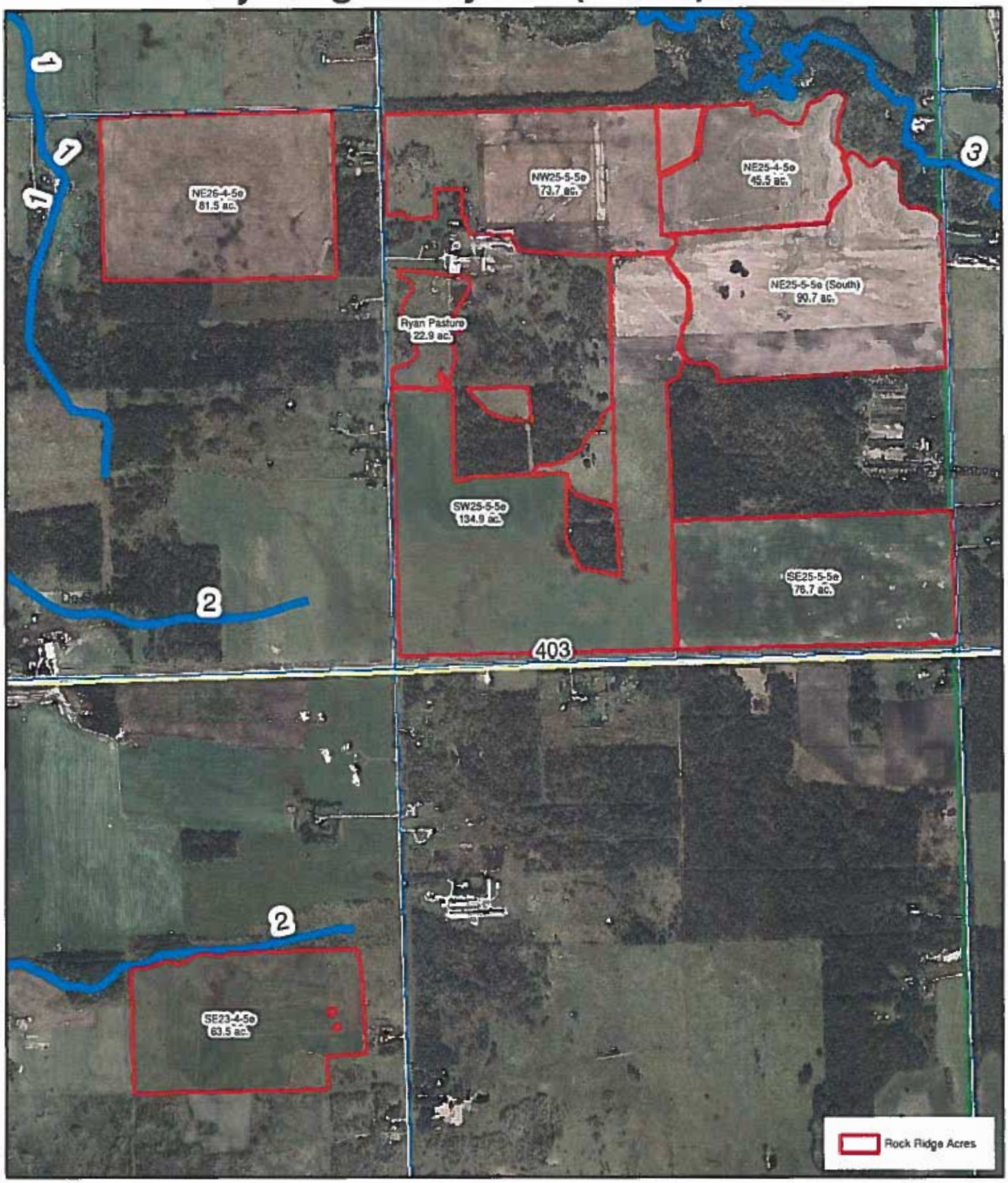


N
W E
S

0 0.15 0.3 0.6 0.9 Miles

AGRA - GOLD Consulting Ltd.

Rocky Ridge Dairy Inc. (South) Drains

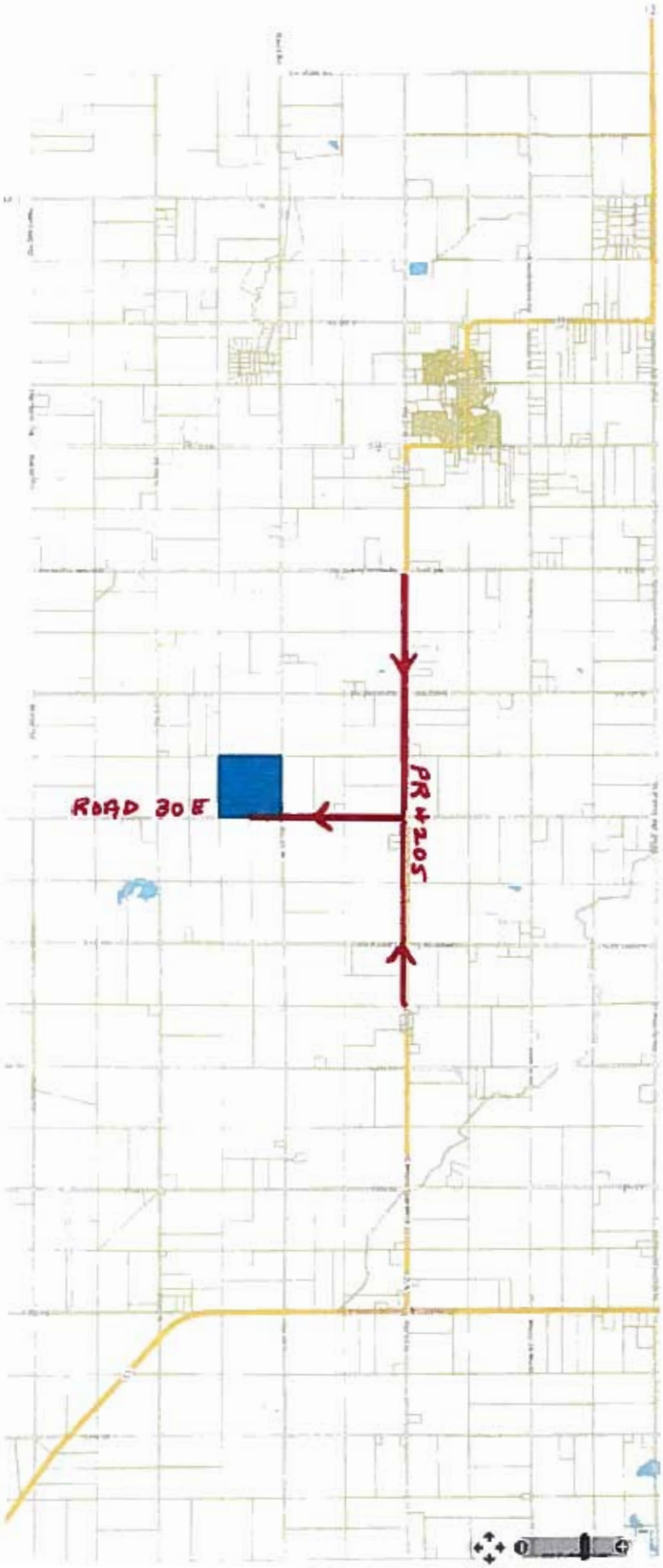


N
W E
S

0 0.15 0.3 0.6 0.9 Miles

AGRA - GOLD Consulting Ltd.

Truck Haul Routes and Access Points Map



2016 Jun 24

WELL INFORMATION REPORT

Manitoba

Well PID: 11701

Location: NE-12-5-5E
UTMX:660608.9 UTMY:5472146.3 XY Accuracy:UNKNOWN
Owner: A TAFFAN
Driller: FRIESEN, TONY
Well Name:
Date Completed: 1968 May 02
Well Use: PRODUCTION
WATER USE: Domestic
Well Status: UNKNOWN Aquifer: SAND AND GRAVEL

REMARKS:
900 FT W + .25 MI N OF SEC LINE, GROUND LEVEL ELEV EST 920 FT

WELL LOG (Imperial units)

From	To(ft.)	Log
0.0	2	SAND
2.0	44.5	HARDPAN
44.5	46	GRAVEL, WATER 44.5-46 FEET
46.0	57	HARDPAN

WELL CONSTRUCTION

From	To(ft)	Const.Method	Inside Dia.(in)	Outside Dia.(in)	Slot Size(in)	Type	Material
0.0	41.6	casing	5.0				
41.6	57.0	open hole					

Top of Casing: 0.0 ft above ground

PUMPING TEST
Date : 1968 May 02 Pumping 3.0 Imp. gallons/minute
Water level before test : 20.0 ft below ground
Water level at end of test :
Test duration: 48:00:00

2016 Jun 24

WELL INFORMATION REPORT

Manitoba

Well PID: 37646

Location: NE-12-5-5E
UTMX:660608.9 UTMY:5472146.3 XY Accuracy:UNKNOWN
Owner: P W FRIESEN
Driller: MANKEY WATER WELL DRILLING
Well Name:
Date Completed: 1979 May 16
Well Use: PRODUCTION
WATER USE: Domestic, Livestock
Well Status: UNKNOWN Aquifer: LIMESTONE OR DOLOMITE

REMARKS:

WELL LOG (Imperial units)

From	To(ft.)	Log
0.0	12	YELLOW SANDY CLAY WITH STONES
12.0	52	GREY CLAY WITH STONES
52.0	54	SAND AND GRAVEL
54.0	213.9	BLUE CLAY
213.9	231.8	GREY SANDY CLAY
231.8	341.8	LIMESTONE

WELL CONSTRUCTION

From	To(ft)	Const.Method	Inside Dia.(in)	Outside Dia.(in)	Slot Size(in)	Type	Material
0.0	223.9	casing	4.3			INSERT	BLACK IRON
211.9	237.8	casing	3.0			T & C	BLACK IRON
237.8	341.8	casing	3.0				

Top of Casing: 0.0 ft above ground

PUMPING TEST
Date : 1979 May 17 Pumping 10.0 Imp. gallons/minute
Water level before test : 30.0 ft below ground
Water level at end of test : 32.0 ft below ground
Test duration: 8:00:00

2016 Jun 24

WELL INFORMATION REPORT

Manitoba

Well PID: 48290

Location: NW12-5-5E
UTMX:659807 UTMY:5472124.3 XY Accuracy:UNKNOWN
Owner: P. WESTERBEE
Driller: Friesen Drillers Ltd.
Well Name:
Date Completed: 1983 Feb 15
Well Use: PRODUCTION
WATER USE: Domestic, Livestock
Well Status: UNKNOWN Aquifer: SAND AND GRAVEL

REMARKS:
ORIGINAL WELL OWNER A. BROESKY

WELL LOG (Imperial units)

From	To(ft.)	Log
0.0	15	SAND
15.0	60	TILL LAYERS GRAVEL
60.0	75	SILTY TILL
75.0	92.9	SAND AND GRAVEL
92.9	94.9	HARD BLUE CLAY

WELL CONSTRUCTION

From	To(ft)	Const.Method	Inside Dia.(in)	Outside Dia.(in)	Slot Size(in)	Type	Material
0.0	79.9	casing	4.3			INSERT	BLACK IRON
79.9	89.9	perforations	4.3		0.015		
0.0	89.9	gravel pack					

Top of Casing: 2.0 ft below ground

PUMPING TEST
Date : 1983 Feb 15 Pumping 10.0 Imp. gallons/minute
Water level before test : 40.0 ft below ground
Water level at end of test : 45.0 ft below ground
Test duration: 2:00:00

2016 Jun 24

WELL INFORMATION REPORT

Manitoba

Well PID: 78250

Location: SE-12-5-5E
UTMX:660633.5 UTMY:5471339.7 XY Accuracy:UNKNOWN
Owner: E BARKMAN
Driller: Echo Drilling Ltd.
Well Name:
Date Completed: 1994 Jul 21
Well Use: PRODUCTION
WATER USE: Domestic, Livestock
Well Status: UNKNOWN Aquifer: LIMESTONE OR DOLOMITE

REMARKS:

WELL LOG (Imperial units)

From	To(ft.)	Log
0.0	16	BROWN TILL
16.0	45	GREY TILL
45.0	81.9	HARD GREY TILL
81.9	135.9	SANDY GREY TILL
135.9	151.9	DARK BROWN CLAY
151.9	186.9	GREY CLAY
186.9	215.9	HARD BLUE CLAY
215.9	224.9	DARK BROWN TILL
224.9	329.8	LIMESTONE

WELL CONSTRUCTION

From	To(ft)	Const.Method	Inside Dia.(in)	Outside Dia.(in)	Slot Size(in)	Type	Material
0.0	228.8	casing	5.0			INSERT	PVC
228.8	329.8	open hole	4.0				

Top of Casing: 2.0 ft below ground

PUMPING TEST

Date : Pumping 50.0 Imp. gallons/minute
Water level before test : 20.0 ft below ground
Water level at end of test : 70.0 ft below ground
Test duration: : :00

2016 Jun 24

WELL INFORMATION REPORT

Manitoba

Well PID: 17366

Location: SW-12-5-5E
UTMX:659831 UTMY:5471315.1 XY Accuracy:UNKNOWN
Owner: J MARTENS
Driller: MANKEY, EMIL
Well Name:
Date Completed: 1972 Mar 23
Well Use: PRODUCTION
WATER USE: Domestic
Well Status: UNKNOWN Aquifer: LIMESTONE OR DOLOMITE

REMARKS:
900 FT W + 300 FT N OF SEC LINE, NACL=25 PPM, FE=1.5 PPM, H=17 GPG

WELL LOG (Imperial units)

From	To(ft.)	Log
0.0	119.9	OLD DRY DRILLED WELL
119.9	159.9	SAND
159.9	163.9	CLAY
163.9	204.9	SAND
204.9	211.9	CLAY
211.9	221.9	LIMESTONE

WELL CONSTRUCTION

From	To(ft)	Const.Method	Inside Dia.(in)	Outside Dia.(in)	Slot Size(in)	Type	Material
0.0	211.9	casing	4.0				
211.9	221.9	open hole					

Top of Casing: 0.0 ft above ground

PUMPING TEST
Date : Pumping 2.5 Imp. gallons/minute
Water level before test : 28.0 ft below ground
Water level at end of test : 89.9 ft below ground
Test duration: 3:00:00

2016 Jun 24

WELL INFORMATION REPORT

Manitoba

Well PID: 116519

Location: SW12-5-5E
UTMX:659489 UTMY:5471569 XY Accuracy:1 EXACT [<5M] [GPS]
UTMZ:279 Z Accuracy:4 FAIR - Shuttle at Centroid
Owner: ISAAC & MARY BERG
Driller: Kiansky Bros. Ltd.
Well Name:
Date Completed: 2000 Aug 02
Well Use: PRODUCTION
WATER USE: Domestic
Well Status: ACTIVE Aquifer: LIMESTONE OR DOLOMITE

REMARKS:
INVENTORIED BY SEINE RAT RIVER CD 2009. WELL LOCATED AT THE FRONT YARD.

WELL LOG (Imperial units)

From	To(ft.)	Log
0.0	1	TOPSOIL
1.0	4	SILTY GRAVEL TILL
4.0	12	YELLOW TILL
12.0	120	SILTY GREY TILL
120.0	123	FINE SAND
123.0	146	SILTY GREY TILL
146.0	160	GREY CLAY
160.0	184	GREY GRAVEL TILL
184.0	189	BROWN SILTY SAND
189.0	199	GREY CLAY
199.0	236	RED SHALE WITH LIMESTONE
236.0	240	LIMESTONE
240.0	345	LIMESTONE

WELL CONSTRUCTION

From	To(ft)	Const.Method	Inside Dia.(in)	Outside Dia.(in)	Slot Size(in)	Type	Material
0.0	240.0	CASING	5.0			INSERT	PVC
240.0	345.0	OPEN HOLE	4.5				
8.0	20.0	CASING GROUT					BENTONITE

Top of Casing: 2.0 ft above ground

PUMPING TEST
Date : 2000 Jul 17 Pumping 90.0 Imp. gallons/minute
Water level before test : 27.0 ft below ground
Water level at end of test : 27.0 ft below ground

Test duration:

Test Zone: from 240.0 ft to 345.0 ft

2016 Jun 24

WELL INFORMATION REPORT

Manitoba

Well PID: 78251

Location: SW12-5-5E
UTMX:659507 UTMY:5471249 XY Accuracy:1 EXACT [<5M] [GPS]
UTMZ:279 Z Accuracy:4 FAIR - Shuttle at Centroid
Owner: DAVE MARTENS
Driller: Kiansky Bros. Ltd.
Well Name:
Date Completed: 1994 Mar 05
Well Use: PRODUCTION
WATER USE: Domestic
Well Status: ACTIVE Aquifer: SAND AND GRAVEL

REMARKS:
INVENTORIED BY SEINE RAT RIVER CD 2009. WELL LOCATED BEHIND HOUSE.

WELL LOG (Imperial units)

From	To(ft.)	Log
0.0	9	SAND
9.0	16	YELLOW TILL
16.0	51	GREY TILL
51.0	67	SAND AND GRAVEL, GRAVEL COARSER WITH DEPTH AND MUCH WATER LOSS

WELL CONSTRUCTION

From	To(ft)	Const.Method	Inside Dia.(in)	Outside Dia.(in)	Slot Size(in)	Type	Material
0.0	57.0	casing	5.0			INSERT	PVC
57.0	62.0	perforations	2.0		0.012	WIRE WOUND	S. S.
50.0	63.0	gravel pack					SILICA S.

Top of Casing: 1.2 ft below ground

PUMPING TEST
Date : 1994 Mar 05 Pumping 10.0 Imp. gallons/minute
Water level before test : 33.0 ft below ground
Water level at end of test : 40.0 ft below ground
Test duration: 1:00:00

2016 Jun 24

WELL INFORMATION REPORT

Manitoba

Well PID: 115515

Location: SW12-5-5E
UTMX:659831 UTMY:5471315.1 XY Accuracy:No Accuracy
Owner: CHRIS MARTINS
Driller: Kiansky Bros. Ltd.
Well Name:
Date Completed: 2000 Dec 28
Well Use: PRODUCTION
WATER USE: Domestic
Well Status: ACTIVE Aquifer: SAND AND GRAVEL

REMARKS:
FINE AQUIFER- 3 GPM @ 62 FT. WITH 8 MIN.RECOVERY TO 38 FT- FLOW RESTRUCTOR REQUIRED 3 GPM WITH LARGE PRESSURE TANK.

WELL LOG (Imperial units)

From	To(ft.)	Log
0.0	1	TOP SOIL
1.0	40	TILL WITH BOULDER
40.0	45	SAND AND WATER- TESTED NO WATER
45.0	64	GREY TILL
64.0	84	FINE SAND AND GRAVEL
84.0	85	BOULDERS

WELL CONSTRUCTION

From	To(ft)	Const.Method	Inside Dia.(in)	Outside Dia.(in)	Slot Size(in)	Type	Material
0.0	64.0	CASING	5.0			INSERT	PVC
64.0	79.0	PERFORATIONS	3.0		0.012	WIRE WOUND	PVC
60.0	85.0	GRAVEL PACK				NO. 20-40	SILICA S.
10.0	20.0	CASING GROUT					BENTONITE

Top of Casing: 2.0 ft above ground

PUMPING TEST
Date : 2000 Dec 28 Pumping 3.0 Imp. gallons/minute
Water level before test : 38.0 ft below ground
Water level at end of test : 38.0 ft below ground
Test duration:
Test Zone: from 64.0 ft to 79.0 ft

2016 Jun 24

WELL INFORMATION REPORT

Manitoba

Well PID: 30475

Location: SW-12-5-5E
UTMX:659831 UTMY:5471315.1 XY Accuracy:UNKNOWN
Owner: H M REIMER
Driller: Friesen Drillers Ltd.
Well Name:
Date Completed: 1977 Oct 22
Well Use: PRODUCTION
WATER USE: Domestic, Livestock
Well Status: UNKNOWN Aquifer: LIMESTONE OR DOLOMITE

REMARKS:

WELL LOG (Imperial units)

From	To(ft.)	Log
0.0	3	GRAVEL
3.0	21	TILL-ROCKY
21.0	30	SILTY TILL
30.0	208.9	BLUE CLAY
208.9	224.9	TILL, FIRM, SMALL LAYERS OF SHALE
224.9	256.8	LIMESTONE

WELL CONSTRUCTION

From	To(ft)	Const.Method	Inside Dia.(in)	Outside Dia.(in)	Slot Size(in)	Type	Material
0.0	226.9	casing	4.3			INSERT	BLACK IRON
226.9	256.8	open hole	4.0				

Top of Casing: 0.0 ft above ground

PUMPING TEST
Date : Pumping 7.0 Imp. gallons/minute
Water level before test : 29.0 ft below ground
Water level at end of test : 199.9 ft below ground
Test duration: : :00

Gary

Thank you for your information request. I completed a search of the Manitoba Conservation Data Centre's rare species database and found no occurrences at this time for your area of interest.

The information provided in this letter is based on existing data known to the Manitoba Conservation Data Centre at the time of the request. These data are dependent on the research and observations of CDC staff and others who have shared their data, and reflect our current state of knowledge. An absence of data in any particular geographic area does not necessarily mean that species or ecological communities of concern are not present; in many areas, comprehensive surveys have never been completed. Therefore, this information should be regarded neither as a final statement on the occurrence of any species of concern, nor as a substitute for on-site surveys for species as part of environmental assessments.

Because the Manitoba CDC's Biotics database is continually updated and because information requests are evaluated by type of action, any given response is only appropriate for its respective request. Please contact the Manitoba CDC for an update on this natural heritage information if more than six months pass before it is utilized.

Third party requests for products wholly or partially derived from Biotics must be approved by the Manitoba CDC before information is released. Once approved, the primary user will identify the Manitoba CDC as data contributors on any map or publication using Biotics data, as follows as: Data developed by the Manitoba Conservation Data Centre; Wildlife & Fisheries Branch, Manitoba Conservation and Water Stewardship.

This letter is for information purposes only - it does not constitute consent or approval of the proposed project or activity, nor does it negate the need for any permits or approvals required by the Province of Manitoba.

We would be interested in receiving a copy of the results of any field surveys that you may undertake, to update our database with the most current knowledge of the area.

If you have any questions or require further information please contact me directly at (204) 945-7747.

Chris Friesen
Coordinator
Manitoba Conservation Data Centre
204-945-7747
chris.friesen@gov.mb.ca
http://www.manitoba.ca/conservation/cdc/

Sent: June 29, 2016 8:44 PM
To: Friesen, Chris (SD)
Subject: WWW Form Submission

Below is the result of your feedback form. It was submitted by
WWW Information Request () on Wednesday, June 29, 2016 at 20:44:16

DocumentID: Manitoba_Conservation

Project Title: Rocky Ridge Dairy

Date Needed: 2016/07/10

Name: Gary Plohman

Company/Organization: DGH Engineering

Address: Box 1466

City: Beausejour

Province/State: Manitoba

Phone: 204 268-3218

Fax: 204 268-6060

Email: srossing@mymts.net

Project Description: Rocky Ridge Dairy is filing an application for a technical review for their proposed dairy expansion from 145 cows to 245 mature cows. The identification of species at risk is part of the technical review requirement.

Information Requested: Identification of species at risk at yard site and manure spread fields.
This information is needed as soon as possible.

Format Requested: word document

Location: A list of the land parcels involved will be forwarded directly to Chris Friesen.

action: Submit